

home would be an established way of long-term saving, but this is still an unconventional or at least new way on the Chinese market. With incomes and demand for homes having risen faster than supply, prices have responded quickly. As a result, the real estate market has come to show clear signs of overheating despite the fact that the government has made attempts to squeeze credit flows from the banking sector. What instead has happened is that customers of flats pay their builders directly, bypassing the banking sector, and this indirectly reducing the intended effect of a classical macroeconomic tool for the government. Not only cool the market, but also to limit risks, the requirements for down payments by individuals have been raised to 35%, and additionally, housing loans are not allowed if loan payments will exceed 50% of the buyer's incomes (Bofit, 2004-37). However, in areas of the most rapid growth, large scale unofficial lending is also said to have developed and has taken over near half the market for new loans. Unmanaged money flows on this scale constitute a considerable risk for both the individuals and for the companies that are involved. To some extent, the money comes from unrecorded speculative money flows, which are generated by expectations of a revaluation of the currency and could amount to USD 40 bn (CW, 2004-12-05). Capital inflows of this magnitude increases liquidity and as demonstrated above, control measures taken towards lending by the PBOC have proved largely insufficient. As a result, on October 26, 2004, for the first time in eight years, the interest rate was raised to cool off the investment market. Savings rates went up from 1.98% to 2.25% and lending rates from 5.31% to 5.58% (PBOC, 2004-10-27). At the same time, the PBOC lifted the upper limit of interest rates for financial institutes, although not for credit cooperatives, to allow for greater influence of market forces. The new liberty was given with an attached warning against using the freedom to do "*blind rate rises*". The change seems to have paid off as new accounts already went up in the following month by 60%, and with sharp increases in both private and corporate savings (Bofit, 2004-51). At the same time, the basic reserve requirements levels for all banks, foreign and domestic, was adjusted to 3% in January 15, 2005, instead of the previously differentiated rates of 5% and 2% (ibid.).

Under the current currency regime, the PBOC buys the excess supply of incoming foreign currency from the market at a rate of 8.28 Yuan per USD (PBC, 2004-05-10)¹¹⁴. The exchange rate of the Yuan to the USD has remained unchanged since 1994, and the downward pressure on the dollar especially during the latter part of 2004 depreciated the Yuan further in relation to the currencies of important trade partners. There has, for a long time, been an ongoing debate in the west about by how much the Yuan has been undervalued, with estimations ranging from about 5% to near 50%(IIE, 2004-08-10). Official policy statements have indicated that a float of the Yuan is out of the question, but several initiatives that would give the more or less the same results are

available¹¹⁵. Despite this, Premier Jiabao, at the China-EU Summit in late 2004, stated that China will gradually move toward a more flexible exchange rate (FT, 2004-12-08). A step in that direction could be to widen the fluctuation range, inside which the Yuan can float. Another is not only to allow increased imports and larger outbound investments, but also to reduce the quota that companies earning foreign currency must exchange to domestic currency. Alternatively, it could also be time to change the peg of the currency to a basket of currencies of main trade partners instead of a pure peg to the US dollar¹¹⁶. Chinese leaders and bank officials were officially invited to attend the G7 meeting in Washington D.C. in October 2004 where western leaders and the IMF pressured for a readjustment. The suggestion is that an adjustment should first mean a readjustment by some 15% and that the Yuan would then slowly be allowed to float (CW, 2004-10-02). Currency valuation is an issue that is frequently coming back in the discussions around the development of both the Russian and the Chinese economies in relation to their major trading partners. The problem with any revaluation is that it must be big enough to be seen as creditable by the market, and if it is made that big, it is probably bound to hurt domestic interest.

As a result of the strong foreign currency inflow China has seen a considerable current-account surplus, which reached 2.9% of GDP in 2003 (up 0.1% over 2002). Much of this came from a capital inflow that grew by 86%, to over USD 60bn, while also the errors and omissions item in the balance of payment contributed with USD 22 bn on the positive side. This is a dramatic change for a national current account that as recently as in 2001 had been in the negative. The statistics shows a considerable inflow of capital that has not been officially accounted for and this contributes to the strong growth of China's ever-larger foreign exchange reserve. A reserve that during 2004 grew by over 50%, despite a trade deficit for the beginning of the period, to a total of USD 610 bn (PBOC, 2005-01-12). However, at the same time China's foreign debt has been building up rapidly, reaching USD 220 bn at the end of June 2004, increasing by 14% in the last six months. It is first of all new borrowing that had increased by nearly 100% compared to the same period the previous year, to reach USD 83 bn (SAFE, 2004-08-31). An increase that can be largely attributed to increased international involvement and seen as positive from the point of view that foreign partners are increasingly willing to lend.

Facing a trade deficit, which China looked in danger of during H1 2004, the situation is conventionally problematic, but not when the currency reserve is one of the largest in the world. Running a moderate and controlled deficit could somewhat even offset the pressure from its larger trade partners about revaluating the currency. An initiative with that purpose was the Chinese slacking of its currency restrictions in April 2004. It then became permitted to take a considerably larger amount of foreign currency out of the country, at the

same time as less money was allowed to be exchanged for Yuan when entering. The result of this should, at least in theory, be an increased demand for foreign currency and a reduced demand for the domestic currency. From mid-November 2004, foreign companies were allowed to transfer foreign currency among its Chinese units without approval by the SAFE for each transaction (SAFE, 2004-11-20). A change that represents a major simplification, which can only be interpreted as a sign of a generally relaxing attitude towards the use of foreign currencies.

As many other areas under reform, the **tax system** has also changed dramatically in later years, and during periods (from what it seems), somewhat outside of coordinated state control. The official Chinese company tax is currently set to 33% for both domestic and foreign firms. But especially during the early boom years for FDIs, foreign investors were frequently given extensive tax-breaks to attract investments. Initiatives that could include full tax exemption for several years, at the same time as investors in the many "*Special Economic Zones*" (SEZs – sometimes called "*development zones*") have overall been offered a tax rate of 15%¹¹⁷. The lower level has also been offered to investors in western China, in a maximum of ten years. These kinds of offers are said to explain why the real tax collection rate for foreign companies is estimated to only 10 – 15% and some 25% for domestic companies. A revision of the tax system is underway and could lift the overall tax level for companies to 25 – 30% (Bofit, 2004-37). The value-added tax (VAT) is the largest contributor of tax incomes. However, the collection of VAT in China is not consumption-based, which is common practice in other countries. Instead, it is production-based, leading to that companies making fix investments must pay VAT on investments. As a result, a company cannot reclaim the tax paid when making investments in new equipment, which is indirectly slowing the upgrading of production facilities (Xinhuanet, 2004-04-19). As a result, there are large advantages to be gained from a shift in focus for the VAT collection. But such a drastic changes to the most important tax source would not only include a certain degree of political risk, but it would also be a considerable information challenge to make such a fundamental shift. However, a shift could be coming in the future as the Heilonlijang province has been selected to run a full-scale test of such a change. Still, the state has, in later years, and in several respects, improved the tax system, and in relation to GDP, collected taxes have gone up from 13% in 1998 to 19% in 2003. In the perspective of a 7 - 9% growth of GDP during the period, it is a monumental achievement to increase tax intake by 50% during the same period. Total government revenue in 2003 reached 2.2 trillion (USD 260 bn), or up by 15% in 2002. Revenues are not only generated from taxes paid by companies and individuals, but also from dividends paid by the companies in the state sector (CW, 2004-11-01).

Employment

As of January 6, 2005, China is statistically a country with a 1.3 billion population (NSB, 2004-12-18). Without the strict family planning programs of previous years, the current population could have been nearly twice as big¹¹⁸. Although the one child policy has partly come to erode in later years, it has instead become a major concern that the number of boys being born is higher than girls, and in some areas, 30% higher. Also, the Chinese population is generally aging and the number over 16 is just under 1 billion with those over 65 is nearly 100 million. Out of those in the 16 – 65 age group, 760 million are considered to be economically active, with this group having increased by over 50 million since 1998. These somewhat incomprehensible large figures of just economically active correspond to near five times the total population of Japan, near three times that of the US or well over one and a half time the total population of the entire EU 25. Of the economically active, about 250 million are working in urban areas with 500 million employed in rural areas, indicating that rural / agricultural areas in China still generates about 2/3 of employment (China.org, 2004-07-12).

In the different sectors, the primary sector remains the by far most important in China today. In employment terms, the changes that have occurred over the last 15 years have largely been a transfer of workers from the primary sector to the tertiary sector. What has happened in the labor market is that the primary sector, as share of employment, has contracted from 60% in 1990 to 49% by the end of 2003. At the same, time the 11% that has left the primary sector has been absorbed by the tertiary sector that has increased its share from 18% to 29%. During this period, there has, of course, been a lot of movement in and out of sectors by individual employees, but as a share of employment, the industry sector has kept a stable share of above 21%. During this time, the working population has increased by about 7.5 million per year, adding about 100 million to the labor market. Until 2008, the increase will be in the range of 10 million per year, with an average increase of near 6 million until 2020, when the working population is expected to peak at about 940 million. What has also happened is that the number being employed in cities has risen from about 225 million in 1998 to 256 million in late 2003 (Xinhuanet, 2004-04-26). Additionally, large-scale educational programs have been drawn up to give vocational skills to about 10 million rural migrant workers over the next few years. Many of the migrants are female, but it is still the urban areas that supply work for most of the 340 million female workers. However, as there is no clear border between salary work and household farming that include some temporary employment, probably makes such statistics no more than indicative.

Out of the many millions of new entrants to the work market, an increasing percentage, currently some 25% have improved their skills in the higher educational system. With higher education having expanded rapidly during transition years to become a vastly versatile, and for some highly lucrative business. In 2003 in 83% of Chinese graduates from institutions and universities found regular jobs in which was 5% more than in 2002. This figure nearly corresponds to the Japanese figure for the same year, when the number of university graduates that had secured a job after finishing their studies in Japan stood at 82% (CD, 2004-03-06 & JT, 2004-03-05).

As previously mentioned, agriculture remains the most important sector for total employment, although its economic importance is declining. At the same time, as the country's population increases, there is a push away from farming also by the fact that farmland is increasingly being lost to development and that mechanization is increasing. This is a conflict that is opening up between micro-production policies and the changing demand structure, between environmental considerations and agricultural development and between the support needed for development and the government's ability to render that support. Furthermore, this also leads to conflicts between the benefits of reducing China's grain self-sufficiency and the state's need for economic and political security, an aspect that is most obvious in the energy field where China already is strongly dependent on the outside world. Currently, most of the developed countries support their agricultural sectors with either subsidies or other measures, which have not been possible in China due to the sheer size of the sector. Allowing grain and agri-products prices to rise has been a way to transfer income to farmers, although a sensitive question as it is important for consumer prices and affects the living cost of all citizens. As a WTO member, agriculture will also increasingly become exposed to market risks, unemployment risks and security risks. This is a sector that would need continued protection to have a chance to adapt. The agricultural sector has already been supplying much workforce for the rapid industrialization in the coastal regions, and continued efficiency gains will free millions more that will be forced to find work elsewhere.

Official Chinese urban unemployment has started to decline as it stood at 4.2% by the end of 2004. About 70% of these are under 35, but still a fall of 0.1% during the year; the first in a decade. The newly added employees in urban areas during the year reached 9.8 million, 800 000 more than expected (NBS, 2005-01-26). The current figure is even under the target set by the government; to keep unemployment at around 4.7% in urban area in the coming years (Xinhuanet, 2004-04-26). Unemployment has remained more or less stable for more than one year after having seen a continuous rise from about 3% in early 2000. However, the statistics measures only unemployment in terms of those officially registered

as unemployed, and it tells very little about the actual employment situation. The major deficiencies that can be identified are, first of all, unemployed people must live in a city to be able to register for unemployment. Second unemployment statistics does not apply to workers laid-off from overstuffed state-owned enterprises or cooperatives, as these organizations are supposed to provide former employees with a basic income for three years. Third, unemployment figures are not made to include former agri-workers that have migrated to urban areas to seek work (ILO 2004-05-12). Despite this the number of people that are drawing unemployment, insurance money has been on a steady increase from about 500 000 in 1998 to 4.2 million by the end of 2003, with over 100 million having signed up for a plan. This figure has risen by over eight times since 1998 (CD, 2004-03-12). Increased awareness of the existence of the available benefits can largely be seen as explanation for the rapid increase in both registration and usage. However, the state is actively supporting job seekers, having set-up 18 000 of the 26 000 job agencies in the country (Xinhuanet, 2004-04-26). Unemployment is given much attention and with some 30 millions having been laid-off from state structures since 1998, and with another 3 million per year expected to become redundant 2005 – 2007, dramatic changes will take place. In an attempt also to also streamline procedures redundant workers from state companies and organizations will be covered by the insurance for a time of up to two years, beginning from late 2005 (Minister of Labor, Silin, CW, 2004-12-21).

At the Communist Party Congress in 2004, Premier Wen Jiabao stressed the urgency of job creation and promised to create a total of 14 million new jobs in 2004; 9 million for urban areas and another 5 millions to re-employ laid-off workers. In 2003, an estimated 8.6 million new workplaces were created and 4.4 million jobs were created for replaced workers (CD, 2004-03-15). Every percentage point in GDP growth is important as it is estimated to create 700 000 additional job opportunities. However, there are already concerns being voiced that the shifting focus towards more capital-intensive industry sectors will lead to an industrial development that will not generate enough work opportunities (NDRC, 2004-03-15). The employment by state-owned entities among urban employees has dropped sharply from about 105 million in 1990 to 70 million in 2003. During the same period the workforce at private companies has increased from almost 7 million to 43 million, generating 50% of new employment during the period. Others are employed by what is statistically being called “*new forms of employment*”; like temporary, part-time, seasonal and jobs with flexible working hours. In an attempt to further open-up for private initiatives in job creation it has been indicated that through an amendment to the corporate law, it will, in 2005, be made possible to start up one-person limited liability companies. Currently, it takes at least two persons, legal or individuals, to set up

a limited liability company, while one person companies are currently subject to infinite liability (CD, 2004-09-14). The development is nevertheless impressive, with a total of over 570 000 private enterprises set up in the mainland in 2003, or around 1 500 enterprises established per day (TDC, 2004-09-16).

Average incomes in China have seen a very rapid development over the last 15 years. During this time, the difference in income between the yearly disposable income for urban and farmers has also increased sharply. In 1990, this difference stood at 1.2 times, had, by 1995, risen moderately to 1.7, but by the end of 2003, it had reached 3.3 times. This shift represents an increase in urban incomes from 1 510 to 8 478 while farmers have only seen their incomes go up from 656 to 2 622 during the same time period (CW, 2004-05-09). Farmers' incomes have not only been lifted by the fact the authorities have allowed higher prices for crops, but also lowered tax on rice and grain, but over 10% of total farming incomes are money transfers from migrant workers (Bofit, 2004-45). Currently, there is also a rapidly increasing difference in wages among conventional workers, as workers with higher technical skills are becoming increasingly short in supply and can receive wages tens of times higher than normal workers. At the same time it has become honorable, or at least accepted, to become rich in China. Leading to that other strata of the population, especially successful entrepreneurs and business owners have gained considerably from the changes in the economic policy that has taken place. No less than two individuals, on the list of the richest for 2004, 31 and 35 years old, respectively, controlled beyond USD 1 bn, with the 100 richest combined controlling in excess of USD 50 bn (Forbes, 2004-10-11).

China is often given the blame for attracting the workplaces that move out from industrialized countries to low cost labor countries. The importance of low wages is evidently largest for labor-intensive products, but not necessarily so for all lines of business in industry, and especially not so for more knowledge-intensive production. From its low wage levels, it can be understood that China remains strongly competitive in labor-intensive commodities, like toys, textile products and shoes; all being industry sectors that employ large numbers of less qualified workers. As a result of this, the Chinese contribution to world trade was initially, more or less entirely, based on products with a high level of manual labor. The abundance of workers has kept wages low, and wages have even been falling in relation to prices (CW, 2004-10-12). The average monthly salary in the Pearl River Delta has remained practically unchanged for more than a decade around 600 Yuan/month (about USD 75) (NBS, 2005-01-25). As a result a shortage of migrant workers has been unfolding, despite the huge labor pool, which can seem contradictory. Like other commodities, labor supply is also closely associated with its price - in this case, the wage. Wage fluctuations will also here tip the balance of labor supply and demand. When looking at

wages, it should take notice of the differences between its nominal and real term, with the real wage strongly affected by the Consumer Price Index (CPI). For migrant workers, the price of food and lodging, which accounts for a large portion of their consumption, takes a considerable part of their wages. According to statistics, urban workers' real wage has registered an annual increase of 6% over the past 10 years, but migrant workers' nominal, let alone real wage, in the Pearl River Delta stayed almost static over the same period. While their nominal wage has basically remained stagnant, their real wage has actually plummeted. When the CPI rose from -2% to 6% in 2002 – 2003, migrant workers' real wage plunged.

Low wages have been a strong enough factor to make many products competitive, but costs have also been kept low due to sub-standards when it comes to working conditions, labor safety and, evidently, the large supply of willing workers. Repressive labor treatment is said to have lowered labor costs in China by an additional 45 – 85%, which should have reduced employment by 730 000, only on the American market. With millions of emigrant workers, predominantly young females, bonded to workplaces by the need of resident permits and unpaid / withheld wages (Aflcio, 2004-05-10). Working days of 11 – 12 hours, often seven days per week, directly or indirectly lead to near slave like conditions. However, this reminds of how life was in a European or US factory some 50, or fewer, years ago in terms of labor standards, health standards, job security, monotonous jobs, wage levels, long workdays and often a six-day working week. Dreadful working conditions have, by some, been seen as an unavoidable stage for a country to pass before starting to move up the development ladder. This is especially so in a country where perhaps 1/3 or more of the population still live on incomes that are in the range of USD 2 per day. In later years, China has ratified all major international conventions, like minimum age, limiting the use of child labor, about equal pay between sexes and the establishment of worker unions at the companies. Examples set by foreign companies, like the Korean Samsung group; not allowing any labor unions at all at its Chinese units have even lead to confrontations with the state-controlled unions and the Samsung policy being challenged in court (AFCTU, 2004-09-10).

Other related issues in brief

Problems facing China in the near future are monumental in some respect, with one of the more urgent being the degradation of the environment. Many parts of China face a severe scarcity of clean water, while large areas of land as well the air is heavily polluted following the many years of focus on economic growth. In the World Health Organisation's (WHO) listing of the most polluted cities in the world, seven out of the ten most polluted can be found in China. The reason for

this is often the unregulated use of unwashed coal, resulting in high emission levels of sulphur dioxide in addition to particular matters. The projected emission levels of carbon dioxide in China will, despite this fact, increase the most in the world until 2020 (WHO, 2004-11-30). In this respect there will be a major shift in China in the near future as it will be the cars that take over as the largest polluter from industry and coal burning. Cars are already, in 2004, the largest emitter of carbon monoxide and nitrogen oxide (CW, 2004-10-06). China has not agreed to any binding targets under the Kyoto Protocol when it comes to limiting carbon dioxide emission levels. At the same time as the State Environmental Protection Agency (SEPA) has estimated, if the costs for the environmental degradation of the country over the last ten years had been included in the GDP, then it should have been lowered by at least 2% per year (SEPA, 2004-09-02).

A drawback of this kind of industrialization and improvements in living standards, seen in China over the last ten years, as has been seen in other developing countries, is that also the consumption of water increases rapidly. In this respect, China has not been an exception. Especially the densely populated areas in regions along the Yellow River are facing water shortages, as the river has lost most of its former might. Water shortages have plagued 400 out of China's more than 660 larger cities, with the situation ever worsening in 100 of them, including metro areas like Beijing and Tianjin¹⁹. Being a coastal nation, China could use the expensive method of desalinating seawater, but in 2002, only 12 billion cubic meters of seas water was processed in China²⁰.

It is in the light of this process that the South-to-North Water Diversion Project should be seen. To divert water from water rich rivers to regions scarce of water is far from a new idea, but it is the scale of the operation and the distances involved in the Chinese case that makes this project go beyond any other such project in the world²¹. Water will have to be transferred from the upper reaches of the Yangtze River and its contributory, the Han River, to the valley of the Yellow River in a gigantic 1 400-km canal. Together with additional canals that are to divert water further downstream, approximately a third of the water flow, or 10 – 15 bn cubic meters of water per year will be diverted away from its natural direction of flow (Water Diversion, 2004-06-10). The scale of the four major projects of the kind that have been initiated, and will need investments in the range of USD 12 bn, and are hoped to relieve the situation for about 300 million living in the receiver regions before 2008. The groundbreaking ceremony of the project took place in Hebei Province on September 1, 2004, with the large-scale works to start in the spring of 2005. The aim is to relieve Beijing of its water shortage problem in time for the Olympics in 2008 (CD 2004-09-02).

Farmland is increasingly being used for industrial purposes and the fastest rates of industrial growth have been registered in the regions where farming traditionally has been most intensive and population density is the highest. The average access to farmland per capita in China is only 40% of the world's average, but offset by the intensity in Chinese farming. However, only due to industrial development about 7 million hectares were lost from 1996 to 2003, 2.7 of this during 2003 alone. The government has probably realized that this process cannot continue as some 40 million farmers have lost their livelihood on land already redeveloped. It was not until after the 2003 National Party Congress that farmers' were given user right to their land and should be fairly compensated when the land is taken over for other purposes. It seems as if an understanding has emerged in the highest circles of the administration that the problems of poverty and infrastructure shortfalls must be dealt with to improve conditions also for the country's about 800 million that is directly or indirectly living off the land. A large part of the population of farmers often lives on a standard at about 30% of urban. Additionally, some 20% of the population lives in the poverty-stricken interior with even lower living standards, with only limited involvement in the monetary economy. To handle this is an administrative challenge of a size that can probably only be compared only to what is facing the Indian government.

Corruption is another important problem area to attend to, and that has proved hard to come to terms with, also in more developed countries. Corruption in the legal system, among judicial and public security officers, within the police, leads not only to additional costs for citizens, but it also slowly erodes social stability. Since the communist revolution, there have constantly been a number of convictions every year of high-ranking officials accused of having accepted bribes. The number of cases seems not to have decreased in later years despite the very severe punishment given by courts in such cases, with a number of life terms yearly and even capital punishment. In an economy under transition, with its legal system under revision, loopholes can be found, but the increasing number of court cases is probably also a result of both increased and improved surveillance. Fields where corruption is most common in China are related to land use permits, the granting of official loans, the authorization of tax reductions and awarding of infrastructure contracts. This is largely similar to what could be listed for many other countries at the same stage of development. In the international corruption index, China is on the lower end of the scale, at a shared 71st with Syria and Saudi Arabia, given a score of 3.4 out of 10; slightly better than the Russian 2.8 (Transparency, 2004-11-08). In 2004, China handled about 40 000 corruption cases leading to the retrieval of near 5 billion Yuan (USD 460 million)(CW, 2005-01-27).

What has changed in China over the last decade though is the scale of the crimes taking place and that some of the involved flee the country before its revelation. The extradition of the former Bank of China President in Guangdong from the US in April 2004, accused of having embezzled public funds to a value of USD 483 million with the help of a handful of colleagues, became a first major breakthrough against such attempts (CRI, 2004-05-13). Also, the state ICBC bank has seen a swindle with an estimated USD 600 million having been given in unauthorized loans and with hundreds of employees being involved (RCI, 2004-10-30)¹²². Working under what is a nontransparent system, it could well be tempting for officials to become corrupt, but the cost of being revealed is high. It has frequently been so that once the stone have come into motion (a person has started to accept bribes or swindle) the scale of the transactions, often sooner than later, gets out of hand for the person(s) involved.

As in so many other branches of the Chinese economy research and development has also been expanding fast. According to an estimation made by several ministries, the R&D spending for 2003 was up by over 20% to a total of 154 bn, or 1.3% of GDP. Companies were the most important in this field, funding 60% of R&D, with state institutes and universities funding 26% and 16% respectively (MOST-CH, 2004-10-16). In 2005, the share of basic research will be increased to an international level of about 20%, up from about 5% in 2004. To show the nations, research capacity, space technology has been chosen as a way to demonstrate the Chinese technical advancement to the world. After having launched numerous rockets into orbit, China's first manned space flight was lifted into orbit by a domestically developed Shenzhou-5 rocket, on October 15, 2003. It conducted a 14 revolutions mission and was labeled a complete success. *"These achievements indicate that China's overall national strength has reached new height,"* the premier said, adding: *"They have boosted the confidence and courage of all the Chinese people to continue forging ahead"* (Xinhua, 2003-10-17). Another space industries, although "cyber space", is expanding nearly explosively; like the use of mobile telephones and the Internet. The mobile telephone market has expanded rapidly, and currently China has over 200 million mobile telephone users who often focus their use on the Short Message Service (SMS). SMS has become highly successful in China with about 90 bn sent in 2002, jumping to near 220 bn in 2003 and expected to reach 300 bn in 2004. A growth that is due to the fact that the cost of sending an SMS is probably the lowest in the world at USD 0.12, and only 1/10 of the price in Hong Kong (CW 2005-02-02). Also, the growth rate of China's Internet industry has been impressive, with 22 million new users registered in 2003, to reach a total Internet population of 80 million and reached 94 million by the end of 2004. At the same time the Internet use had reach beyond 50% in both Hong Kong and Macao. By 2006 or 2007 Chinese Internet users are expected to reach over 150 million, to overtake the United

States for the No. 1 spot in this respect (Business Week, 2004-04-15 & CNNIC, 2005-01-19). However, Chinese authorities are still actively working on control aspects and the possibilities to limit access to dissident, pornographic and other non-authorized pages.

The outbreak of the Severe Acute Respiratory Syndrome (SARS) has been another plague to the state that has proved equally difficult to control. However, large resources have been channeled into research for a vaccine; and progress in this field during 2003 and 2004 has been rapid. Already in late 2004, the first trials of SARS vaccine started to undergo clinical trials, on humans and China has undoubtedly taken the lead in the global race to develop a remedy for the deadly illness. At least 10 different types of SARS vaccines are under development, according to China's Ministry of Science and Technology. The fight against HIV/AIDS has to be stepped up as this costly threat, seen both from a human aspect and the cost of treatment, looms all over the country and could easily gain momentum¹²³. Compared to the over 100 000 killed on the roads every year, the SARS outbreaks have had practically no human effects, but nevertheless injected fear in whole society for long periods of time. However, the economic effects of SARS vastly overshadow the effects of traffic accidents, as it caused a fall in GDP by several percent for months during the outbreak.

In 2003, China had about 80 million foreign visitors that spent USD 11 bn to generate near 5% of GDP for the year. In 2004, China's number of foreign visitors increased to near 17 million, with Japan, Russia, South Korea and Taiwan as the leading origins of these, but with many more visitors coming from Hong Kong and Macao. Tourism is hoped to continue to grow and is expected to generate over 10% of GDP by 2020, at the same time as that would make China the world's most popular tourist destination. In 1978, only 200 000 Chinese citizens went abroad, while in 2003, the figure surpassed 20 million, indicating that it is not only inbound tourism that is growing rapidly, but also outbound tourism is growing even more rapidly. The trend continues sharply upward and during H1 2004, it was up by over 60% to 13 million, over a SARS-affected H1 in 2003, with the Hong Kong and Macao being the favored destinations receiving over 10 million of these. During the Mid-Autumn Festival and National Day Holidays in early October 2004, about 7.5 million were estimated to have crossed the border between the SARs and the mainland.

As mentioned above, the undoubtedly most important project facing China in the near future will be the Beijing summer Olympics in 2008. This will give a huge boost to tourism, post a major chance to improve China's international image and raise its profile in the eyes of the world. The Olympic Games will not only mean a mounting media focus on Beijing and China sports at the highest

level, but it will also mean something like USD 16 bn in business opportunities for domestic and foreign investors during the build-up to the games. Beijing has officially listed 375 projects that involve everything from new infrastructure construction and renovation, to the building of Olympic gyms and stadiums to the highest of international standards. Included on the list are also education facilities, expanding tourism and environmental protection capacities. Among the largest of these projects is the building of over 100 km of new metro lines in the capital, which will result in three new metro lines. The build-up for the Olympics in 2008 is bound to become a major driving force in the near future for both the local and national economy. The next chance to make an impression on the global stage will be two years later with the 2010 Shanghai Expo.

4.1.2. The Special Administrative Regions (SAR) of Hong Kong and Macao

The two regions of Hong Kong and Macao have been integrated, but in a number of ways, they still live separated lives in relation to the mainland. Both regions hold their own local elections, but they have their principal administrative officer appointed by Beijing. The central government runs a Hong Kong and Macao Affairs Office in Beijing, including a Hong Kong and Macao Affairs Office of the State Council, and in each of the SARs there is a Central Government Liaison Office Macao. Both the SARs have since the adaptation of the "*one country, two systems*" principle, that has applied since incorporated, shown a considerable social stability and economic development. Much opposed to what was predicted by many at the time, life has much remained the same as before the transfer for most residents.

As a part of the two agreements signed between the mainland and Hong Kong in 2003, and later with Macao, called the Closer Economic Partnership Arrangements (CEPA), the application procedures for companies have been relaxed and handling times will be reduced to two months. As for business, it has until the end of 2004 to get the required approval from the Ministry of Commerce for business entities from the mainland to establish production and offices in the SAR region, which about 2 000 already have. The introduction of the CEPA also lifted import tariffs on about 1 000 different products, with financial services gradually being added to the list of services that can be freely transferred (China Economic Net, 2004-09-12).

Increased contacts and a possibility for the SARs, and especially Hong Kong, to act as stepping-stones for mainland business on its way to internationalize is set to greatly strengthen their position. As the number of mainland companies is counted in the millions, and if just a very tiny percentage would establish a

small office in the SARs, it would bring a considerable boost to the local economies. In response to the new regulations, representation offices of the SARs will be set up in 12 major mainland centers, with the aim of attracting new investors. The total value of mainland firm's investments in Hong Kong, until the end of 2003, had reached USD 25 bn (Investhk, 2004-09-15). In both Hong Kong, at the end of 2003, and Macao from October 2004, certain banks have been allowed to provide Yuan transactions, still with strong control to prevent money laundering via gambling (PBOC, 2004-08-01). The new relaxed regulations for the establishment of companies, and judging from the investment figures, indications are strong that after the 7 (and 5) years that have passed since the incorporation of the SARs, real integration could well be on its way.

Hong Kong

Hong Kong came under British jurisdiction in 1842, with the northern parts of about 1000 km² area, the so-called New Territories, being leased from China for 99 years, from 1896. As this lease was running out, it was decided that the British Crown Colony, after long negotiations and much hesitation, should be reunited with China as a Special Administrative Region in July 1997. It currently holds not only a population of about 7 million and has since long been a bastion of free trade, multicultural from heritage and its extensive tourism, but also a first class shoppers' paradise.

The regional GDP in Hong Kong rose by just over 3% during 2003 compared to 5% during 2002 generating a per capita GDP of about USD 26 000. The best performing parts of the economy were financial service and insurance that rose by 14%, while restaurants / hotels and the manufacturing sector both declined by just over and just under 10% respectively (largely an effect of the SARS outbreak). Economic growth in the region has reached 12% during H1 2004, the highest in over four years, with the full year growth expected to about 8%¹²⁴. A major problem for the region has been the creation of new jobs, having been much slower than expected, with about 100 000 new jobs being created over the last year (CD, 2004-08-29). Still, the unemployment level in Hong Kong fell to its lowest for three years by the end of 2004, 6.5%, with underemployment at 3.1%, the number of employed at the same time reached a historic high at 3.3 million (HK-esd, 2005-01-19). Hong Kong has over many years established itself as a world-class business-, financial-, and logistic-services centers. To add to this, Hong Kong has a long established and strong legal system steering an economy that is possibly more open to the world than any other economies (HK, Census and Statistics Department, 2004-08-15). It is also another world here when it comes to corruption, compared to the mainland, being placed as number 16 in the world, just behind Germany, compared to 71 for China (Transparency, 2004-12-01

Hong Kong signed its CEPA agreement with mainland China in June 2003, that from January 2004, it will give duty-free access to the mainland for 273 products and services from 18 sectors. The biggest competitive advantage for Hong Kong is proximity coupled with the long relationship that has given a probably unchallenged level of knowledge of the mainland. This has led to that Hong Kong's logistic network handle about one-third of the mainland's foreign trade while companies based in Hong Kong are said to directly employ over 10 million people in and around the Pearl River delta (HK, Chamber of Commerce 2004-08-15).

The Hong Kong stock exchange is becoming increasingly important to mainland companies listed abroad, as over 90% can be found in Hong Kong. Mainland firms use the HK stock exchange to raise capital of over 80% capital raised abroad, over the past ten years, has come from listings here. With the largest pool of capital for private equity investment in the Asia Pacific region available in HK, and a venture capital business of only a very embryonic size in the mainland, HK remains a major attraction for expanding Chinese firms (TDC, 2004-09-16).

Few countries in the world are as involved in world trade in relation to its size of the economy as Hong Kong. Foreign trade is focused on mainland China as both its largest export and import markets, especially export from the neighboring Guangdong province, which in 2004 is estimated to export USD 150 bn, out of which some USD 60 bn go to Hong Kong, being the regions outstanding trading partner (CD, 2004-05-14). Second most important to Hong Kong is Japan, as the second biggest import market and third biggest export market. What makes foreign trade special in Hong Kong is its huge re-export volume. In the case of Japan, conventional export in 2003 was valued at just under USD 400 million, while the re-export volume reached USD 12 bn, with an import volume from Japan of USD 27 bn (HK, Census and Statistics Department 2004-08-15). The mutual importance of the two is shown by the fact that holders of Hong Kong SAR passports from April 2004 can travel visa-free to Japan, which mainland Chinese cannot (HK, Public Administrative Association, 2004-08-15). Hong Kong is also a considerable transport hub with the world's busiest container port, that in 2004 handled a record of 21.9 million TEU, up 7.3% over 2003, and in all over 215 mt of cargo. About 60% of this was handled at the highly efficient Kwai Chung terminals, but the main problem for the port is that road transport of a TEU from southern China costs over USD 300 more on average than shipping from the competing Shenzhen port (HK Port, 2005-01-18). The Hong Kong airport is another hub that has transited 27 million passengers during 2003 (24th in the world), but its air cargo volume of 2.7 mt, is second only to Memphis (AIC, 2004-10-12).

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Since the transition in 1997, Hong Kong has been lead by a nominated and Beijing approved Chief Executive, Tung Chee Hwa, who began his second 5-year term on July 1, 2002, after his nomination by a selection committee established by the Basic Law (HK, Special Administrative Region 2004-08-15). There has been a growing movement for free elections of the leader to follow after Tung Chee Hwa. In June 1 and July 1 2004, hundreds of thousands demonstrated in Hong Kong, dressed in white shirts, for democracy and the right to elect its own leaders (Muzi News, 2004-07-20). Not even opposition of this scale is likely to be enough to convince Beijing to reverse its previous decision to not allow a direct election of the next leader in Hong Kong. In the run-up to the elections, opinions were divided on the development as Human Rights Watch labeled the past year as the most undemocratic so far (HRW, 2004-09-12). It was also shown in the elections for the 30 elected seats at the Legislative Council in September that there is perhaps an increasing fragmentation, as 18 seats were won by pro-democrats (+1), while pro Beijing won 12 (+5), from a 56% turnout (Elections, 2004-09-13). However, in early March 2005, Hwa unexpectedly resigned, quoting health reasons, perhaps, leaving an opening for a more democratic appointment.

Macao

Macao is a former Portuguese protectorate 150 km southwest of Guangdong and 50 km west of Hong Kong. Macao is set on the tip of a peninsula with an area of only 17 km² and a population of about 500 000. For Macao, the reunification with China and the cutting off of its formal connection to Portugal, that came to last from 1887 till 1999, has meant a revival of the city.

In 1999, Macao had seen four consecutive years of economic decline. This was much a result of the negotiation process on how the terms in the final agreement would turn out, and this generated insecurity in the business community as well as among residents. Once the agreement was put in place, and the handover had taken place, the region was soon back to "*business as usual*". Currently, Macao is doing very well and the regional GDP rose by nearly 17% during 2003, compared to 10% during 2002, generating a per capita GDP of about USD 18 000 for 2003. During the first half of 2004, the GDP has jumped by a massive 36%. That is over a comparable period in 2003 when SARS severely limited traveling. Flourishing tourism from the mainland has again started to stimulate the Macao economy. The gambling industry is the main attraction for tourists, with gambling alone generating over a third of the GDP in Macao (CD, 2004-07-15). Outside of gambling, it is the textiles and clothing sector that provides not only the largest economic contribution, but is also the largest employer.

Chief executive of the China's Macao SAR, since its reunification with China in 1999, has been Edmund Hau Wah Ho. Mr. Ho has been reappointed for a second five-year term that began in December 2004 (Xinhuanet, 2004-09-20).

4.1.3. Taiwan province

What today is known as Taiwan is largely constituted of the island of Formosa, about 150 km east of the mainland China Fujian Province. It also claims some smaller islands in the strait between the mainland and the island, that are located closer to the mainland. The total area available for its 23 million inhabitants is 36 000 km², which is partly very mountainous with the highest peak reaching near 4 000 meters. The population is concentrated to the western plain, with over 3 million living in the capital of Taipei, and another two million in the islands southwestern port city of Kaushong. The economy of Taiwan, being one of the four so called "*tiger economies*", saw extremely strong growth during the years from the 1960 and nearly 40 years on. Presently, it is the service and industrial sectors that dominate the economy, with transports, electronics and chemicals being strong sub-sectors inside these. The GDP per capita for 2003 reached near USD 13 000. As a result, Taiwan has also seen labor intensive manufacturing being transferred abroad, and first of all to the mainland, by way of FDIs.

In the 16th and 17th century, the island of Formosa was dominated by European nations and saw its first sub ordinance to the mainland in the late 17th century. After having been taken over by Japan in 1895, it then remained under Japanese jurisdiction until the end of WWII. During 1946 to 1949, as Mao Zedong was winning the war on the mainland against the Chang Kai-shek led forces, many of the followers of the latter fled to Formosa. Despite the fact that the ruling of Chang Kai-shek was limited only to the island, he continued to claim himself as the true leader of the mainland until his death in 1975. His son, Chiang Ching-Kuo, who succeeded him, introduced some political reform in the late 1980s that opened up for democratization and legalized some forms of direct contacts with the mainland. The first open presidential election was held in 1996. In 2000 the first president was elected who did not represent the National Party. The change of leadership has not only meant new blood, but also the new president and other leaders from the DFP party have been arguing in favor of national independence. As a result, relations between the two neighbours have been shifting over the last decade. Some of the cold years have seen strained relations as a result of military maneuvers and rocket threats, while other years have seen clear improvements in the relations.

The fact that the political relationship has been both tense and somewhat antagonistic in recent years has not stopped the cross-strait economic and cultural exchange. Still, by the end of 2004, mainland companies cannot invest in Taiwan, while the opposite is allowed. In the cultural field it is allowed for Taiwanese to visit the mainland, for both business and tourism, which has still to be permitted for visitors from the mainland. The cultural exchange between the two has also ballooned, as in the era before contacts were re-established; the Chinese population on Taiwan received most influences from the West. It is of course an impossible mission to try to estimate to what degree the "*Chineseness*" has been lost, or could be regained. Of the two "*nations*", it is clearly Taiwan that has been adopting the most restrictive policy for contacts of the two.

The policy of the Taiwanese political leadership has over several years now been a "*two-state policy*" with "*one country on each side*" of the strait. With time, this has, as shown by surveys, developed into the mainstream will on the island, with a reunification having received reduced support in polls. Although changes are relatively small, the support for an independent Taiwan has been rising, at the same time as most people also believe that "*Taiwan independence*" would lead to war. What the people in Taiwan do agree to in the polls is a desire for peace, stability and economic development.

Relations between the two came to pass two lows in 2004. The first was during the Taiwanese presidential elections in May and then again in the parliamentary elections in December. Statements made on the mainland in relation to the May 17th election were sets out in a conciliatory for a peaceful reunification to ensure that "*Chinese do not fight against Chinese*" (Xinhuanet, 2004-05-18). Again so in the parliament vote as the Kuomintang party came out with a slight majority, with the nationalistic side, led by President Chen, coming short of majority (Xinhuanet, 2004-12-13). This time, the message was that peace on both sides of the Straits must be the goal, because the fighting of compatriots would be a tragedy and would not lead to security for Taiwan. On the other hand, the fact that President Chen did win a second term has strengthened independence groups and the president has indicated that he wants a new constitution in place on the island.

Both countries are, since 2002 members of the WTO, with Taiwan having been allowed in just weeks after the mainland, but trade between the two had, for many years, been restricted. As a result of these restrictions, trade between the two, are used to be conducted through Hong Kong. The existence of the "*three direct links*" of mail, trade and transport between the two has become increasingly important for the growth of Taiwan's economy and for the development of cross strait economic and trade ties. During 2003, the surplus for

Taiwan in the trade with the mainland was USD 30 bn. The relation in the economic field, with the expanding trade, has created a situation where both side can profit hugely in the future. Taiwan's investments in the mainland during H1 2004 exceeded USD 3 billion, up by over 50% over the same period in 2003 (MOEA, 2004-09-14)¹²⁵.

Any peaceful solution to the Taiwan question is probably impossible without the full consent from the US, that as late as in the beginning of this century has stated that it will, in full, defend Taiwan. At the same time, it is opposing any action aimed at the independence of Taiwan and has declared its support for the “*One-China*” policy.¹²⁶ The two positions can look somewhat contradictory, or perhaps intentionally blurred. US relations with the mainland is constantly improving, and the statement from the US Minister of Foreign Affairs, Powell, that included the mentioning of “...*a reunification that all parties are seeking*”, came as something of a surprise to the island authorities (CD, 2004-10-30). A comment that was probably aimed at easing Beijing worries about the US position, but also a hidden warning to independent groups on the island not to push forward. The joint intention by the mainland and the US that the Six Party Talks should find a continuation after the North Korea crises has been dismantled, but with a new focus on the China / Taiwan question, could only be a clear step forward (CD, 2004-10-30).

With the mainland's stance on the issue being non compromising when it comes to national sovereignty and territorial integrity, the solution to this problem could well turn out to be a status-quo for a long time to come. Another alternative could be to let Formosa form an even more independent SAR then what has been allowed for Hong Kong and Macau, with both alternatives representing solutions where peace has been won without a war. Perhaps not the best of solutions, but it will at least see to that none of the parties involved will loose too much face and will also secure that “*Chinese do not fight Chinese*”.

4.1.4. China in Brief

China, (People's Republic of China) is the third largest country in the world, after Russia and Canada, with an area of 9.6 million km², with a 1.3 bn population. From east to west, from the confluence of the Heilong river to eastern Wuqia County in Xinjiang Uygur Autonomous Region, the distance is 5 200 kilometers. From north to south, from the city of Mohe in the Heilongjiang Province to the southernmost island, Zengmu'ansha, in the South China Sea the country stretches about 5 500 kilometers.

The border stretches over 22 000 kilometers on land and the coastline extends well over 18 000 kilometers, washed by the waters of the Bohai, the Huanghai, the East China and the South China seas. The Bohai Sea is the inland sea of China. The largest island is/was Taiwan, with a total area of about 36 000 km², and the second biggest being the 35 000 km² Hainan in the south. The South China Sea Islands are the southernmost land of China.

As for administrative division, the People's Republic of China is made up of provinces, autonomous regions and municipalities subordinated directly under the Central Government. On a second level, these provinces and autonomous regions are divided into autonomous prefectures, counties, autonomous counties and cities. On a third level, counties and autonomous counties are divided into townships, nationality townships and towns. Some of the largest cities and certain municipalities, organized under direct Central Government, are also divided into districts and counties.

The area occupied by what today is The People's Republic of China has a human history dating back nearly 4 000 years. Long before that, however, the pre-human "*Yuanmou Man*" lived in the area, approximately 1.7 million years ago, while the earliest primitive man walking upright, the "*Peking Man*", has been dated 600 000 years back.

The first dynasty was founded before 2000 BC, at a time when the technology of smelting bronze had already been known for nearly 1 000 years, with the making of iron tools to emerge about 100 years later. The First Emperor of Qin, who supervised the standardization of the writing system, weights, measures, currencies, and establishes a system of prefectures and counties emerges in 221 BC. It was at this time that more than 300 000 people were mobilized for the initial building effort of what was to become the 5 000 km long Great Wall. Qin's also built the mausoleum in Xian that houses the 8 000 terracotta warriors. As early as 100 BC a Chinese emperor sends the first envoy, along what was to be called the "*Silk Road*", to establish contacts and trade with the region that today is called Central Asia.

The unification of the country, with Beijing as its capital, came into being around the turn of the 13th century, an era that also saw the development of four important inventions: printing, papermaking, the compass and the gunpowder. During the early 15th century, Zheng He explored the seas west of the country reaching as far as today's Kenya. During the late 17th century, Tibet and Taiwan was also brought under the rule of the then Qing Dynasty.

The 19th century was a troublesome time for China and a ban on the use of opium resulted in a war with Britain in 1840. In the outcome of the war, China had fallen in grace to become a more or less semi-feudal country. In 1911, the Qing Dynasty was overthrown in a revolution, and the Republic of China was established. In the aftermath of WWI, China was again disgraced, which led to a new protest movements at a time when the Marxism - Leninism came to be established also in China. The Communist Party of China was first established in 1921, by Mao Zedong and others, at what was called The First People's Congress. In the 28 years to come, a number of wars were fought, the Northern Expeditionary War (1924-27), War of Agrarian Revolution (1927-37), War of Resistance Against Japan (1937-45) and War of Liberation (1946-49). The last of these led to the establishment of the People's Republic of China on October 1 1949, in a ceremony that is said to have been witnessed by over 300 000 people in Beijing's Tiananmen Square.

One of the first actions by the new leadership was to carry out a large-scale land reform where some 300 million farmers were granted the right of use to 47 million ha of land. The First Five-Year Plan was introduced some year later, 1953 to 1957, and the country started to build up a domestic manufacturing industry that had practically not existed previously. Economic growth was strong as many new large industries were established. The ten years of "*cultural revolution*" (May 1966-October 1976), came to be a period of both economic and social stagnation. After 1976, Deng Xiaoping was reinstated and China entered on a new reform path that included the "*ping-pong*" diplomacy and the gradual opening towards the West in the early 1970s. Major reform moves have been made from the early agrarian reforms until the ongoing socialist modernization process, where the progress during later years, especially in the manufacturing field, has been rapid. This policy has made major advances possible and has markedly improved living standard for many, although the problem of a fair distribution of the economic benefits among all citizens remains to be solved. (Partly based on; China.org, 2004-04-30)

4.2. Trade

The dramatic increase in importance of foreign trade has had for China over the last decade is well shown by its increasing power as a trade nation. When 2003 was summed up, China had advanced into being the world's fourth most important trading nation, up from having been ranked just outside the ten most important as recently as in 1994 (WTO, 2004-09-12).

An important index measuring a country's trade openness and integration with the global market is the percentage of total foreign trade volume to its GDP. The nations, new-born dependence on foreign trade, having reached 60% for 2003 and over 80% for 2004, shows the dramatic shift that has happened in this respect over a relatively short period. At the time of the opening up to the rest of the world in the late 1970s, this rate was well under 20%, rising to 20-40% from 1985 to 1999. Trends here are showing a nation opening up for foreign trade and then witnessing fast growth with the 40% mark broken in the year of WTO membership in 2000. Foreign trade is an increasingly important factor in China, supporting the nation's rapid transition towards a market economy. This growing dependence on foreign trade has made the country clearly more exposed to changes in the international economy than before. With a swelling international trade for all countries of the world, this is far from a unique phenomenon, but it is increasingly involving the regions of China that has acted as economic motors of the country. Determining what should be the driving force in an economy, if it is the domestic market or rather the international market that should be promoted to sustain economic growth, is a major question in any developing nation. In the current, century it would go against the trend of globalization and regional integration to focus on domestic demand and overlook overseas markets. Meanwhile, it is probably impossible to downgrade and overlook a market of 1.3 bn consumers and over emphasize exports.

Total trade in 2003 was up by an impressive 37%, to USD 851 bn and to generate a trade surplus of USD 25 bn. Foreign trade for 2004 was, by mid 2003 expected to grow by 8%, compared to the near explosive growth during 2003. However, these expectations have been proved wrong and instead, total trade during 2004 grew by over 35% to a total of over USD near 1.2 trillion for the year (MOFCOM, 2005-01-10). Increasing trade has been the pattern with strong surpluses each year having added up to USD 250 bn from 1997 including 2004. In relation to developed countries, trade has been more volatile as it was positive in 1999, USD 10 in the negative during 2000, more or less balanced during 2001 – 02 and has then been USD 10 bn in the positive during 2003 and 2004.

In early 2004, the Chinese trade pattern showed strong signs of change as during the first month of the year exports rose by 29% to USD 70 bn while imports rose by 42% to USD 78 bn with the February figures showing an increase of 40% and 77%, respectively. As a result, Q1 2004 came to show a trade deficit, and suddenly China looked likely it is on its way towards a trade deficit that would have been the first since 1993. The deficit for Q1 totaled USD 8.4 bn, out of a total trade of USD 240 bn. During later years China's foreign trade has generally had its weakest months in the beginning of the year and its strongest late in the year. Precisely according to this pattern, the 2004 trade deficit came to flatten-out and

for the first nine months of the year the surplus was back, although only as small as USD 4 bn. This is from an export of USD 416 bn and imports from USD 412 bn, after the two had seen increases during the year of 35% and 43%, respectively (Xinhuanet, 2004-10-15). Minor tax reductions came to have little influence compared to the strong domestic demand for raw material as well as machinery and equipment, which have been the most important factors. This demand saw investments rocketing by over 40% in the beginning of the year (MOFCOM, 2004-10-18). The year ended with a strong trade surplus of USD 32 bn, up 25% and with nearly 1/3 generated in December alone. This from an export of USD 593 bn and an import valued at USD 561 bn (ibid. 2005-01-21). For 2005, a 25 billion trade surplus from an export volume that is expected to increase by 20%, to well surpass USD 700 billion, and a 23% increase in imports, to reach about USD 685 bn. As the trade volume already during 2004 reached 86% of GDP, and with a 10% difference in growth rate, the trade volume looks likely to equal the GDP volume in 2005.

At the same time, as high demand from China has much contributed to maintain world economic growth in 2003 and 2004, it has also been given the blame for the fast growth in raw material and energy prices during the same period. It is still the imports of raw material that account for the bulk of Chinese imports. Being such a large purchaser in the market, as China has become in later years, its increasing demand has pushed prices, on especially the kinds of raw materials that are in high demand in China, upwards. As the situation with large-scale sourcing on the international market is relatively new for China, it is probably so that the knowledge of how the international markets work has not been sufficiently widespread in all business circles. This situation has led to that raw materials, which have become a seller's market where the upward trend in prices has been further supported by speculation about just that: increasing prices. This development goes in hand with the market economic system, where each link in the chain is supposed to focus on, and as far as possible, optimizing his own profit in each transaction. One possible way to reduce risks in this situation could be to negotiate long-term delivery contract with large suppliers, internalize sourcing by way of ownership in producers or spread-out the concluding of contracts both geographically and in time. Additionally, trading of raw material remains a question of timing, and not seldom, pure luck, if the deals concluded will result in prices that are lower or higher than what is being paid by competitors.

Competition should be focused on increased quality and a widened composition of trade instead of only volume (Premier Wen, when looking ahead to 2004 at the 10th NPC – CD 2004-03-22 and NDRC, 2004-04-11). In line with this desire, exports from China are getting increasingly sophisticated with machinery and

electric devices are increasing by over 50% during the first nine months of 2004 constituting over 40% of trade. High-tech products, like computers and digital cameras, increased by near 55%, to a 27% share of total exports, while the share of the conventional textile export fell 1%, to 17% after having increased by, what here is a modest, 20%, or about half the average. On the import side, raw materials increased in value by near 60%, with oil up by some 35%¹²⁷. Machines and electric devices increased by 30%, covering just over 40% of the total. The most surprising change is that the import of steel and steel products, that declined by 15% during the period, which is the first in three years (MOFCOM, 2004-10-18). Companies with FDI partnership contributed a massive 57% of exports during the period. Both imports and exports related to these companies have been growing faster than the average, but they still record a trade deficit for the period of USD 1.6 bn (MOFCOM, 2004-10-18). China's export to developed countries includes a high degree of labor-intensive products, typical for a newly industrialized country. Although the share of machinery and high-tech products in its exports is increasing, it still has its base in lower-end products. However, official statistics show that to increase Chinese exports by USD 1 million on average requires increased imports by over USD 500 000. Being an average value, it indicates that the proportion of imports needed to increase exports for higher-end products is likely to be even larger. A Chinese computer contains not only a Windows operating system, it will also be based on an Intel processor and a liquid crystal screen that has been produced in Japan or Korea. Additionally, with well over half of China's exports originating from subsidiaries of companies owned from abroad, paying interests to their parent companies and probably sending dividends and royalties abroad. Other important exporters work under OMCs (Original Marketing Contracts) where it is the owner of the brand name that market and sell the product and could be expected to pocket the largest revenues from its sale. A possible rise in the value of the Yuan would hurt Japanese electronics makers' subsidiaries in China as a high percentage of production is being exported to third world countries. On average, such subsidiaries sell about 40% percent of their production to third countries, about 35% locally and with the remaining 25% exported to the "home" market (UFJ, 2004-06-12)

There are still very few, if any, major Chinese brand names that send any positive signals to consumers outside China. Establishing of global brand for the best of the Chinese products can, not having the skills or the experiences in marketing, come to take another 5 - 10 years. In surveys of brand names, only one Chinese name appeared among the 100 most known in the world (Haier, at 95), and only two among the 25 most well known inside China (Kingdee, 2004-09-05). The first really serious such attempt, or at least laying a foundation for such a widening of its market, has been made by the computer manufacturer

Lenovo. The company has closed a deal with the International Olympic Committee to become global supplier of computer for the Olympic movements build up from 2005 and beyond to Beijing 2008 and taken over the IBM production of laptop computers (Lenovo, 2004-08-12).

By regions in the country, it is primarily in the East and South part of China that the results from the economic reforms have been seen, while western parts have seen little of the improvement. In eastern parts, the average rate of trade dependence among 12 provinces was 75% in 2000, while the same rate among provinces and autonomous regions in the central and western regions was only 10%. The country's leading regions, in this respect, for 2003 were Shenzhen in Guangdong Province and Shanghai, showing a trade dependence rate of 356% and 149% respectively.

Total trade for Guangdong in 2003 constituted USD 283 bn, with exports valued at 153 bn and imports at 131 bn, up 29% and 27%, respectively over 2002¹²⁸. The province generated 33% of China's foreign trade during the year and could post a trade surplus of USD 22 bn. Its export volume was USD 94 bn larger than China's second most important export province, Jiangsu, and its import was USD 67 bn bigger than the import of the second most important import province; Shanghai. Guangdong's most important trade partner though was, Hong Kong, that took USD 45 bn of exports, or 30% during the year and is expected to increase that share to 40% of an expected USD 150 bn export during 2004. The five most important items in its exports were machinery, electronic items, high-tech products, garments and shoes while the five most important items in its imports were high-tech products, production lines and equipment, auto-parts, steel and agricultural products. Since this type of trade reliance ratio calculations is determined by several factors, they should perhaps not be seen as very exact, but remains a strong indicator of differences between the different provinces¹²⁹. What percentage that could be said to be the best for China, or its individual provinces, at present and in the near future, is not a question that can be given an objective reply.

The process of increasing China's international trade has not been proceeding without problems, as the number of trade conflicts with several of its biggest trade partners has started to mount. Trade partners that are both few and big, with just three, the US, Japan and the EU being partners for over 50% of the trade volume. A fact that enhances the importance of both the political relation to, and development in, these three for the future development in China.

Japan is China's most important trade partner, where trade including Hong Kong, for 2004 reached USD 213 bn, accounting for over 20% of Japan's foreign trade. Total Chinese trade with the EU 15 was, in 2003, worth over USD 125 bn and for the extended EU-25 trade reached USD 180 bn for 2004 (Xinhua, 2005-01-23). The figures that place China as the second biggest trading partner for the EU, after the US, and the EU as China's second biggest trading partner behind Japan¹³⁰. The EU-25 market, having 450 million citizens, accounting for roughly 18% of world trade and over 25% of world GDP, will continue to grow in importance for China. Future trade will be facilitated further as the average tariff rates in the new member states decreased from 9% to 4% as a result of membership (EU, 2004-05-06)¹³¹.

Outside of the already existing wider group of the Asia Europe Meeting (ASEM), a special China-EU Industrial Dialogue forum has also been established in an attempt to keep the dialogue open and to avoid/prevent trade conflicts¹³². At its first meeting in the Dialog group, it discussed tricky issues for the relation like auto industry, metals and textiles (CW, 2004-09-22). One recent problem in the relation has been the Chinese export of coke to the EU, that in May was set to 4.5 mt for 2004, same as in 2003, but where exports have faced both administrative and environmental restrictions on the Chinese side. With China being one of the world's leading coke suppliers, this has had severe effects on prices. In the opposite direction, the EU has maintained an arms export embargo against China since the violent quelling of freedom demonstrations in Beijing in 1989. Although some limited arms export has been taking place from the UK, France, Germany and Italy, it is expected to be liberalized from mid-2005, despite internal opposition, but with the total arms volume not being allowed to increase (EU, 2004-12-22).

Trade with **the US** has grown considerably, from a total trade value of USD 6 bn in 1989, to USD 74 bn by 2000 and reaching USD 126 bn by the end of 2003. As China's largest trade partner at the time, the US generated about 5% of foreign trade in 1998, having nearly doubled to 9% by the end of 2003 (CD, 2004-09-13). Chinese exports for 2003 came to just under USD 75 bn, up by 33%, while imports grew by 26% for the year.

At the 2004 meeting of the mutual Joint Commission of Commerce and Trade, established in 1983, the relation between China and the US was described as the "*best in history*"(CD, 2004-04-19). The future of the relation could be bright, but at the same time increasingly insecure in respect of the mounting US trade deficit. The former strong critique over human rights violations and workers rights record from the US side has faded in later years. Instead it has been trade-related measures that have come to fill the mutual agreement. The US has already

adopted dumping measures against TVs and safeguard measures against the imports of some textile products from China and this could well be the beginning of several such measures. The US has also repeatedly declined to declare China a market economy, which could have served as a strong boost to the mutual relation. Instead China has been urged to re-evaluate its currency and has been pointed out as the cause of the industrial job losses in the US. Given the blame for much of the 2.8 million jobs lost inside US manufacturing during 2000 until mid 2004 (AFL- CIO, 2004-05-12). The problem could instead be said to be one of job creation in the US and the West and not of job losses to e.g. China. If over 700 000 US jobs have been lost to China, it still only represents less than 1% of US jobs and about 4% of US manufacturing jobs in 2000.

With the signing of the agreement that China supports the Russian WTO entry, this became a relatively early statement in support of the Russian entry (Kremlin, 2004-09-26). The Chinese Premier, Wen Jiabao, sees Russia as a “*strategic cooperative partner*” and after a WTO entry the trade relation will “*gain new strength of growth within the framework of the WTO*” (Interfax, 2004-09-13). In later years, trade between the two has been growing at an average of 20% per year, and after having reached near USD 16 bn in 2003, it is expected to pass beyond 20 bn in 2004 and to reach USD 60 to 80 billion by 2010 (CW, 2004-09-21). To make such predictions possible, the exchange must have been widened from conventional commodities to include services, tourism, finance and high-tech equipment.

4.2.1. The WTO and (free) trade agreements

After years of difficult negotiations, China entered in the World Trade Organisation (WTO) in November 2001. Current and ongoing Chinese measures to liberalize trade and investments are much a result of commitments made during the WTO membership negotiations. This includes the opening up of the domestic market for imports of most investment goods as well as the competition that have followed. China is seen by the WTO as such an increasingly important country that its trade policy will, in the future, be evaluated and reported every two years, which the WTO does for the five biggest trading nations, and less frequently for smaller nations (WTO, 2004-10-28).

As mentioned, China’s comparative advantage on the industrial level is chiefly found in production and to a large extent results from low labor costs. Still, this has not been enough to create the international competitiveness needed to shape brands or any major international company groups. China’s strongest

competitive advantages are mainly to be found in labor-intensive sector products like clothing, textiles, shoe/leather and stationery, but also the production of electric appliance and basic chemical industries.

In line with increasing involvement in the international trade, China has had to recognize the US as a major player in world trade and as active in drawing up international trade rules. The US, with its large economy, is also one of the biggest beneficiaries from international trade and an advocate of free trade in most fields. In later years, the US has implemented a string of protective measures in various labor-intensive industries, where it has a weak competitive edge, such as for basic steel and textile. That is apart from providing considerable government support measures to domestic agriculture.

On March 18 2004, the US officially filed the first complaint to the WTO against China since it joined the WTO in late 2001 (WTO, 2004-03-18). The reason for the complaint was the Chinese VAT reduction to 3 – 7%, instead of the normal 17% VAT, to exporters using domestically produced semiconductor products. US producers accused the Chinese side of giving most of the 17% VAT levied on imports in rebate for domestic producers, i.e., subsidizing domestic products and giving them an unfair advantage over imports. From the Chinese side, it is being stated that such financial benefits are not only for domestic manufacturers, but can also be enjoyed by foreign-funded businesses. *"China imported more than 80% of its semiconductors last year, and I do not see how much more open our market could be?"* (Zhang Qi, director-general, Ministry of Information Industry, 2004-04-05). The USD 19 bn Chinese semiconductor market has become a major buyer for foreign-made chips, including USD 2 bn from the US in 2003. Semiconductors are products that the Chinese government sees as a product for the future and can give restricted support. That is without interfering with WTO regulations, by way of allowing companies deductions for R&D expenses.

Under the dispute resolution rules set out by the WTO charter, the two parties must hold consultations during no less than two months before the complaint will be handed over to a panel that will evaluate the complaint. If the WTO accepts to take up a complaint officially, then it usually takes 15 to 24 months to make a decision. Later in the same month, both the EU and Japan have asked to be included as observers in the consultations, which the Chinese side accepted.

By early 2004, 610 different cases of this kind had been filed against Chinese products, involving over USD 10 bn worth of Chinese exports. By mid-2004 China itself levied 27 cases of anti-dumping against exporters, with 19 of these against Korean manufacturers (WTO 2004-07-15; KITA 2004-06-17)¹³³. A number of similar examples can be given inside the NEA region that involves especially

food products. One such example is dried laver (a frequent ingredient in Japanese cooking), which is not imported from China, although made by the same process as in Korea, with only Korea having quota access to Japan. No quota has been given to China due to claims of overuse of pesticides, a reason that has been extended to cover various vegetables, that for this reason cannot be exported to Japan. In the same way both Japan and the EU have banned imports of aquatic products due to the widespread use of antibiotics in fish farming. Trade in agriculture is another product segment that is restricted by the use of technical standards, quarantine and quality inspection measures, custom procedural requirements, environmental protection and labor standards. The latest and increasingly problematic field is intellectual property rights infringements¹³⁴. This has emerged as a major problem for China especially in relation to the US, with the Secretary of State having set the lost US incomes from “*pirated goods*” to USD 3 bn per year. However, the local awareness is also rising sharply with the number of lawsuits, in Shanghai only, having reached 640 during 2003 (CD, 2004-12-18).

To overcome some of its own problems of the direct and indirect trade barriers that are faced by its exports, China has also initiated the process of negotiating bilateral FTA agreements. In this process of looking for suitable partners, Chile has become a frontrunner, as it was for Korea. Negotiations were officially initiated when the two presidents, Hu Jintao and Ricardo Lagos Escobar, met at the APEC meeting in Santiago in November 2004, with the hope of concluding a deal in 2005 (CD, 2005-01-28). Trade between the two has increased by over 50% during H1 2004, to USD 2.4 bn, and is expected to pass USD 10 bn by 2008. Copper is the focus of the negotiations, as this is a relation between the world’s largest producer and consumer; with over 60% of China’s H1 2004 imports from Chile being copper (Ministerio de Economía, 2004-08-30).

Another near future Chinese FTA partner is Pakistan, where negotiations are expected to be concluded by the end of 2005. Negotiations here should be relatively free from difficult issues, as over 70% of Pakistani exports to China falls in the cotton yarn or fabrics category, with total trade for the two in 2003 having reached about USD 2.5 bn (MOFCOM, 2004-12-25).

As the first of its more important trade partners, the ASEAN group officially granted China the market economy status in September 2004¹³⁵. Trade with the ASEAN group is becoming increasingly important for China and constituted 11% of foreign trade in 2003, with exports having increased by over 50% and imports by 30%. Total trade for the year has reached USD 78 bn, generating a surplus of USD 13 bn (Min of Eco, 2004-07-10). Trade with this 100 million inhabitants area is expected to reach near 150 bn in 2004 and 400 bn by 2010.

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Discussions a possible FTA between China and the ASEAN has been on-going since 2002, with an agreement on Comprehensive Economic Partnership and a declaration of Strategic Partnership for Peace and Prosperity signed in 2003. The latest step is the signing of a memorandum of understanding on transport cooperation in November 2004. A possible FTA with the ASEAN group of countries would include the six major countries from 2010 and all nations from 2015. If completed successfully, then it could potentially become one of the world's largest FTA areas (ASEAN, 2004-11-29).

Textiles and its trade

The production value of the world garment industry is estimated to have been in the range of USD 380 bn for 2003. In 2003, China was the world's leading clothing and garment producer, in terms of both capacity and export volume. Over the last ten years, textiles and clothing have served China as its best money earner in international trade. In 2003, Chinese exports of textiles reached USD 80 bn, producing over 20% of the world garment volume, with textile products generating about 18% of China's export value (CCC, 2004-08-12). The volume of textiles in the foreign trade has increased by an average of 13% per year from 1994 to 2003, but the share of textiles in total trade has nevertheless fallen from 28% to 18% during the same ten years. During this period, the trade surplus generated by textiles and clothing has increased from USD 21 bn to USD 63 bn; three times the USD 21 bn that was the overall trade surplus for China during 2003¹³⁶. The leading production regions are all eastern, with Zhejiang that has surpassed Guangdong as the most important, with the two generating about 21% of the total each, with Jiangsu and Shanghai both supplying around 15%. The three most important regions each recorded over USD 10 bn in exports for 2003, within all ten regions that generated an export value above USD 1 bn. During the same ten years, imports in the sector have increased only marginally, from USD 13 bn to just less than 16 bn. Consequently the share of textiles in imports during the same time period has fallen from 11% to below 4%. Basic products, like fabrics, yarns and fibers are dominating the imports and have only seen a minor reduction in its share of import, to about 80%. China is also one of the world's biggest cotton growers, and has allocated ever-larger areas to this crop. Genetically manipulated (GM) cotton was introduced already in 1996, and has since seen its output rise to a level where it now represents over 50% of the crop (CNFTI, 2004-06-30). In 2003, the cotton production reached just above 5 mt, which still had to be supplemented by imports to cover demand that stood at about 6 mt. The problem with the domestic cotton production is that it usually competes for land with grain, and in later years, the grain production has also been below demand.

As briefly mentioned in the introduction, trade in international textiles has, since 1974, been governed by the "*Multiform Arrangement*" (MFA). This was an agreement reached under the principles of the pre-WTO, GATT agreement, but the MFA still allowed the continued use of quotas in textiles trade. After long and difficult negotiations, the "*Agreement on Textiles and Clothing*" was reached, during the later stages of the Uruguay Round of GATT talks in Punta del Este in Uruguay in 1994. The new agreement brought the MFA into line with the GATT principles and enabled the gradual liberalisation of international trade in textiles during a 10-year grace period. The establishment of a new regulator system for international textiles trade soon had, and will continue to have, a far-reaching impact on the international pattern of textiles production and trade.

These agreements are of utmost importance to China as the world's largest textiles producer and exporter. For China, the production and export of textiles are of vital importance to its economic development and a strong contributor to its foreign exchange balance. Beginning from 2005, and in accordance with the WTO accord, China was allowed to eliminate its remaining textile export restrictions, as quotas would largely be abolished. This presented new openings, not only for the domestic textile and garment industries, but also presents a major threat to foreign competitors. The already fierce competition in this field has even made some developing countries resort to anti-dumping cases for setting up barriers against exports from other developing nations.

From the outside it has been estimated that the Chinese expansion in the textile and clothing field could cost some 30 million jobs globally until 2007, with 650 000 of these in the US (Bofit, 2004-32). The undervalued Chinese currency, direct and indirect government subsidies together with tax rebates, is said to make products up to 75% cheaper than what they should have been. Although small in relation to the total economy, textiles are still an important sector in the US, with a production value of USD 50 bn in 2003 and about 2 million employees (US Department of Labor, 2004-11-09)¹³⁷. Much of the US imports have been under a quota, manufacturers have to pay USD 80 for 12 pairs of trousers, valued at USD 100. The cost to obtain such quotas has often placed the total cost for Chinese products approximately in line with similar quota-free products from other Southeast Asian countries (CCC, 2004-09-14). The US import of socks from China could serve as an example of how powerfully a low-price product can take over a foreign market. In just three years the import of socks from China has increased from USD 9 million to USD 170 million. In number of socks this converts to an increase from 1 million dozen in 2002 to 42 million dozens in the 12 months ending in August 2004 (CW, 2004-10-24). This is the kind of increases that are feared by textile importers in the future, for numerous kinds of products. Socks have been set under quotas, with other product groups being considered by the Department of Commerce for quotas (Cotton, 2004-10-01).

As a result of the conflicting interest among countries, the textile and garment industry has become one of the categories confronted with most quotas and technical barriers in world trade. If importing countries can show that imports disrupt markets or threatens local producers, then it will still be able to use protective measures like high duties and safeguard quotas. These measures can be used until 2008, but from then on, existing special textiles and clothing sectors' protective measures will be terminated (WTO, 2004-08-29). During early 2004, it was requested that the WTO should organizes an emergency conference to discuss a proposed extension of textile quotas until the end of 2007, which never came about. Soon after, in Turkey, as Europe's largest textile producer, US and other textile manufacturers joined forces for a petition that received support from a number of European as well as African states (ATMI, 2004-03-04). From this group it is feared that China and a few other countries could come to monopolize the textile market, resulting in large unemployment and bankruptcies in other nations, dependent on textile and garments industries (CD, 2004-04-30). To make the US government act against China in this matter, the AFL-CIO filed a petition to the Bush administration under Section 301 of the Trade Act of 1974. Under this Act, the government can take action against countries that engage in "*unfair trade practices*" against the US. Section 301 had previously only been used, often extensively, to protect corporate interests, but it had never been invoked to protest against a foreign nation's labor practices¹³⁸. The petition was later rejected by the government, much because it could have become a new interpretation of regulations connecting trade with workers rights.

The positions taken by China, in discussions about trade liberalisation, always mentions the possibilities that free trade in textiles will give profits to developing countries, although it is first of all China that can harvest such profits, at least in a short term perspective. However, the decision has been taken by the WTO to eliminate quotas restricting trade in textiles and garments from 2005, but it will probably need a considerable amount of time before unrest in this field has calmed down (WTO, 2004-09-25). In the case of US, the opinion of the labor unions has been made clear above, while other liberal-minded policy makers argue that the US, as well as other countries, should face the trade competition head on. Instead of fighting imports, the concentration should be focused on the work to shift production into other high value production (Cato, 2004-10-10).

At the time when the agreement to abolish trade restrictions on textiles was agreed on, the 10 years until 2005 was seen as a sufficiently long period for the production systems of the world to adopt. After this period of transition, the textile industry was also expected to enter a new era of a liberal trade regime.

Since the signing of the accord in 1994, a then unforeseen speed of globalization has led to a severely unbalanced trade system. At the same time, it is getting increasingly unlikely that the old GATT accord will be fully honored by all parties, especially so as competition among textile exporters is getting ever fiercer with more developing countries entering the market. With the elimination of quotas in accordance with WTO rules, the Chinese competitiveness strengthened further in 2005, with exports expected to increase considerably as a result. China has a long tradition as a producer of clothing and has gained respect for its scale of production, but also for the quality of the products. It is, again, the low cost of labor that is the most important factor in attracting contracts in this line of industry. The average per-hour salary in China's textile and clothing sectors was USD 0.69 in 2000. This level is less than 3% of wages in the same sector in Japan, about 5% of that in the United States, and about 15% of South Korean wages in the sector. Although labor costs in China's more industrialized eastern regions have risen rapidly in recent years, there are still vast western and central regions in the country where labor costs remain low (Werner Int., 2004-07-12). Wage costs are very important as of the wholesale price of garments wage cost often make up 30 – 40% of the total price.

A postponement of quota lifting in the textile sector, which seriously was suggested by a number of countries, would severely damage the credibility of the WTO. Such a measure would probably have been the final blow to the chances of finishing the ongoing WTO-led round of trade negotiations, the Doha Round, somewhere near on time. Textiles can be seen as an example of a question where the interests of the developing countries are being looked after, including that of China, but, as is the case with agriculture, this is a highly sensitive field. If new US trade restrictions will be imposed on textiles, it will probably come to serve as an example in other sectors, and to encourage other protectionist forces, in e.g. the EU, that could be expected to pressure for wider renewed restrictions. The Chinese side has also understood that this is a serious issue for its trade partners and has declared that a new export tax of 2 – 6% on textiles will be introduced from 2005 (MOC, 2004-12-14). Too little too late is the response from many and the EU has decided to simplify internal formalities for trade complaints, related to textiles, and to cut the handling time from 15 months to just weeks (EU, 2004-12-23). In Europe, it is Turkey that has moved ahead by introducing quotas for 42 categories of Chinese textiles from 2005 (CD, 2004-12-26). It is not surprising that the US and the EU have taken a tough stance, as they are the destination for about 12% each of the Chinese export, but still with Japan and Hong Kong being the most important destinations, taking near 20% each. In the trade relation with Japan, it has not been textiles and clothing, but instead towels that has so far been the most problematic field, having seen Japanese intervention in both 2003 and 2004.

China's clothing production and export volume will likely maintain its fast growth for yet some years, but at some stage, perhaps around 2008 - 2010, other Asian states should have become competitive enough to challenge the Chinese dominance. By that time, China's exports will flatten out, or even decline, but there will still be a huge domestic market with much increased demand from its then well over 1.3 bn population. Additionally, the current situation with China holding about 20% of the world's textile and clothing sector, but practically no designers of its own and not one single brand name recognized outside the country, will probably also have changed.

The WTO dumping facility and its use

In late 2003 the US Department of Commerce started an investigation into the possible dumping on the behalf of Chinese color TV manufacturers on the American market. As a concession during the WTO negotiations China had to accept that other member countries can see its economy as a “*non market economy*” for 15 years. Based on this fact, it is possible to use labor and input costs from a surrogate country's market in calculating what should be the “*normal*” cost of production in China. In this case, India was used by the US Department of Commerce as its surrogate for the calculation, although India has no TV industry comparable to the one in China, and especially not an industry that can be called “*market-oriented*”. If the Chinese TV industry had been granted status as a market-oriented industry, it would have avoided the whole process. To receive this status, it is required that there is practically no government involvement in production or pricing matter, producers must be privately or collectively owned, behave like market-oriented companies and their producers must pay market prices for all major inputs. The US Department of Commerce had not found that the producers in this case are free of state ownership and as a result, such a status cannot be considered. The ruling of the investigation, if proofs are found that dumping has occurred, could result in punitive duties on imports of that kind of products. Often, a preliminary ruling is released, indicating the final ruling, which gives the other side a chance to respond by supplying additional information and details in the case. If the final ruling is negative, then, as a rule, it is very hard to accept from the other side and is mostly referred to as unfair and based on inaccurate information.

Arbiter in these kinds of conflicts, when the US is involved, is the US International Trade Commission (ITC) that makes the final ruling on whether the US television industry has been hurt by the imports or not. It is, of course, a matter of principle to have a ruling against a producer but market considerations could well make producers accept a ruling for the time being, especially if sales remain profitable. In this case, a negative ruling resulting in high duties would probably make color TV producers upgrade their product

range into higher value products faster than would otherwise had been the case, and thereby enter into product segments where domestic US manufacturers are still active. Labor unions at the largest TV producers in the US have been among the most active in demanding an anti-dumping ruling. As these producers happen to be owned by Japanese companies, like Sony and Toshiba, it has from the Chinese side been rumored that the whole process was set up by these Japanese companies. A negative ruling for the exporters could also lead to the establishment of production facilities inside of the NAFTA area; just like the Japanese TV producers once did inside US borders, in the era before the existence of NAFTA, and in both cases to avoid borders. The difference now is that these Chinese investments are more likely to land in Mexico than in the US. The final level at to which a party can appeal in this case is the US Court of International Trade. Complaint to the highest level can actually be dealt with very positively, as was shown by a ruling in favor of a number of Chinese apple juice producers in February 2004. The Department of Commerce had set high duties for all producers, but in some cases the Trade Court reduced duties from over 50% to zero (US Department of Commerce, 2004-04-10). The latest product to be subjected to punitive duties from the US has been Chinese wooden furniture where the duties have been set at near 200% for most producers (CW, 2004-12-14).

If the ruling is considered to be fair or not, then it is seldom so that a supplier withdraws from a market just because of being ruled against. In the case of the Chinese TV makers used here, the US market remains the biggest single market in the world and for a big manufacturer, withdrawal is not really an alternative. In this case, the Department is said to have used information from a website that was unauthoritative as basis for its calculations. As a result, the duties first considered never came to be introduced and instead what was levied in the preliminary ruling, resulted in large reductions of the duties, from the range of 30% to below 5% for some of the manufacturers (Willkie Farr & Gallagher, 2004)¹³⁹.

Since joining the WTO, also China has issued a number of dumping charges against foreign producers. However, sometimes the market changes quicker than regulations. This was shown by the withdrawal of the dumping charges from the Chinese Ministry of Commerce against foreign exporters of cold rolled steel, ruled in September 2003, but in operation from January 2004. The reason for the withdrawal was that many domestic consumers, first of all, could not find enough cold rolled steel in the market and additionally had to pay higher prices, which hurt their competitiveness (MOFCOM, 2004-09-08). At the same time, this as the measure had contributed to an artificially high domestic price level in the already overheated steel industry.

4.2.2. Neighbours relations

Although China share land borders with no less than 13 countries, the by far longest with Mongolia, and sea borders with another 4, it is the relation to Japan that remains the most important one¹⁴⁰. The later generations of leadership in China have inevitably come to understand the advantages of the country's peaceful economic rise to might, has been made possible by peaceful co-existence with neighboring nations. To allow the opening up and to see this tremendous transformation take place in the country has necessitated a great deal of adaptation from a formerly strictly followed socialistic perspective. To continuously find common values among different strata's and regions of the population, during times of fundamental change on many levels and takes both sensitiveness and endurance in behalf of the political leadership. The peaceful rise is perhaps a strategic choice of China, which could be seen to conform to its historical experience. To make this possible, China have been lucky to have a peaceful environment where neither Japan nor Russia, as any other neighbours, has seen as a threat to any other nation. In this case, China's rise has instead generated a momentum that is big enough in the region to also lift its neighbours from years of relative economic pessimism. However, further improvement of the already well established Sino-Japanese relations would require concerted efforts from both sides of the East China Sea.

Over the years, China has supported an exchange with Japan on the level of individual political parties and foreign ministers level, but it has excluded official direct contacts with Prime Minister Koizumi. On the foreign ministers level irregular meetings have taken place, although Japanese invitations to arrange top-level meetings between the two neighbours have remained unaccepted. However, top-level meetings between the two neighbours have been conducted yearly in later years, but on the sidelines of major international meetings¹⁴¹. It has been agreed to include South Korea in future triangular meetings and to increase the frequency to twice a year. The failure to arrange an exchange of visits between the state leaders of the two countries due to Koizumi's shrine visits has undoubtedly had a negative impact on the Sino-Japanese relations. Nevertheless, in the economic, civilian, and cultural areas relations are still pushing ahead, without the exchange of visits between state leaders. Currently it is more of a modern era necessity for trade between the two neighbours to go on, than there is a solid need of a political relation at top level: *"The stream rolls on in circumvention of the rocks"*.

The problematic relation between the two neighbours was regulated with the signing of the 1972 Japan-China Joint Communiqué. Despite this there has been continued attempts to seek compensation for injustices by some few of the

survivors of the about 39 000 unpaid workers taken to Japan by force during the war. When these cases have been brought to courts in Japan, judging has been irregular, as cases have been both won and lost by the plaintiff. This has happened while the official Japanese policy has remained firm that the Joint Communiqué has made such claims invalid and, furthermore, the 20-year statute of exemption has expired¹⁴².

Japan should regard China's growth as an opportunity and not as a threat. This is a positive development for the peace and stability in the region and the world at large. Although the Japanese side should show sincerity in settling the "shrine issue", remembering that history works as a mirror and look forward to the future. In early 2004, the two countries were again forced to revive the dormant and unsettled issue of the Diaoyu Islands as Chinese activists made a landing on one of the islands in the uninhabited archipelago. The intruders were captured and promptly returned to Beijing unhurt, but the incident caused a sudden stir in mutual relations¹⁴³. On the Diaoyu Islands issue, both sides should hold out and thoroughly negotiate disputes on the island issue, to ensure that the China-Japan Joint Statement signed in 1972, remains undisputed.

The possibility that China might become a long-term military threat to Japan has been voiced in Japanese defense reports, but this is strongly rejected by the Chinese government (SDF and CW, 2004-09-17). According to Beijing, the total Chinese defense budget for 2003 was to about USD 25 billion for a country that is 25 times larger than Japan, with about 10 times the population. The comparable budget in Japan for the same year reached USD 60 bn. The Chinese view is that it is seeking friendly, peaceful and mutually profitable relationship with its eastern neighbours (MOFA, 2004-09-10)¹⁴⁴.

4.3. Energy

The Chinese energy sector is still largely state-owned, although a number of large foreign investments have been allowed. In 1998, the state launched a major reorganization of the oil and gas sector, with the aim of breaking the existing monopolies. Since 2003, the new State Energy Administration (SEA) is overseeing the energy sector. The tenth five year plan for 2001 - 2005 in the oil and gas sector gives the following description of the development planned for this time period:

"China will undertake a strategic reorganisation in the oil industry by means of market liberalisation, internalisation, cost-effectiveness, scientific and technological breakthrough and sustainable development"

(First sentence of the Five Year Plan 2001 – 2005 in the Oil and Gas Sector)

As China is a large country as to surface, the total quantity of the available variety of minerals and other resources are considerable. However, the degree of difficulty in looking for mineral resources by geological means in the eastern regions has increased, and the content in the proved reserves here has started to decline. The production in many mines and wells, especially in old production regions, has entered the middle or late phase of exploration, and their reserves and output are decreasing year by year. Arrangements in mining and oil production areas has not been satisfactory, while prospecting and mining technologies have been much improved in later years, there are still serious waste problems in the handling and consumption of resources. In its attempts to solve these problems, China has been trying to maximize its coal and hydropower resources. In 1999, China set up its third Geological Survey, which organized a new round of large-scale survey of domestic resources¹⁴⁵. When presented in early 2004, it showed 171 discoveries of a variety of mineral resources, with 158 of these holding proved reserves large enough for exploration. The Tarim and Junggar basins in Xinjiang, the Ordos Basin on the borders of Shaanxi, Gansu, Ningxia, Inner Mongolia and Shanxi, and the Quidam Basin in Qinghai, all have a considerable potential in the field of petroleum (NDRC, 2004-05-02). Other mineral resources in the western regions will also be used to accelerate the change from resources advantage to economic advantage. Important discoveries of petroleum resources have also been made close up shore in the north Bohai Bay area. With reserves estimated to over 20 bn tons in the Bohai Bay area, with about half the volume proved, the area could potentially become as important as in the Tarim basin (CD, 2004-12-23). The government has adopted a new policy when it comes to enterprise income tax and value-added tax to develop and explore these mineral resources. It also aims to encourage the enterprises that explore resources to raise the level of the multipurpose resources utilization. The management of the geological data gathered during the latest survey has been conducted in accordance to the WTO's principle of transparency. This has broadened the scope of geological data to be released to the public to ensure its availability for foreign investors. Technological progress and innovations, a larger proportion of different minerals contained in known reserves should be explored relying on science. Resources, at the same time, have been invested into the development of cleaning technologies for coal, including coal washing, dressing, liquefying and gasifying technologies¹⁴⁶.

The Chinese government formulated a new policy on the import and export of mineral products to fulfill its WTO commitments. The intention was to coordinate both the export of its dominant mineral products and the import of mineral products in short supply, especially as direct imports of mineral products will remain important in the foreseeable future. What has worried the

Chinese government is that the proportion of the spot trade among mineral commodities in imports is high, including for crude oil. The intention is to gradually change the situation and to encourage the signing of long-term supplies contracts with foreign companies. This should lead to a diversification of sources and to a situation where resources from abroad supplement the domestic supply, which is to include the import of foreign capital and technology for this sector. Foreign investors are encouraged to participate in all sectors of the industry, from exploration of both gas and crude, production of petrochemical products, building power station and in retail activities to consumers. China has clarified, simplified and standardized the approval procedure for foreign investment in all forms of prospecting and exploiting mineral resources. A boom in the building of new capacity has been seen, after two years of considerable energy shortages with investment growth of over 50%, still with little foreign participation. With possibly as much as 30% of these new energy investments being unapproved for mostly smaller plants, banks have been ordered to stop these loans, and when necessary, take on an increased bad debt (NDRC, 2004-12-18).

China, in its attempt to modernize the society, will have to continue to explore and expand its domestic mineral resource base to secure the process. As for most industrial countries with a fair share of mineral resources, probably over 90% of the country's primary energy, 80% of the industrial raw materials and some 70% of the agricultural means of production come from mineral resources. Furthermore, this policy includes the use of foreign mineral resources, some partly or fully owned and controlled by Chinese companies as a result of FDI's. Such actions taken by the government, e.g. in the oil sector, are aimed at securing supplies to cover surging domestic demand in the foreseeable future due to strong auto sales and continued economic growth.

4.3.1. Petroleum

Policy

As in other sectors, the Chinese petroleum sector suffered from the effects of the Asian financial crisis in 1997 - 1998, which put the world oil and petrochemical market to a slump. This prompted many multinational corporations to adjust their development strategies and product mix throughout the world while attempting to improve competitiveness. With China approaching WTO at that stage, it also had to agree to a future opening of its market, where the petroleum and petrochemical industry would face competition from international corporations. As the market is still dominated by what is more or less a domestic oligopoly, under the two state-owned giants Sinopec and PetroChina, changes have not been as dramatic as was expected, yet. Although a new environment is

developing in the Chinese petroleum industry, creating a more complicated and competitive market, and free competition remains a distant goal.

In accordance with the WTO commitments the domestic oil market is slowly approaching deregulation as price controls and entry barriers previously upheld will be eliminated. This will not change such a huge market overnight. After the revised price system has been finalized, the third revision in five years will pave the way for final phasing out the state control and allow market forces to direct the price. Meanwhile, the process has given Sinopec and PetroChina more freedom to set retail prices, as prices have been allowed to fluctuate in relation to the government-set benchmark. Still, prices have not reflected the international market situation, where oil prices have frequently fluctuated in the wake of the SARS crises and the US led invasion of Iraq. This government policy has resulted in losses that have had to be compensated by the oil companies themselves. This policy has been estimated to have caused extra costs of USD 2.4 bn during 2003 alone (Sinopec & PetroChina, 2004-08-07). With a dramatic surge in world prices, having taken place at about the time of China's entry into the WTO, the reduction/elimination of tariffs and NTBs never had a dramatic effect, as was expected. There has been a strong influx of imported oil, but this has been caused by a dramatic increase in local demand and not from the granting of trading rights as was expected at the negotiation stage. The government is expected to introduce price hearings in the sector to maintain control of prices also in the future. A similar system that has been used in other monopolized industries, like aviation and the railway sectors, will be utilized in an attempt to ensure fair prices. The rapidly growing demand for oil to heating stations, electric generation and from the transport sector was not really foreseen at the time of shaping the duopoly that reigns in China on the supply side. It becomes even more complicated in times of strong market demand to set up some kind of more relaxed control system for the sector and maintain central control over prices. China, over the last few years, has been the fastest growing consumer of the world's larger oil markets, but with huge regional differences in consumption levels. There are still some considerable regional monopolies, at the same time as there is a national duopoly that has to be attended to.

Much as a result of the increased dependence on international sourcing, discussions on how to build a national strategic oil reserves has materialized in concrete actions. An oil reserve office has been established, as a first step, within the State Development and Planning Commission (SDPC). In 2003, it announced that China was to build four strategic oil reserve facilities. With the participation of the major companies, it has been decided that the reserve in its first-phase should have a capacity of 9 mt. Oil reserves can be used as an important factor in stabilizing supply and demand in times of high, as well as low, demand. After

the two global oil crises in 1973-1974 and 1979-1980, a number of developed countries established their own oil reserves. The US reserve has been at an 80 mt level, and during the 1991 Gulf War, the US reserve released about 150 000 tons per day to stabilize the market¹⁴⁷. The need and use of the reserves have been questioned by many due to the high maintenance costs involved for their up keeping, and the limited possibility of a reserve in stabilizing oil prices. In the case of China, reserves not only ensure uninterrupted oil supplies to the security of the national economy but also in the event of war or natural disasters. It is in the light of this development, and partly to secure local supply, that what would become the world's largest tank storage-park is about to be built in Guangdong. With a capacity of 44 million cubic meter, the tank park will have to be split up and be located near two or three of the region's ports. Construction work has been initiated, with the building of a 2-mt facility in Zhuhai (CW 2004-08-27). The negative side of the increased oil handling is spills as seen in December 2004, when China faced its largest oil spill to date, when two ships collided at the mouth of the Pearl River and thus spilling 1 200 tons of oil (CW, 2004-12-15).

Companies

From selected parts of the previous national monopoly two dominant vertically integrated companies, PetroChina Company Limited (PetroChina) and China Petroleum & Chemical (Sinopec) and some smaller operators were formed. The two biggest have been given not only a regional, but also operational focus. PetroChina has its activities in the north and west with crude extraction as its most important activity, while Sinopec has its regional base in the south with oil refining as its most important activity¹⁴⁸. Two other important companies are China National Offshore Oil Corporation (CNOOC), established in 1982, to explore China's offshore petroleum resources, and The China National Chemicals Import and Export Corporation (Sinochem) that is primarily involved in imports and exports of crude oil, petroleum products and natural gas.

The two big, PetroChina, Asia's biggest oil company and Sinopec, Asia's largest refiner, have prepare to meet competition by increasing their share of retail outlets to over 50% and dominate the wholesale market to above 90%. A result of this is, the best locations for both retail and consumer sales have already been exploited by the two oil majors. Foreign companies will be allowed to operate limited retail business in China from 2005, and wholesale business from 2007, according to the Chinese WTO commitment. The increasing importance of retailing in petrol is clearly shown by the fact that in 2000 some 66 mt were consumed in the transport/car sector. In line with increasing car ownership this volume is expected to reach near 140 mt in 2010 and 260 mt in 2020 (MOFCOM, 2004-10-05). Meanwhile, other companies other than the four currently established state-designated oil traders have been allowed to import oil and oil

products outside state control. Such importation was based on a 5.5 mt quota set for 2003, and to be increased by 15% per year in the next 8 years, until the market will be set free.

Privatization has partly begun in the oil sector as shares to a value of USD 3 bn have already been sold in PetroChina, with BP as the largest investor, while Exxon Mobile, Shell and BP took a USD 2 bn of the USD 3.5 bn on offer in Sinopec. CNOOC has also been subject to a partial internationalization with Shell as its most important foreign investor. These foreign investments have neither given any of the foreign companies a seat on the boards in the companies, nor any say in how they are run, as the state continues to be the dominant owner in all three. However, all the major international oil companies that are entering the Chinese retail market have decided to do so in different partnerships with the big local companies. Only one new company, the private Dalian company, Shide Group, has so far been given the right to start a retailing operation of its own on the mainland (Xinhuanet, 2004-09-14).

Production, consumption and trade

With oil continuing to climb in importance as energy source, reaching about 23% at the end of 2004, the focus of the energy policy has increasingly shifted towards oil. China's total oil reserves were set at 102 bn tons and with natural gas reserved of 47 trillion cubic meters. Out of this, recoverable oil reserves has been estimated to about 15 billion tons, with gas reserves at 10 to 15 trillion cubic meters, but with only 40% of oil and 20% gas reserves being proven (NDRC, 2004-05-02). There are over 700 oil and gas fields discovered in 25 of China's provinces, on- or off-shore, and where just one extra percentage point extracted from the available resources would correspond several three years of energy consumption. During 2003, China was the world's fourth-largest oil producer and the 24th largest gas producer. Production of oil has increased from a minimal 120 000 tons in 1949 to near 175 mt by the end of 2004 and with gas production having reached 41 bncm (PetroChina, 2005-01-13).

Domestic production has traditionally been concentrated in the Daquin area in northwestern China, but output here has been on the decline. Production in this area started already in the early 1960s and still some 50 mty of the national production originates from this region, with Liahoe, in the northeast, as the second most important area¹⁴⁹. The Shengli fields have been the single most productive in East China, but the output here has also declined since the beginning of the 1990s, but still with a production of over 30 mt in 2003. Government policies have been set towards increasing production in the western parts of the country, mainly the Xinjiang region, and to build pipelines for the delivery to consumer regions in the coastal areas. Alternative production

areas can be found in offshore fields from the Bohai Bay in the north, off the coast in the east, to the mouth of the Pearl River and southwards to the Gulf of Tonkin (or Beibu Gulf). In many cases, offshore fields have been developed in cooperation with other foreign oil companies, than the small group of international oil majors that has moved in as minority owners in China's big oil companies.

During 2003, China's oil consumption rose by 11% in 2002 to 252 mt, making China second only to the US in oil consumption (IEA 2004-05-10). Increased domestic oil production that rose 1.5% in 2003 to about 169 mt was by far outstripped by imports that rose 31% to about 91 million tons to make up about 36% of consumption. Partly due to China's rise in demand, world oil prices have been on an upward trend and the IEA revised its estimate for Chinese 2004 consumption to 300 mt. Rapid economic growth during 2004 has increased demand further and import of crude for 2004 increased by over 20% to reach near 120 mt for the year (SDRC, 2005-01-27). The foreign dependence is increasing and now corresponds to over 40% of demand, and will soon see the level reach half the consumption. The last five-year plan was perfectly correct in its estimations of domestic production in 2003, to about 170 mt. On the other hand, imports were a major misjudgment in the plan, expected to be 25 – 30 mt, but instead came to over 90 mt. This reveals the difficulty in making predictions, also for a controlling authority in a relatively controlled economy. From industry sources, it has been stated that the export is used not only to balance the domestic demand and not to increase earnings from higher foreign prices, but also because the configuration of refineries results in more gasoline than the market can absorb. As a result, excessive gasoline volumes are sold abroad, albeit at a considerable profit through higher prices in the international markets. Cuts in the wide Chinese export rebate system, for a large number of oil products are a part of a wide revision that has affected numerous export products¹⁵⁰. To cope with the continued increase in imports, several new large reception facilities will be needed. Sinopec, as the dominant importer, has started to build large new terminals and storages. The most recent and largest outside the Cezi Island, off Ningbo, with reception facilities for VLCCs and storage capacity for 7 mt, to feed its nearby refinery (Sinopec, 2004-10-02).

Of the oil resource base of 15 bn ton (with 50% still to be discovered) it can be estimated that up to a third on the oil side can be recoverable. A share that can be expected to increase over time as the drilling technique improves. This could be ground for arguments against experts that set import needs over 400 mt per year of crude oil by the year 2020. In the tenth five-year plan, ending in 2005, it is expected that the volumes of accessible reserves will have reached about 3.5 bn tons of oil (NDRC, 2004-05-02)¹⁵¹. China has emerged since 2003 as the world's

second largest consumer of petroleum products and consumption is expected to continue to rise from 270 mty in 2002 to an estimated 560 mty in 2025. Of the 2025 consumption, it is estimated that about 75%, or some 420 mty will have to be imported (EIA, 2004-05-18). New domestic estimations set the total demand figure as roughly 350 – 380 mt, and it could be expected to shrink further due to technological improvements. At the same time, domestic crude output is hoped to reach 200 mt by 2015, when it will reach its peak and then to fall off to about 190 mt by 2020 (SIC, 2004-11-06). Although predictions can be inexact over ten years' time, it remains undoubtedly so that China will play an increasingly important role in the international mineral market in the future.

In coming years, China both wants to, and probably needs to, widen the origin of its energy import, and one alternative is to increase its oil imports from Russia, Central Asia and Africa. As late as 1993, China was a net exporter of oil and oil products but during 2003 it also exported some 10-mt oil from its domestic production. Of the Chinese oil import, about 60% has its origin in the Middle East. This large dependence on a volatile part of the world is probably something that the Chinese leadership would like to reduce. Four countries delivered over 15 mt each during 2004 Saudi Arabia, Oman, Angola and Iran, with Russia supplying about 10 mt that was mostly shipped from the Black Sea (Bloomberg, 2005-01-08). Faced with substantial growth in domestic demand for oil, domestic production has been encouraged, but the big state companies have also been allowed from the political level to increase their efforts to secure new and stable sources of oil abroad. Recent visits by president Hu Jintao to the internationally unimportant but energy exporting countries, e.g., Gabon and Algeria could well be part of a strategy to secure future supplies. As China's need to secure foreign supplies of energy has emerged much later than for most other energy dependent industrialized countries, it has been left to search, somewhat aggressively, among second tier suppliers. It is official policy to try to secure foreign supplies in strategic zones as the Middle East, the Caspians, and North Africa as well as in South America. The list of countries where Chinese companies currently hold oil interest, apart from the already mentioned, are Azerbaijan, Canada, Iran, Myanmar, Oman, Russia, Sudan, Syria, Turkmenistan, Venezuela and, until early 2004 UN sanctioned, Libya. China is also said to be considering investing in Canada and its large oil shell resources as future oil sources, it being the only long-term democracy on the list. As understood from the names of the other countries, this Chinese search for a new energy security has sometimes clashed with western geopolitical interests. Western countries have been reluctant, often due to public opinion to do business with governments that are suspected of large-scale proliferation of oil incomes or of human rights violations. The Chinese have so far not felt deterred by such arguments, as most other foreign companies are practically barred from doing

business in these countries. These are countries where China has emerged as among their top investors. China has also been a long-term partner of Iran, and imported near 15% of its oil from Iran during 2003, a country that is included in President Bush's group - "axis of evil"¹⁵². This relation in October 2004 has been crowned with what is one of the larger oil and gas agreement that has been concluded as China's Sinopec Group signed a USD 70 bn deal for oil and gas deliveries. The deal includes participation in the development of the new Yadavaran field and the deliveries of 250 mt of LNG over 30 years, including some 10 mt of oil per year at market value (CW, 2004-10-30).

China's energy connections to Russia / CIS

It was initially included in the Chinese energy plan that by 2005, the import from Russia in the cross-border pipeline from Russia should have reached about 25 mt. A memorandum of understanding was signed between Russian Yukos and CNPS already in June 2003 to build a 30-mty pipeline from Angarsk to Daqing with first deliveries scheduled in 2006. Despite t some construction work that has been done on the Chinese side, the project has been stopped temporarily. he Chinese interest remains high and energy deliveries topped the agenda during the visit of Premier Wen Jiabao to President Putin in October 2004.

China imported about 5.3 mt of oil from Russia in 2003, up by over 70% from the 3 mt imported during 2002 (Kommersant, 2004-09-20). Also during 2003, the Russian oil company Yukos tentatively agreed to increase its annual rail shipments of oil to China from 6.5 in 2004, to 10 million tons during 2005 and to reach about 15 mt by 2006. This suggestion to expand deliveries by railway could be looked upon as a way to compensate for Russian reluctance when it comes to building of a pipeline (CW, 2004-09-19). The seriousness of the agreement was put in doubt after the Russian Minister of Industry and Energy, Christienko, who lowered the previous figures, visited China. Instead, the delivery target for 2005 was set at about 8.5 mt and 15 mt by 2010, but with no state guarantees for the use of the railways (Kommersant, 2004-08-30). The Yukos oil company, under hard pressure to pay its tax debt, then made a statement that it could not continue to cover rail expenses for its deliveries to China, just two weeks before the visit of President Wen to Moscow. This created a serious complication to the relation, as deliveries had reached some 8% of China's imports during the first half of 2004, but already days later the Russian Railways declared that it will be compensated by the Chinese side (Vedomosti, 2004-09-24)¹⁵³. Also LUKoil will participate as supplier from 2005 to meet the full volumes agreed, but has declared that it will only continue if the export remains profitable after the first 400 000 tons have been shipped during Q1 2005 (Bloomberg, 2004-12-24). The complexity in the affairs related to the Russian oil company Yukos, long increased the insecurity (see also 2.4). In early 2005 state

owned Rosneft agreed to deliver the same volume. With Chinese money involved in the take by the Russian state of the resource base for the deliveries, the Yuganskneftegas company, supplies can hardly be allowed to fail again. However, the use of railways faces the complication that the rail-gauge is wider in Russia than in China and exporting already 6,5 mt/year will require the changing of 24 bogies/hour throughout the year from 60-ton wagons. In compensation for delivery volumes that are much lower than what a pipeline could carry, Russia is also said to have offered cooperation in space technology and to sell more advanced military goods. By the end of August, 3.7 mt out of the 2004 volume of 6.5 had been delivered by Yukos, while the railways stated that 10 mt for 2005 will be reached and this has been confirmed by a contract signed between the two ministers of railways (RZD, 2004-11-26).

The two biggest Chinese companies have also been active in the CIS and acquired a number of overseas assets, with the most important being the CNPC USD 700 million investments in the Aktobemunaigaz company in Kazakhstan. The company holds the right to explore the giant Kashagan oil fields in the Kazakh sector of the Caspian Sea. Already by the mid 1990s there were calls from China for the construction of a "*pan-Asian continental oil bridge*". This bridge, or rather pipeline, should consist of a network of pipelines linking Chinese consumers with the new oilfields in Central Asia and Russia, with a possible extension to Korea and Japan. Efforts to link Russian fields long looked more promising than the earlier plans for pipelines to Central Asia. However, plans presented in 1997 linked Uzen, Aktyubinsk and Kumkol field in central Kazakhstan with the Xinjiang in western China at an estimated cost of USD 3.5 billion. In September 1997, Chinaoil signed an agreement to conduct a feasibility study for this projected "*pipe dream*". Discussions to build a pipeline from the field to China has been on hold for a number of years, waiting for confirmation that the reserves in the region are large enough to make such an investment viable. In the early spring of 2004, the Xinjiang authorities finally announced that the construction of a pipeline to Kazakhstan was due to start in the summer of 2004. In July 2004, PetroChina started to build a new section from the border town of Alashankou to Dashanzi in Xinjiang, which will later connect to the existing 450-km Kazakh pipeline between Atyrau-Kenkiyak. The USD 2 - 3 bn pipeline, with a total length of over 3 000 kilometers and capable of transporting over 10 mty, is expected to be completed before the end of 2006 (IWPR, 2004-05-18). For Kazakhstan, this is a volume that would correspond to about 40% of exports or more than the increase in production between 2003 and 2004. During 2004, Kazakhstan plans to produce 54 mt (5 mt lower than previously planned), 60 mt during 2005 and with production expected to reach 90 mt by 2010 (Bloomberg, 2004-06-02 & 08-16).

4.3.2. Gas

Natural gas has never had a comparable importance in China to that in Russia and gas contributes only 3% of energy consumption compared to over 50% in Russia. This low share of natural gas in the total energy balance is set to at least double in China, and perhaps triple, until 2010. As all other countries China also would profit environmentally, especially if an increased use of natural gas could replace brown coal.

Production

The available gas resources are estimated to be in the range of 50 tcm, of which some 75% still remains to be discovered, with proven resources estimated to be in the range of 15 tcm. Out of the gas resource base, under one third will be recoverable. This share can be expected to increase over time as techniques improve and if drilling is done deeper. Natural gas production is expected to increase considerably after having increased at a one-digit level over the last five years. Domestic production during 2003 was about 10% of the increase in the available reserves that was up by 340 bncm during the same year. The consumption of domestic gas in 2004 was under 40 bncm, with much of the basic consumption still being fertilizer production. The production is expected to reach about 80 bncm in 2010 and 120 bncm by 2020 (NDRC, 2004-11-28). As will be further discussed in the section about coal, there are also ongoing projects for the gasification of coal, although this is not expected to reach the volumes planned for the oil production based on coal.

China's findings of natural gas are concentrated to the mid-north of the country, but gas is also being produced onshore and offshore as a by-product in some of the oil fields¹⁵⁴. There are already a number of offshore fields producing gas for the mainland with several new findings having been announced in later years. Currently, offshore gas reserves are estimated in the range of 1 200 – 1 400 bncm, of which 700 – 800 bncm is accessible. Gas production in offshore fields along the coast is increasing rapidly, but the involved costs have questioned its efficiency. There have also been several pullouts by large foreign oil companies, that initially entered as partners, in these projects due to “*commercial reasons*”(Shell, 2004-09-28). This is similar with foreign partners who have pulled out of potential investments in the east-west pipeline project, after lengthy discussion, when good enough terms could not be reached (CD, 2004-09-30). International investors take their decisions on commercial grounds, while national long-term interest will probably influence strongly on what can be defined as “*commercial*” for a large state company like PetroChina and CNOOC.

Pipeline projects

To put new gas findings into production and to connect them to consumers will demand a considerable extension of the existing infrastructure. Despite such extension, these new sources must be complemented by a considerable increase in imports. A sign that this work has been initiated is the gas network, that was already 11 800 km long in 2000, has since been extended by nearly 5 000 km. Also the construction of the Chinese West-East gas pipeline preceded much better than projected and is expected to pass the trial period by Q1 2005, which would be nearly one year ahead of schedule. The cost of this pipeline project has been estimated to USD 5.2 billion, although it is possible to use natural gas from Xinjiang Uygur Autonomous Region in the NW in as distant places as Shanghai¹⁵⁵. Built by PetroChina, this near 4 000-kilometer West-to-East gas pipeline will lead gas from fields in the Xinjiang region and across the Gobi desert, the Loess Plateau and the rivers of Yangtze, Huaihe and the Yellow River. The 1 600-km section of the pipeline that runs from the Shaanxi Province to Shanghai became operational in October 2003 and the remaining 2 330-kilometer western section from the Tarim basin in Xinjiang to Shaanxi was completed in September 2004 (Xinhua, 2004-09-08). The pipeline will initially carry about 8 bncm per year, but with increasing shipments to 12 bncm per year, with possibly later 20 bncm. The Xinjiang fields that are expected to hold enough reserves to support this level of deliveries for at least 30 years. In the exploration of natural gas resources, the emphasis will be placed on the Tarim, Ordos and Quidam basins, and the Sichuan-Chongqing region (NDRC & CD, 2004-03-15).

PetroChina, as the major operator for the pipeline, has managed to find a market with a number of supply contracts signed in Shanghai for the near 7 bncm already a year before first deliveries (PetroChina, 2004-05-10). The city of Shanghai is also trying hard to diversify its energy base and to make use of cleaner energy where natural gas will play a key role. Natural gas is hoped to replace coal entirely in the long term, but to make up 10% of consumed primary energy by 2010. In 2003, Shanghai was the country's largest energy consumer with coal accounting for 60%, still down by 12% since 1994 (NDRC, 2004-03-31). Local gas consumption is expected to nearly double during 2004, from 500 mcm, and then jump to 1.8 bncm in 2005 and increase to about 8 bncm by 2010. During that time, a total of 600 000 to 1 million households in the city will have converted to natural gas instead of coal.

Just north of China, Siberia holds about one-fifth of the world's natural-gas reserves, which remains a considerable attraction to energy-hungry Chinese consumers. The first formal memorandum of understanding for a gas-pipeline connection here was signed between China and Russia already in late 1994. Preliminary studies covered the possibility of laying a 3 700-km pipeline between the large Kovykta fields some 400 km north west of Irkutsk and the

Chinese port of Lianyungang via Ulan Bator in Mongolia. The pipeline was intended to carry 20 bcm of gas annually and include a possible underwater link to South Korea and Japan. The estimated cost of the project was USD 4 billion to Lianyungang and in the range of USD 10 –12 bn if the links to Japan and South Korea are included. Still, ten years after the initiation of the first studies, it is debated if the fields in Kovykta hold reserves big enough to justify a pipeline. Moreover, another gigantic project has also been discussed, a 6 300-km Turkmenistan-China-Korea-Japan natural-gas pipeline. The costs here were estimated at USD 9.5 bn, where a possible extension to Korea and Japan would make the pipeline 8 500-km long, and lift costs to USD 22 bn. These pipeline projects are probably to be followed by several more suggestions for large and ambitious ventures in the near future. Although the vision of a pan-Asian continental hydrocarbon bridge from the 1990s has remained on the drawing board, it is obviously so that demand is located somewhat distant from the findings. Distance it what increases costs, but the Chinese East-West pipeline system is now completed, taking gas from the Xinjiang Province. As an indirect result, Turkmenistan has literally moved closer to China. What remains a major problem for such a pipeline is that it must pass two more borders before reaching China.

Liquefied Natural Gas - LNG

To fulfill the government's plans to increase gas consumption to about 8% in the total energy consumption mix by 2010, the local sources of gas will neither be accessible nor large enough. Although seemingly simple, LNG projects are still complicated. It would start in upstream fields to supply the gas and the infrastructure needed to get the gas delivered to an expensive condensation facility. The liquefied gas is then loaded onto, very expensive, LNG ships to carry the product to the market. The cold and pressurized gas is then to be unloaded at terminals that are under construction along the Chinese coastline, with the first to be completed by late 2005. At these technically not very advanced terminals, the gas is converted back into conventional gas at a pressure suitable for its consumers. The downstream market is the building of an infrastructure to distribute the gas to potential consumers, and to both find and make consumers turn to gas from their conventional sources of energy. Other aspects that must be included in the analysis when considering the use of LNG are partly the same as for any kind of foreign trade, like the fluctuation of foreign exchange rates, international political relations, transportation and security of supply. Briefly the LNG supply in the world market is widening, at the same time as demand is increasing, and it will remain a source of energy where it will take time for the market to find a balance.

The most difficult aspect for a new product like LNG is to build and extend its consumer base. If this takes too long, then the whole idea could be at stake before new projects have really taken off. So far there has been little indication that the Chinese government is about to introduce any stringent planning to coordinate the use and marketing, as well as pipeline building, for LNG and traditional natural gas. Reducing power shortages by using LNG could still be an insecure approach as a to rapid entry with large investments into a young and yet to be stabilize the LNG market could prove risky. If the energy market turns around and prices fall again, as it has done several times in recent decades, then investors are at great risks as the government has not given any support to gas consumption. If there will be a future glut in the demand for electricity, which has been seen as recently as 2000, the newly built, and expensive gas-fired power plants would be hard hit and will find it difficult to survive. With gas-based power plants being the most important consumers of the imported gas, the future of the idea with LNG projects could also be doubted.

The rush into LNG projects based on imports has allowed oil companies to participate in the development of gas fields in foreign countries to raise their reserves, like CNOOC in Gorgon fields in Australia as well as in Indonesia's Tangguh fields. If not all the grand plans will materialize, then the price to pay could be very high. The billions of dollars that will be spent on shipping contracts, the building of import terminals, the laying of pipe-lines and then to import the LNG to feed power generators as well as private stoves will all have to be paid for. These projects will import LNG using one supplier or, alternatively, source on the world market for an expected life span of 25 – 30 years. The main customers for the delivered natural gas are not only in all the approved project local power plants, but also residents and industrial users that are to be supplied by gas. This approved and proposed projects can be found in coastal areas, where few coal, gas or oil findings exist, and where LNG deliveries from large ships are possible. All regions with LNG projects hope to satisfy the demand from for energy from a brisk economy. Both the national and local governments aim to gradually replace coal with cleaner and more environmental friendly natural gas. All of these are an attempt to reduce air pollution, in addition to traffic and transport congestions, caused by coal transportation. It can be seen as an indirect support to the use of LNG that the State Environmental Protection Authority has banned the building and expansion of coal-fired power plants in many of the cities that are suffering from acid rain.

In the LNG market, it has so far only been CNOOC that has been given permission to build LNG terminals. Four LNG projects have been approved while another three to four are currently under discussion. If all projects are

approved China could have 7 – 8 LNG terminals built along its coastline before 2010. The building of the first started in Guangdong in early 2002 (to use 3.7 mt LNG/year, in production 2006), the second in Fujian later the same year (3.7 mt, 2006) two more have been contracted during 2004, in Zhejiang (3 mt, 2008) and in Guangxi (3.7 mt, 2008). These LNG projects are all based on a gas-fired power plant as their main consumer. Like in the Zhejiang Province project that includes a USD 1.7 billion investment for a 2 800-MW plant, the Rudong project in the Jiangsu Province, will supply a 2.4 GW gas-fired plant from the 3.5 mty receiving terminal. This terminal is also intended to serve as a back up for the East-West pipeline. CNOOC holds a stake in first three of the terminals, while PetroChina holds the agreement for the other two. Other projects on the waiting list for approval are in Tianjin (CNOOC), in the Jiangsu Province (PetroChina), in Shandong (Sinopec) and in Shanghai, where the regions are discussing with all three domestic oil majors (CNOOCO, SINOPEC and PetroChina, 2004 various dates).

To fulfill the ambitious national plan for the expansion of natural gas usage, not only millions of family stoves must be connected, but also industry must be convinced to convert to gas on a large scale. Provinces with the strongest economic growth, but also badly hit by energy shortages during 2003 and 2004 have been leading in approving gas-based projects. One major argument for gas is reliability and its sufficiently to make industry in these provinces ready to pay for this relatively expensive, but clean, fuel. The mentioned CNOOC projects will be fed on natural gas from the huge Gorgon gas project in Australia and supplemented with gas from Indonesia. In Gorgon, CNOOC signed a framework agreement in 2003 to buy up to 100 mt over 25 years, in a deal, with an estimated value of USD 21 bn, making it the world's largest deal concluded, inside the LNG industry (CNOOCO, 2004-10-28).

4.3.3. Coal

China's coal resources are estimated at 5 060 billion tons, but this enormous reserve not only include both high grade coking coal, but also large low quality brown coal findings. Most of the coalfields can be found in the north and in the northeastern parts as well as in limited areas in southwest China. It is only in the area south of the Yangtze River that is relatively scarce in coal resources. Coal is the most important source of energy in China, supplying about 65% of energy consumption. China is both the world's largest producer and consumer of coal with a consumption of 1.4 bt in 2002, which was up nearly 19% over 2001. The production has witnessed a dramatic turnaround as a result of increasing demand, as the sector was plagued with over-production in the last years of the

1990s. Demand has picked up again, and exports have also increased, at the same time as state reform of the industry has started to pay off. The consumption of coal is expected to continue to increase in the short term, although the share of coal in energy consumption should fall according to the energy plan. Consumption in 2000 was expected to increase to reach 1.7 bn ton in 2005, 1.8 bn ton in 2010 and 2.1 bn ton in 2020.

The rapid rise in demand for energy and coal, has surprised planners as production was up by 17% during 2004 to reach 1.9 bn ton, surpassing what was originally planned for. The estimate for 2005 has now set to over 2 bn ton (NDRC, 2005-01-31). To cope with increasing local demand, China had set a cap for the export volume to 80 mt for 2004. If this was followed, it would be a considerable reduction from an exports volume that stood at 93 mt for 2003, with 72 mt of that being thermal coal. This export volume makes China a competitor with South Africa for third place among the world's exporter after Indonesia and the outstanding exporter Australia that exported 213 mt in 2003 (Coaltrans, 2004-04-15). Also export prices for coal are higher than domestic prices and have risen considerably during over the last year. Export prices to Japan for 2003 was set at under USD 30/ ton, but has been renegotiated and came close to an average close to USD 50 for 2004 which gives Chinese coal producers good reason to export instead of selling to local consumers. Domestic prices also have increased and miners have also been reluctant to fulfill planned deliveries to the state, being paid prices clearly less than market prices, and instead focused on private consumers. Not only has production been strained by supply problems during the last two years, but also the transport of coal has been a limiting factor. Delivery problems have been so severe that the government has ordered the railways to priorities coal transports from mines and ports, but faced by a deficit in rail cars, and general organizational problems. These railway problems have not solved these problems (NPRC, 2004-09-10).

The future level of coal mining much depends on the success of other energy sources that are set to somewhat eliminate coal. During 2005, all the state-controlled coalmines should have been merged into similar kinds of holding companies as in the oil sector, with the hope to increase efficiency and control. The country's 28 000 coal mines, of which 24 000 are considered to be small, will be grouped into 13 major clusters (Coalinfo, 2004-12-10). As the vast majority are very small, and supplies the local market, it will probably be very difficult to introduce a basic form of control here. The reform is also intended for privatization of what used to be a loss-making sector. However, changes have been dramatic as a result of high prices and parts of the industry have instead become highly profitable. During the first ten months of 2004, compared to 2003, profits from state mines have tripled, with only one in every 32 mines not

showing a profit for the period (CD, 2004-11-24). Coalmining has not only been an economic burden it also generate serious waste and pollution problems, both during exploitation and in later stages of its utilization. Stricter supervision and management control over mines should be done to reduce the "three wastes"; control over the discharge of waste gas; control over the discharge of poisonous and harmful wastewater and control over harmful residuals produced in mines. Offenders against the regulations shall be severely dealt with. Another clear step towards improvements is to restrict the building or rebuilding of mines producing coal with a sulphur content exceeding 1.5%, and prohibit the building of mines producing coal with a sulphur content exceeding 3% (Xinhuanet, 2003-12-23). The environmental impact of the coal industry was clearly demonstrated by the close connection between coal and where the most polluted cities. On a list presented by the Environmental Ministry, over the 113 most polluted cities, the coal-rich Shanxi Province was worst together, with three cities in the top ten of the list¹⁵⁶ (SEPA, 2004-07-15). Most of the smaller mines are often run outside state control and do not only pollute, but is also disastrous since the record show a constant line of accident leading to over 4 100 deaths during the first nine months of 2004, with over 5 000 killed during 2003 (CD, 2004-08-10 and APN-BBC, 2004-10-12). It has been estimated that about 90% of the smaller mines should be closed for safety reasons, as mining work in China is three times as dangerous as the world average (CD, 2004-12-10).

In the US, coal extraction has started to convert to the relatively newly refined technologies of direct and indirect coal liquefaction or gasification. Through foreign investments, guided via the China National Coal Import and Export Corporation, no conventional energy production from Chinese coal is also on the rise. New techniques like coal bed methane production, coal liquefaction projects and long distance slurry transport has been introduced on what so far is small scale. One full-scale plant for coal liquefaction has been set up in the Inner Mongolia Autonomous Region. The Shenhua Group is the leading investor in this, the first large scale coal liquefaction project in China, with an investment value of USD 3.3 bn. The first production line at the plant is scheduled to go online during 2005 and is planned to produce 1 mt of oil products per year. By 2008, when all production lines are operational, it is expected to process 15 million tons of coal to produce 5 million tons of oil products. All investments in the plant are expected to reach USD 7.3 billion. According to the China Coal Research Institute major coal companies like the Shenhua Group and Shanghai Electric Group, have invested over USD 12 million in a new Shanghai based research centre to further develop this technology. Plans for two more coal-to-oil projects have been presented, one in the Yunnan Province and another one in the Heilongjiang Province, but permissions await a preliminary evaluation of the Shenhua project.

These projects, both the research institute and the full-scale liquefaction plant, should probably be seen as attempts of the Chinese Government to increase research efforts to avoid future energy supply shortage (Shenhua Group & CD, 2004-03-12). At a normal oil price, under USD 25/bbl, it has proved hard to make liquefaction projects cover their costs, but the development of energy prices during 2004 have provided considerable support to coal liquefaction. It must also be remembered that coal has also doubled in value during the 12 months since mid-2003, but in China, it is an abundant and domestic commodity.

4.3.4. Electricity

Projects

Electric generation, as was the case for the coal sector, has been marked by overcapacity during the later part of the 1990s and reform of the sector has closed many smaller and inefficient production units. In 1999, the Ministry of Electric Power was dissolved and its powers were shared between State Electricity Regulatory Commission and the State Power Corporation of China (SERC, 2004-07-01). A second round of structural reform in the power industry was enforced at the end of 2002 when the sector was reorganized under the State Power Corporation. Five new power groups were created including two power grid companies¹⁵⁷. The intention of the reform was to commercialize energy production and to introduce competition into the sector (CEI, 2004-05-02). As in other transition economies, the separation of state and business has proved problematic as long as the ownership remains, especially so when it is an industrial monopoly split up into regional monopolies. Additionally, the reform created transmission companies independent from the group of generators, and it proved difficult to find a formula to share incomes between the two sides. A side effect of the reform was that many intended generation projects were put on hold, and not approved until the reform had taken effect. This has resulted in a number of new projects in coming on steam in 2004 – 2005, but it remains to be seen if it will be enough to cover for the large increase in demand.

The electricity distribution inside China is practically a duopoly with the market shared between two large state controlled companies. The State Grid Corp. controls the larger share of the market while the China Southern Power Grid Corp. is responsible for five southern provinces. Investments needs are very large at the same time as the controlled prices on electricity has left, and leaves, little room for increased profits to be channeled into power grid upgrades (SGCC & NIRA, 2004-04-10). The two companies have small chances to attract foreign investments in the current situation and their short history are far from ready to attract domestic capital through an introduction on the stock exchange.

Investment capital must largely be raised from own cash flow, which in the case of the State Grid Corp. has been estimated to be in the range of USD 4 bn for 2004 – 2010. At the same time, estimated investment needs in maintenance and upgrades, for just this company for the same period of time, exceeds cash flow by a factor of 1.5 (DRC, 2004-04-01). Another major problem has been to connect generation capacity with consumers, as existing distribution capacity has not coincided with what currently is the fastest expanding consumer region. China also faces a major distribution problem in connecting its central and western regions that are rich in hydropower resources with the economically more developed coastal regions in the east that are deficient in energy. For this reason, China will have to increase its efforts to transfer its abundant power supply from the central and western regions towards the coast and to enhance capacity in the parts of the grid connecting provinces and regions. To achieve this, the power grids need to be vastly expanded and/or alternatively expand generation by way of LNG or nuclear stations in coastal regions. Despite of the need to increase prices China in relation to its income level as measured by the IEA “*affordability index*”, it already has the most expensive electricity among the larger economies in the world (IEA, 2004-05-13).

The generation of electricity

The generation of electricity in China has always been dominated by coal. In 1950, coal was the base for about 90% of generation complemented by hydropower. By 1980, the influence from other sources was still marginal, but the share of hydropower had increased to about 20%. Currently the importance of nuclear power and gas has reached a level of 2 – 3% for each at the same time as hydropower has passed 25%, with coal being the base for the remaining 70%. At the same time, consumption has grown increasingly rapidly, from a level under 0.1 TWh in the 1950s, passing 0.3 TWh in early 1980s and reaching near 1.3 TW in the year 2000. Since generation of electricity has continued to rise in China, from 1.4 TWh in 2001, 1.6 in 2002, 1.8 in 2003 and has reached 2.1 TWh during 2004. Industry has remained the outstanding consumer over the entire period, consuming about 85% in 1980 and is still by 2004 consuming over 70% of the available electricity. Agriculture was the second biggest consumer in 1980, taking about 10%, but has falling to about 4% by 2004. It is instead residential consumption and the service sector that have seen an increase in shares from well under 5% for both in 1980 to over 15% and 10%, respectively by 2004. Despite the increasing consumption demand has been much larger than production, resulting in that smaller or larger areas in 21 provinces in China faced electric power shortages during 2003, and at least 25 during 2004 (Xinhua, 2004-09-09). The total shortage in electric supply for 2004 is estimated to have been in the range of 30 GW during 2004 and could increase further during 2005, or decrease slightly according to the NDRC (SERC, 2005-01-12 & NDRC, 2005-

01-31). During the summer of 2004, a new record in electric consumption was set when daily consumption reached 6 500 GWh, with full year consumption increasing 15% to 2 200 TWh (Xinhua, 2004-08-05 and 12-20). Peak generating capacity by the end of 2004 had reached more than 6. 4 TWh, an annual increase of 15%, with consumption of electric power in 2005 forecasted to reach about 2 400 TWh (SGCC, 2005-01-20).

The development on the generation side has been as dramatic as for consumption mentioned above. In the 1950s capacity stood at less than 5 GW, to grow to about 70 GW by 1980 and near 350 GW by 2000. It is expected that shortages in later years should ease somewhat in 2005, as new plants of different kinds are reaching the production stage across the country. New capacity of up to 37 GW is hoped to be completed by the end of 2004, while total approved projects are estimated to add about 130 GW. Another 90 projects, with a capacity of over 80 GW, are in the process of feasibility studies (National Federation of Electricity Enterprises, 2004-04-01) (see also Three Gorges below). On the generation side, the state has set up a China Power investment Company, controlling 28 GW of mainly thermal generation capacity being listed in Hong Kong as one way to attract foreign investments to the sector (ZDT, 2004-08-07). The long-term growth in the consumption electricity has been estimated at 4.3% through to 2025. This figure, in relation to later years of exceptional economic growth, seems to be a very low estimation. In a future perspective much of the increase in production should come from generation based on hydropower, gas and nuclear (NDRC, 2004-07-12). It will take a Herculean effort to improve both production and distribution in China to be able to meet future power demands. There are still system reforms to be made and the conflicts among power plants, grid companies and coalmines over who should shoulder the responsibility for shortages have been numerous. While the coal price has been allowed to more or less float freely, in accordance with demand, the price of electricity has remained centrally controlled by the government. Power plants and distributors are squeezed in the middle between these two processes, and bound to be running loss-making operations. Limited price increases and differentiation of prices for different hours of the day has been allowed to bring some relief, also including controlled price increase of thermal power from early 2004 (CW, 2004-04-02). By December 2004, the government decided to allow the energy producer to pass on 70% of any price increases of the energy used over the next six months.

Alternative energy sources have also been greatly developed and planners expect it to generate about 10% of consumption by 2020. In northern China where e.g. the available resource of wind power is said to be 3.2 TW, with 253 GW of this being useable, which gives China the best position in the world in this respect. In remote areas with strong sunlight, solar-power, has come into

limited use for power generation, with about 60 MW installed capacity by the end of 2004 (NDRC, 2004-12-22). By the end of 2005, China's largest solar power station, to produce 8 MW in the north western Gansu Province, is scheduled to be connected to the power grid, with a further 18 MW in smaller installations under construction. Another alternative would be to import electricity and where Russia is currently the only neighbor with spare capacity for export. Electric trade during 2003 reached 161 GWh, and for 2004 Russian exports are expected to reach about 235 GWh, which is still very far from having any significant influence on the market (Bloomberg, 2004-08-17 & RJ 2004-09-01).

Three Gorges

An increased use of hydropower has been set out as a target by the government. This is a sector where the Chinese potential is highest in the world, but it is only being utilized to 24% compared to what is often 60% or more in developed countries. The reserve available from hydropower in China is estimated at 700 GW, and in the coming years hydropower resources will be developed rapidly (SDRC, 2004-10-28).

The largest single project, however, is the mentioned hydropower dam of The Three Gorges, in the upper reaches of the Yangtze River. Here, 26 separate 0.7 GW generators will produce a total of 18.2 GW. The first 14 of which were all delivered from abroad, while eight of the 12 that will be installed from late 2004 onwards. These will all be produced in China (CBW, 2004-03-29). The first turbines have already gone into production in a project that was initiated already in 1992 and should be finished by 2009. Near one million people have had to be relocated and large areas have, and will be, flooded by the dam behind the near 200-meter high and 2 km wide barrier. The energy generated by the project is said to replace, or at least correspond to, the burning of 40 mt of coal or 18 standard size nuclear reactors (Three Gorges, 2004-06-12). The dam, here, and often also elsewhere, serves two purposes; electric generation and flood control. Its first full scale test came during the floodings in September 2004, when the dam considerably reduced the damages in the river system, still letting through water at a rate of over 60 000 m³/sec (approximately twice the maximum flow of the Yellow River). It is not only in the upper reaches of the Yangtze river where large hydro projects have been initiated, but also further upstream prospecting is ongoing for a project even larger than the size of the Three Gorges. The Jinshajiang River projects will not force as many inhabitants to relocate, and is therefore expected to be much less controversial to carry through. Here, on the border between the Sichuan and Yunnan, four dams will be built at around USD 6 bn, and be in production by 2020. The two biggest, and first of the stations are expected to generate near 18 GW, which would nearly put them on terms with the Three Gorges dam (CBW, 2004-04-23). Resources are gradually being

transferred here as the Three Gorges project reaches its completion. However, Chinese preparations for the construction of 12 dams in a designated UNESCO nature reserve, in the upper reaches of the Nu River, in the Yunnan Province, near the Myanmar border, have come under heavy international critique (Wall Street, 2005-01-12).

4.3.5. Nuclear

China is also developing its own nuclear power program, and there are currently five plants, with in all nine units, that deliver electricity are all of pressurized-water power type. The effect generated has increased rapidly, with newly built reactors continuously reaching the production stage, from just over 2 GW in 2002 to 7 GW from five reactors by mid-2004, and to reach 9 GW when the next reactor in Jiangsu goes into production in 2005. Under the government's long-term plan for the use of nuclear power, capacity by 2020 should have reached four times the 2004 level, or about 36 GW. With the production from the four reactors under construction, the share for nuclear generated electricity in total supply is expected to increase from about 1.5 – 2% to near 4%. During 2003, nuclear power plants delivered about 42 TWh to the national power grid.

The first nuclear plant in China, the Qinshan plant in Zhejiang Province, started to deliver electricity in 1991, followed by two more in Daya Bay and Lingao, both in the Guangdong Province, in 1994 and 1995 respectively (HKNIC, 2004-10-10). The latest reactor being connected to the power grid in March 2004 was the second reactor of the Qinshan Nuclear Power Plant, in the Zhejiang Province. This reactor is a milestone in the country, being the first reactor that has been built by way of localized design and technology under Chinese supervision. This 0.6 GW reactor was a breakthrough because no important parts of the technology, as well as most of the know-how during the construction phase, were sourced domestically. Previous reactors in use in China have all been based on know-how and equipment imported from France, Canada and Russia (CBW, 2004-03-11).

The construction of the two most recent reactors at Qinshan started in 1996, with an investment of USD 1.8 billion. The two are now in production. The first reactor started commercial operations in 2002 and the second one in 2003. Both have been operating satisfactorily, with each reactor designed to produce about 16 TWh during a 40-year life span (CW, 2004-10-01). Being located in one of the provinces most badly hit by power shortages during 2004, the Nuclear Power Qinshan Joint Venture Co Ltd has requested approval from the government, of its plans to building another pair of reactors. Chances for approval are

considerable as the government in 2002 endorsed the building of new nuclear reactors for the first time in six years. The construction of four new 1 GW reactors are ongoing, with two in Sanmen, in the Zhejiang Province, and another two in Lingdong, in the Guangdong Province. At least one reactor from each project is expected to reach the production stage in 2005. Additionally, six new reactors are planned for the costal city of Yangjiang, in the Guangdong Province, where land clearance has started for a USD 6 bn project that would make it the biggest in the country (GNPVJC, 2004-11-02).

4.4. Transport

The five-year plan for 2001- 2005 in the Transport and Communication sector gives the following description of the development planned for this time period:

“The long-term strategic goal for China's communications and transport development is to build an intelligent, comprehensive communications and transport system with the focus on fast transport of passengers, freights and logistics”.

(First sentence of the Five-Year Plan 2001 – 2005 in the Transport and Communication Sector, 2001)

Both foreseeing investments and adoptability becomes major factors of concern to make such an approach possible. At the same time, good planning for the use of available transport capacity becomes increasingly important when demand is high. In the case of China, the last decade has seen fundamental changes of both its economic system as well as on the production side. The transport sector has clearly struggled to adopt. Currently, the demand is in many regions and from commodity producers are considerably larger than the capacity of the overloaded transport system. The result is delays in deliveries of commodities not only coal, iron ore, fertilizer and grains but also of industrial goods. In modern time, the basis in the Chinese transport system has been the railways. Therefore railway congestion has led to dramatic effects inside the system as well as to knock-on effects in many other sectors. This has led to an undersupply of coal from China's biggest coal region, the Shanxi Province and ports of imports, as it has not reached power plants according to schedule. This has, in turn, resulted in restrictions in power supply from these plants, adding additional pressure on an already struggling power supply system.

When changes in a country take place as rapidly as has been the case in China, especially on such a large scale, practically no transport system can cope with. Spare capacity should, in all economically effective systems be kept to a

minimum, as this generate costs for the operator when not being used, and the building of new capacity is only viable when it can be made more or less certain that there will be a stable future demand. *"Railway construction (in the past) has failed to match the rapid development of the nation's economy, which has created a bottleneck for economic growth"* (Railway Minister, Liu Zhijun, MOR, 2004-04-05). The daily demand for railway carriages has increased to 280 000 in 2004, an increase of over 60% from the 2003 daily average of 160 000 (MOR, 2004-08-20). The estimated capacity of the rail network, however, is less than 100 000 carriages per day. A change of this magnitude reveals one of the biggest weaknesses of a transport system – the need for adoptability. As investments in the railway system has, for many years, been on the 2% level while the economy as a whole has grown by 8 – 9%, it is feared that the situation will not really improve for many years to come (CW, 2004-11-24). Also, if investments were to increase significantly already in the next year, then it will still take years to build and upgrade infrastructure. In this situation, trucking could have been a natural alternative for shippers. China is trucking has increased in importance, as in all other economies in transition, but as a result of a government ordered crack-down on overloaded vehicles that begun late 2003. Capacity in the trucking sector has also been capped¹⁵⁸.

In accordance with the market economic system, demand in the transport sector has come to rise sharply, as have prices (where not state controlled), which indirectly add an inflatory pressure on the national economy.

4.4.1. Railway

The railways in modern time have been the basis in the Chinese transport system, extending to cover practically all parts of the country, with the exception of Tibet¹⁵⁹. Total mileage of the railway system has reached over 73 000 km, with double tracking on about 23 000 km and with 17 000 km being electric railway. These figures place China third in the world among railway nations, after Russia and the US. The network is still largely based on bygone needs as about 20 000 km was laid out before the founding of the republic in 1949 with an additional 20 000 km having been built before the 1960s (MOR, 2004-08-10). This imbalance, been observed and construction projects aimed at upgrading of trunk lines to access western region and to alleviate deficiencies in the north eastern part of the country has been launched. The needs are considerable with much technically outdated equipment in use, limited use of advanced IT applications and the railways have generally much to learn in the fields of marketing and distribution.

China remains, at least transport wise, a developing country, which is shown by the large importance of basic products, set to over 80%, in the total transport volume. Raw materials and basic products, like coal, constitute a considerable share of the rail volume. Other important products on the railways are iron ore, steel, non-ferrous metals, building materials and grain. The railways are in this way losing unnecessarily much in the competition against other modes of transport. Prospect for the larger parts of the system are bright, if changes can be brought in place and the railways can attract capital for the necessary investments. The railways, being such a large state run organization, has so far only seen limited foreign influence with its administration being integrated with the government. The administration of the railways continues to organize the extension and maintenance of the network practically without outsourcing. Foreign capital has still to find its way into the organization, with only one exception the private Guangzhou-Shengzhen Railway.

China's railway sector is funded through the government's budget with incomes and expenditure being channeled through the Ministry of Railway (MOR). Funding for investments has largely been provided by the MOR itself and has been in the range of 50 bn per year from 1998 to 2003. As a result of these investments, 5 700 km of new lines have been constructed, 4 100 km new double tracking laid while 4 300 km have been electrified. New initiatives could be needed as seen in 2003. China spent almost 60 billion (USD 7 billion) on railway construction, which is only 20% of what was invested in road construction projects (China Youth, 2004-08-15). For 2005, the improved spending plan has lifted the investment target to USD 12 bn. Plans have been drawn up for a separation of construction and management from the operative parts under MOR. The idea is to establish a network company and then to have several passenger and cargo transport companies performing the transport operations. The three companies that currently operate on the railways, under the ministry, are specialized in the transport of parcels, containers and special cargo, respectively. All three are expected to be listed as share holding companies during 2005. Since the last years of the 1990s, there are also a number of private companies of embryonic size in operation for some special functions under the ministry (MOR, 2004-10-19). For future investments, the MOR is planning to allow private capital to enter as partners in infrastructure projects. High frequency lines and infrastructure operators also could become independent operators and be converted into shareholding companies, with a broad base for their ownership (CD, 2004-08-08). The reform builds on a similar reform to the road sector that has allowed private companies to work with construction and maintenance in the road sector, and to make profits.

As mentioned initially the railways for some years have constituted a bottleneck in the development of the economy. In addition to seasonal demand from e.g. farming, in spring and autumn and coal-fired power plants in winter, can deteriorate the situation further and cause aggravated congestions periodically. Federal decisions that have given priority to the transport of coal and grain on the railways over parts of the year, has filled up ports with imported raw materials like iron ore, alumina and soybeans (NDRC, 2004-04-12). Millions of tons of iron ore and steel had already been filling the quays at many ports, forcing arriving ships to wait offshore for several weeks before being able to unload their cargo. In Qingdao alone, in the Shandong Province, one of the largest ports in China, iron ore imports increased by 32% year-on-year in the first months of 2004. At the same time, the port is being serviced by fewer trains compared with the same period last year, as there are not enough empty wagons (Port of Qingdao, 2004-06-05).

As a way to counter capacity restrictions, technical upgrading of tracks has been continuous in later years to accommodate higher speeds of both passengers and cargo trains. Passenger trains should reach a speed of 160 km/h, with an operation speed of 140 km/h on the major lines, which should connect all larger cities of the country. This will also make it possible to increase the speed of the cargo trains carrying containers and finished goods up to 120 km/h. Of the tracks in use, about 13 000 km are considered to be express tracks, allowing for a speed of passenger trains of 140 km/h, while about 7 700 of these have a permitted speed of 160 km/h (CD, 2004-04-18). These speed increases have been adopted since the first one in 1997 and a sixth round of increases is set to take place in 2005 (CD, 2004-04-18). Increased speed not only cuts transport time, but it also increases capacity and frees slots on the lines for additional trains. Another aspect of upgrading that has been much discussed is to raise both the comfort and speed of passenger trains eventually by way of bullet trains. Although the Chinese railways transport the largest number of passengers in the world, it can only be hoped that investments for the future will lead to an improved security record. Hitherto the security record is appalling as during January through September 2004, accidents on the railways claimed the lives of no less than 6 100 people; i.e. 20% more than the much discussed coal industry accidents for the same period (APN-BBC, 2004-10-12).

To raise the rail standards between several of the larger cities in Eastern China tenders with a project valued at about USD 12 bn has been announced. This is a project that has been sought after by all major train and equipment manufacturers in the world. It was awarded to the Nanche Sifang Locomotive factory, in a joint bid with six Japanese companies. This project will construct five major existing railway lines, at a length of over 2 000 km, will be increased

to 200 km/h. This project will also see the first transfer of “*low grade*” Japan's Shinkansen technology to China and give trains with a top speed around 275 km/h. These improved lines will link e.g. Beijing and Shenyang with Qingdao and Jinan in the coastal province of Shandong (Xinhuanet, 2004-08-30). Special attention over a number of years has been paid to initiate the much-discussed high-speed rail link between Beijing and Shanghai. A line that is the most densely trafficked with passenger and cargo in the country, with utilization in the range of 5 – 6 times the national average. The two mega-cities that are 1460 km apart are in 2004 serviced by eight pairs of direct trains that, with a 160 km/h maximum speed, make the journey possible in 12 hours (Xinhua, 2004-04-18). A high-speed rail link here would cut traveling time by several hours and make the journey possible in just 8 – 9 hours. Estimated investments needed to make this reality are in the range of USD 15 bn, second only to the Three Gorges power project. The use of high-speed Maglev (magnetic levitation) rail link has been discussed. One of the crucial decisions still to be taken officially by the government is if it is a conventional wheel-and-track line that should be build, then using one of the long established French TGV or Japanese Shinkansen systems, or a Maglev line.

Several foreign consortia's are competing for the contract, linked to Chinese partners, German Maglev technology, Japanese Shinkansen bullet train technology and Alstom TGV of France with its TGV system. As often in this type of gigantic project financing often becomes of utmost importance. However, it is for the Chinese side to decide if it should be the most advanced technology that should be used or the lowest-cost that will count in the end. Fares must undercut airfares to make the investments viable, which will be more difficult with the maglev train that carry construction costs 50 – 100% above conventional technology.

If the maglev option is preferred, it will represent a new advance in technology and enable speed of up to 500 km/h and make the line less energy dependent, while conventional trains have reached a maximum commercial speed of 300-350 km/h. The world's first complete maglev system has already been built in China, connecting the Shanghai Pudong airport with the 30-km distant city centre. A contract was signed in early 2001 and that probably improved the chances for a similar system to be used also for the Beijing – Shanghai line¹⁶⁰. This relatively untested technique has long been discussed, but it has not yet been excluded as a Beijing – Shanghai option. At the same time, it has been decided to extend the existing maglev train line in Shanghai to the 170-km distant city of Hangzhou, cutting traveling time from the airport to Hangzhou to just 25 minutes (PD, 2004-11-27). The problem with magnetic levitation is that all technologies and much equipment will have to be imported while it would

probably be possible to source much of the equipment domestically, within a few years, for a conventional system. The need for a high-speed line as a whole has been questioned in the government, and especially so the higher construction and operating costs of a maglev system, which has kept the project on a hold for years. A fundamental problem with the Maglev technology is that it is not compatible with conventional technology, and that the other two alternative train systems are run on tracks separated from other traffic in both Japan and France. On the Beijing - Shanghai line, well over half of total train traffic is generated by trains with other destinations that could have a need for additional tracks. The general public is, probably, overwhelmingly against awarding the prestigious high-speed railway contract to Japan, which could leave the Alstom TGV concept in a very favorable position.

Large-scale transport links are often seen not only as generators of economic prosperity, but also demands increasingly large investments. Another such project would be the building of a new rail link "*Euro-Asian land bridge*" between China and Europe, initiated by the railway ministry in Kazakhstan. This project was valued at approximately USD 3.5 bn for over 3 000-km long railway. This line that would not only serve as a short-term injection to the local economies in western China and central Asia, but is also hoped to generate good flows with long lasting positive effects. Built according to European and Chinese standards, a Euro-Asian railway is expected to carry about 40 mt of goods per year and greatly reduce transit time for over two billion people living in the regions being linked (Eyefortransport, 2004-05-04).

4.4.2. Road

The Chinese road network is about 1.8 million km, connecting practically all towns in the country¹⁶¹. About 560 000 km of this was considered to be interregional roads while about 25 130 km of the network is considered to be major roads. The importance of roads in China has never been comparable to that of roads in western countries. Today, roads are not only important in passenger transport, but also for the quickly expanding private car ownership. The responsibility for the major roads remains federal while the responsibility for regional and minor roads falls on the provincial authorities. Of the existing road networks more than half of all roads can be found in the eastern parts of the country about one quarter in the central parts of the country and less than 15% in the western parts.

At the end of 2003, there were over 20 million vehicles in China, with some 4 million of these being privately owned. With the introduction of an additional 4.4 million vehicles on the roads in 2003, private car ownership also went up by about 50%. During 2004, an additional 5.1 million new vehicles were added to this stock, with production expected to have reached 10 million/year in 2010. As production volumes are expected to increase by 10 – 15% per year over the next 15 years from 2004, total production by 2020 could be in the range of 17 million (MOC 2004-09-20). The dark side of this expansion is that traffic education has not been able to cope with this increase and accidents on the roads are increasing, having claimed near 97 000 lives during the first nine months of 2004 (MPS, 2004-12-12).

Such a rate of increase in traffic also puts an extreme pressure on the network of roads. It has forced the government to start the construction of major national freeways to connect most Chinese cities and to cope with traffic volumes. This rapid increase has been met by rapidly increasing spendings on road construction in 2004, that will go beyond CNY 300 billion (USD 36 billion) five times more expensive than what was budgeted on railway projects. A total of investments of CNY 1.4 trillion (USD168 billion) have been spent on roads in the 1997 – 2002 period (China Youth, 2004-08-15). Still, the construction of highways among major provinces in western China, e.g., in the Yangtze River Delta and the Pearl River Delta in the south, is not expected to be completed until 2010 (CW, 2004-09-02). Although the Hong Kong - Shenzhen Western Corridor in the Pearl delta, which includes the Shenzhen Bay Highway Bridge, has been given priority, it is scheduled to be completed by mid-2006. Already by 2010, according to the ministry, China will have been relieved from its current tense transportation situation, which will serve to further promote the development of the national economy (MOC 2004-09-20). This prediction can doubt as at the same time it has been forecasted that by 2020 the road freight transportation will have more than doubled. In 2020, the number of vehicles on the roads could have risen to 140 million, which would be more than six times the figure at the end of 2003. Ownership in China is still under 20 cars/ 1000 inhabitants, setting the predicted 2020 figure to under about 100 car/1000 inhabitants, which would still be a low figure compared to international figures, but above the current world average of 120.

Motor industry production

World automotive market has generally been relatively stagnant in recent years, with the largest markets being saturated. This has led to declining production and reduced investments in the industry. Global automotive production capacity is estimated to be some 30% above global demand. The situation is expected to deteriorate further due to the impact of a stagnant global economy

and the need of the automotive industry for readjustments. Backed by their technological strength and comparative advantages in R&D, the automotive industries from developed countries have instead began to focus on developing countries for growth. China is one of very few large markets in the world today where there has been a strong and persistent increase in demand for automobiles. Meanwhile, economic globalization is also accelerating in the automotive industry, and the control exerted over the automotive industry by multinational automakers is probably tighter than in most other industries.

Prior to 1994, China had no clear policies on foreign joint ventures in car production. However, it was decided that it should actively seek foreign capital for the industry that at the time had an annual output of no more than 150 000 vehicles. The maximum share of foreign investment in domestic producers is set to less than 50% and non-Chinese have not been allowed to head the management of car companies. Being an attractive market, the minimum investment was set at 2 bn, with at least 40% of that to be invested immediately, and with an additional 500 million to be set aside for R&D activities (Bofit, 2004-24). With the authorities having been aware of the attractiveness of its market, foreign companies have not been allowed to introduce “old” models on the Chinese market. Foreign automakers, including their subsidiaries, have also been restricted in their establishment of production, as they can only set up a maximum of two JV’s for one type of car. Still it must still be made in co-operation with one of its already established local partners (CW, 2009-09-09). The aim has also been to influence the organizational structure of the industry, with a focus on large enterprise groups to better realize possible economies of scale in the industry. The state has also provided support for the development of the auto industry by stepping up the construction of some state-supervised technical centers, to strengthen domestic innovation capacity and technical product development. By 2005, the 5-year plan indicates that the share of the GDP generated by the auto industry should have reached about 1%, which looks increasingly realistic.

Authorities have played an important part in the reshaping the industry towards readjustment and upgrading of the product mix, with economy cars as priority. Many foreign producers are still reluctant to transfer high-tech knowledge as long as infringement of intellectual property rights are common, with a legislation falling short of protecting right holders. However, from the beginning, it seems to have been understood that the foundation for future development in the industry is based on the production of parts and components. The Chinese automotive industry has in an as short period of time as five years come to take a considerable leap from its previous stage of infancy, to its present stage of resemblance of a market economic situation. Automotives

did receive a certain amount of protection after WTO entry, but an exceptional inflow of FDIs has quickly lifted the competitiveness of producers, and not least important, of sub-suppliers. The import of car parts is still large as foreign manufacturers continue to source some 40 – 50% from foreign sources, despite the active approach to attract part manufacturers. However, the import level is expected to fall-off to about 30% by 2007. Practically all of the world's most renowned component producers have made considerable investments in China, with US Delphi and Germany's Bosch being such examples. At the end of 2003, there was already more than 5 000 car component plants, with over 1 200 of these with foreign involvement, in China (MOFCOM, 2004-04-04). The government has set an export target for auto component of USD 70 bn to USD 100 bn a year by 2010, increasing from an expected export of USD 8 bn in 2004 (CW, 2005-01-27). If the strategy will be successful then it is expected to account for 40% of total automobile and component sales at the time. China's automotive industry has managed to sharpen its competitive edge considerably also in more advanced applications, although much of it remains the result of low costs.

With a sharp rise in car production and despite pressure from rising prices of materials, car producers have continued to lower prices and new models are hitting the market at an increasing rate. During the first quarter of 2004 alone, 10 new models of cars were introduced in the Chinese market and another 20 older models had their prices sharply cut (Xinhua, 2004-05-05). Total vehicle output during 2003 reached 4.4 million, with cars volumes jumping by 80% to just over 2 million (NBS, 2004-04-06). China overtook Germany as the world's third producer and market during 2004 and looks likely to catch up with Japan inside a few years' time. Many of the plants work round the clock', at the same time nearly all-major producers are announcing new large investments in China. For large automakers, it is important to maintain their position, both on the most expansive market and on the world market. China's imports in the sector are mainly luxury or rare goods, which are competitive and generally cannot be produced locally such as high-end sedans and other high-tech products. The car market in China is structurally different from other developing markets as about 30% of cars cost more than USD 30 000, which is extraordinary for a country on its GDP level. These products have found a strong demand and their prices have not been under the same pressure downwards as that of the low-end products. A fact that is confirmed by the most up-market producers, like Volvo, BMW, Cadillac, Mercedes, Audi and others, that have or are planning to set up a production presence in China. The market has now reached a stage when work is ongoing to improve the market environment, e.g. by reinforcing legislation, promoting fair competition and introducing a recall legislation of default cars (AT, 2004-03-12).

Being such a large country, China has a need for a large variety of different vehicles, and the output in the sector during 2003 came from no less than 120 different plants, but with a geographical concentration to Shanghai, Jilin and the Guangdong provinces (MOFCOM, 2004-04-04). It should also be noted that trucks and buses makes up a considerable part of vehicle sales on the Chinese market, with trucks up by 10% to 1.2 million trucks and buses by 12% to 1.2 million during 2003. During the first eight months of 2004, the number of trucks sold was 980 000 (+17%) with the number of buses sold being 800 000 (+10%) out of a total of 3.4 million, giving trucks a share of 28% and 23% of buses, which is still by 2004 more than half the vehicle volume. Total vehicle sales during 2004 saw a bumpy ride as it was up by 80% during February, fell by 10% during the next three months and then up by 20% in August, but -8% in October and up by 16% in November. Total vehicle production reached 5.1 million for the full year, up by 16% over the 4.4 million total for 2003, when cars constituting about 2.3 and 2 million, respectively (CAAM, 2004-09-13 & 12-13, CW, 2005-01-31). This volume is complemented by import of about 180 000 complete and CKD vehicles, mainly high price, during 2004, up only 3% over the 2003 figure, but a big rise over the 72 000 imported in 2001. China also exported 406 000 complete and CKD vehicles 2004, out of which near 70% was special-purpose vehicles (CW, 2005-01-27) (CW, 2004-01-27). Despite considerable price cuts by producers, near 15% during 2004 on average, sales increase has not stayed on par with the increase in production capacity. Sales have been further restricted by restrictions imposed by the government on credits and demand for larger down payments. Furthermore, in line with the WTO agreement, import duties on cars will start falling in 2005 and go down from 38-34% to 25% by 2006. The situation has led some producers to become increasingly cautious during 2004 and in some cases have come to postpone investment programs. Production for 2005 is expected to be about 5.8 million cars, a rise of 12%, while sales could go beyond 6 million (China.org, 2005-01-21). Increasing sales indirectly results in increasing oil consumption and the authorities are especially alarmed by the increasing use of petrol in the transport sector where cars, buses and trucks on average use 25% more petrol than in Europe. New compulsory fuel efficiency standards were issued during 2004 and will take effect from mid-2005, with the hope to increase overall fuel efficiency by 15% until 2009 (SAC, 2004-10-30).

The currently biggest vehicle producer in China, FAW Group Corporation of China was originally founded in already in 1953, producing its first truck in 1956 and the first Hongqi car in 1958. The FAW is an auto-industrial conglomerate controlling 35 assembly plants, with a total of over 200 other enterprises being related to FAW. Its most important foreign JV, the FAW - Volkswagen was established already in 1991, from a total investment of 11 bn. The Volkswagen group holds a 40% stake, with another 10% being owned by its subsidiary Audi.

FAW also co-operates as production partner with both Toyota and Mazda and produces the largest number of cars, with a total of 859 000 during 2004¹⁶².

The second biggest producer is the Shanghai Automotive Industry Corp. (SAIC) that includes 55 subsidiaries, listed as 461 of the world's 500 largest companies. This is a bigger company than the FAW, and in 2003 it showed a profit of USD 700 million from revenues of USD 12 bn, holding assets of 100 bn (USD 12 billion). SAIC has over 60 000 employees in China and SAIC sold about 800 000 vehicles during 2003, with car sales up 50% to 590 000 units out of the total (SAIC, 2004-09-02). The company is a partner of both Volkswagen and GM, with a production of over 400 000 and 240 000 respectively of the two brands during the year. SAIC has been lucky enough to see Volkswagen maintaining its position as the biggest selling brand in China for many years. The company aims to further increase its annual output to 4 million vehicles and to have become one of the world's six largest automakers by 2020. To generate the funds needed for its future expansion it is preparing for a Hong Kong listing that could raise some USD 1 bn. During 2004 the company has, like all car producers seen car sale rise over all. After two years when car sales have increased by over 50%, it could be understood that a slowdown would come, and in the second half of 2004 sales have stayed near or even below the 2003 figures. Consequently increased competition and falling sales have had a dramatic effect on the profit levels, which for SAIC contracted by 23% during the first nine months of the year (CE, 2004-10-26).

The third company in size, Dongfeng Motors Co., is also involved in a number of JVs with foreign producers, PSA Peugeot Citroen, Kia Motors and with Nissan. The list of companies in JV could be made long and has been turbulent, and difficult to keep updated, without following the industry closely. Some examples from late 2004 could still be given as Tianjin Automotive Industry Corp. works with Toyota; China Brilliance Group with BMW; Beijing Automotive Industry Co. with DaimlerChrysler, Hyundai and Mitsubishi; Chongqing Changan Group Corp. with Suzuki and Ford; Yuejin Automotive Group with Fiat, Guangzhou Automotive Association with Honda and finally the China National Heavy Truck Corp. is in JV with Volvo Trucks.

Of the producers in the NEA region, the Japanese producers entered early into the Chinese automotive sector. In later years Korean producers have also seen the potential and Hyundai Motor, the country's biggest automaker, is about to compensate for its late start by building its third production unit in China. Hyundai has the aim of reaching a sales volume of 1 million units in China by 2008. In all new investments of USD 780 million will make it possible to produce cars, trucks, buses as well as engines at the new unit in the Anhui Province. Of

the previous two being located in Beijing and Jiangsu Province, it is the Beijing unit that will supply the bulk of the future volume. The subsidiary, KIA Motor's JV, will be expanded considerably through an investment of USD 650 million to reach a production of 400 000 units by 2008 (Hyundai and KIA, 2004-09-15). The government plans to create 5 to 10 specialized export bases and both Japan's Honda Motors and its two Chinese partners have even formed a new small-sized car venture in Guangzhou (from where all cars will be exported). Total value of the Chinese car export in 2003 reached approximately USD 400 million. Ironically enough, the first large scale exports project to the US from China, from the Chery Automobile Co, is said to be based on a pirated Korean design information. The world's largest car manufacturer, General Motors, has argued that the Chery is largely based on pirated design information from its Korean subsidiary Daewoo's QQ model, having sued Chery in December 2004 (New York Times, 2005-01-14). This is another example of the flood of patent infringement trend that makes it increasingly difficult for the US to accept the rising trade deficit with China.

4.4.3. Water transport

For natural reasons, waterway transport in China is concentrated to its coastal areas, but internal waterways nevertheless hold an important position for cargo transports. The basis of the importance of shipping comes from the fact that the country has navigable waterways that amount to some 120 000 km. Of the extensive inland waterway network, only 20% of the rivers and canals can be used by ships over 300 dwt, and it is still today the classical "*djonk*" kind of ships that perform the bulk of the transport work on the inland waterways. However, over 8 000 km of this network is channels that are capable of accommodating ships of up to 1 000 dwt. Well over 100 of the inland ports can be called at by ships over 10 000 dwt, located mainly along the Yangtze and Zhujiang river systems. The canals and the inland shipping routes are not only the important areas in Yangtze, Pearl, Heilongjiang and Huaihe rivers, but also the Beijing-Hang Zhou stretch (Grand Canal route), which has a potential to be substantially developed.

Also ocean transport is strong in the country's waterway transport sector, carrying over 70% of the waterborne volume. In later years, some 80 - 85% of China's foreign trade has been carried on ocean going vessels. In 2002, China's volume of foreign trade stood at 760 mt, up by nearly 12% over the previous year. This volume was largely handled by China's more than 60 larger coastal ports and reached nearly 2.7 bt in 2002, up by 12% over the previous year. By the end of 2002, there was allegedly over 3 800 berths of which about 700 could accommodate ships over 10 000 dwt. These coastal ports handled 1.7 bt, or over

60% of the national total. Some Chinese ports, which in reality are often a number of different nearby ports, have an annual handling capacity of over 100 mt: Shanghai, Shenzhen, Ningbo, Guangzhou, Tianjin, Qingdao, Qinhuangdao and Dalian.

The handling of cargo in ports is becoming increasingly important due to China's strong economic growth with increasing import volumes and the national export focus. Handling volumes in ports of import and export cargo have been increasing rapidly and has reached 350 mty in 2004. Especially the container sector has been booming, from 16 million TEU being handled in 1999, 19 million in 2000, 23 million in 2001, 27 million TEU was handled in 2002, to 37 million, which was lifted in 2002. The 2003 turnover of 48 million TEU already corresponded to near 25% of the world container turnover and a possible 55 million TEU for 2004 will make China the outstanding container handler in the world (MOC, 2004-08-10). In the port in Rotterdam alone, over 1.4 million arriving TEUs were handled from China and Hong Kong during 2004, delivered by the 35 shipping lines servicing China (Rotterdam, 2005-01-30). An MOC survey estimates that Chinese ports will be able to handle a total of three billion tons of cargo and 100 million TEUs by 2010. In the container segment the dominance of the coastal ports are large as they handle over 90% of the total volume. Of the current ports, eight are said to be capable of handling more than 1 million TEU per year: Shanghai, Shenzhen, Qingdao, Tianjin, Guangzhou, Ningbo, Xiamen and Dalian.

China's largest port, Shanghai, saw an almost 20% increase in handling during 2003 to reach 316 mt, including 11.3 million TEU. This container volume, according to the port authority, that was 134% above designed capacity. Despite this, it still increased near 30% to about 14.5 million for 2004 (CD, 2005-01-11)¹⁶³. The 2003 and 2004 container volume ranked Shanghai as number three in the world behind Hong Kong (21.4) and Singapore (20.6), but before its closest competitor, Shenzhen. There will be approximately 10-km of deep-water berths available and capacity for about 15 million TEU after the completion of the Yangshan port project (located some 30 km outside Shanghai). This project appears somewhat risky, as it is located on an island with only one bridge that connects it to the mainland. In the container sector, the dominance of trucking is strong as international standard containers are normally not compatible with Chinese railway containers. If the 2004 growth trend continues, by about 20%, Shanghai could well be the world largest trade port already by 2005 as the volumes projected for 2004, 370 mt, could become larger than the world leader Rotterdam that handled 352 mt in 2004 (CW & Rotterdam, 2004-11-09; 2005-01-12). As the country's largest foreign trade port it handled USD 160 bn of imports and USD 120 bn of exports in 2004; up by 44% and 37%, respectively. Out of this

foreign-invested companies trade made up over 60% of the volume (Shiptimes, 2005-01-11). The second largest port in the country is Shenzhen in the Guangdong Province, with a near 40 mty turnover, and ranked fourth worldwide in container handling with 13.7 million TEU during 2004. The third largest port in China is located in the northeast, Tianjin, and had a cargo turnover of 160 mt in 2003. Tianjing is also showing impressive growth figures together with the other two, planning to have advanced to one of the top-ten in the world before 2010 (Tianjin Port, 2004-08-02).

As in other parts of the world, there are different kinds for bulk product that makes up a large share of the volume handled in the ports and rapidly adds up to large volumes. Coal, oil and oil products, metals and mineral ores, iron and steel and building materials make up a large percentage the handling. In 2002, they accounted roughly for 20%, 15%, 10%, 10% and 5% respectively of the total handling capacity of the bigger ports. The larger ports in China are generally well connected to their hinterland, both through waterways for inland navigation as with major trunk railways. However, in recent years, the reports have been numerous about severe congestion in many of the Chinese ports, due to the rapid increase in trade volumes. Part of the congestion problem in the sector is not only the widespread use of low capacity cranes and other handling equipment to unload and load vessels, but also a constant deficit of railway cars.

Expansion needs are considerable in the port sector and the Shenzhen port operators have announced that a "*port construction charge*" of about USD 10 will be added for each handled container units at the existing terminals. The money collected will be used for port construction in the region and can probably be seen as a first initiative that will be followed by similar initiatives elsewhere (SeaNews, 2004-09-08). With the difference in handling fees to its main competitor, Hong Kong, being about USD 300 per unit, the fee can probably be absorbed by its customers. The expansion of trade volumes in especially the last two years has practically exceeded capacity. As a result of the increasing pressure the Railway Ministry has announced that it will organize and reequip 18 major rail container stations, not only with one in each of the largest cities in the Eastern parts of the country, but also six in the Central and Western parts (Xinhua, 2004-12-10). Additionally, the ministry will launch the construction of the biggest inland container port in the country, and Asia, by extending the Chengdu port to make it a distribution centre for the southeast of the country (MOFCOM, 2004-09-07). For this project and similar grand plans of the same caliber, there are many hurdles to pass to get the projects going. With only the construction phase involved taking several years, many of the prerequisites can change dramatically by the time such a project is approaching completion.

Shipping

High sea shipping in China has been a rapidly expanding sector that despite this has been losing the grip over shipping volumes to and from China from that fact that it has been out-grown by demand. The government is still encouraging competition, especially now that oil shipments have been a sector completely dominated by foreign companies and the oil import has practically only been carried by foreign ships.

The largest Chinese shipping company, China Ocean Shipping Company (COSCO) is also the world's largest with an overall fleet under its ownership of 24 million dwt from near 800 vessels (COSCO, 2004-10-28). This indicates that its average vessel size, 30 000 dwt, is less than half that of the next five biggest owners in the world. COSCO is an example of how Chinese high sea shipping lines have been able to profit from the surge in demand for shipments especially from Asia to Europe and the US. It currently operates across different regions, sectors, and countries, and the company also has diversified its business into integrated logistics and terminal management, and with a spread ownership of many small vessels of all types. However, it is only for containerships that COSCO qualify among the ten biggest in the world with its 220 such ships. This fleet is also being expanded rapidly, having placed an order for five new 8 500 TEU ships at Chinese CSCL during 2004. When delivered in 2007 the ships will not only become the biggest in the fleet, but also the biggest ever built on the mainland.

COSCO has during 2004 adopted a new approach in signing strategic partnerships with some of the country's largest companies; e.g., Baosteel, Sinopec, Haier and Huaneng¹⁶⁴. Partnerships that are aimed to secure transport capacity in a tight market for the companies and in return COSCO have been promoted as the first choice carrier (COSCO, various dates). For COSCO, such deals partly secure a demand for its fleet, but at the same time forces it to globalize further. COSCO has e.g. agreed to join with a 25% share in a new USD 530 million and 3.5 million TEU terminal in Antwerp, Europe's second biggest port (COSCO, 2004-11-16). A deal that will secure capacity to handle its ships arriving in Europe and expand the kind of service it can offer to both partnership and conventional customers.

The second biggest shipping company is China Shipping Group (China Shipping) from Shanghai, founded in 1997, which has grown into a shipping conglomerate. Its fleet currently comprises over 400 vessels with an aggregate deadweight of near 12 million dwt. China Shipping has been investing heavily into container shipping over the past few years and owns a fleet of over 100 vessels. China Shipping sailed, what at the time, was the world's largest container ship with the departure from the homeport of Shanghai in July 2004 of

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the 8 500 TEU, "CSCL ASIA". During 2004, the company took delivery of its first VLCC, to be added to its other 80 tankers. The current fleet is not designed for long hauls of imported crude and it is of strategic interest to China to increase the percentage of imports that is arriving by domestically controlled ships. If the estimations presented in the petroleum part above are correct, indicating that China will come to import about 110 mty by 2010 it will take over 20 tankers of 300 000 dwt size to be able to handle less than 50% of that volume. That is if all the oil is carried from the relatively nearby Persian Gulf.

With booming world demand for shipping capacity during 2004 both COSCO and China Shipping Container Lines (CSCL) have been able to cash in considerably. Posted half-year result for the two companies for 2004 show approximately quadrupled net profits compared to the same period in 2003 (COSCO and CSCL, 2004-08-30).

Shipbuilding

China has for nine strait years running been ranked as the world's third largest shipbuilding nation after Korea and Japan. When reforms started in shipbuilding, the controlling organization in the sector was China State Shipbuilding Corporation, from which related companies in the regions around Dalian, Tianjin, Wuhan, Kunming and Xi'an came to form a holding company named China Shipbuilding Industry Corporation (CSIC). The CSIC, founded in 1999, is currently the biggest of the shipbuilders and includes over 100 companies and research institutes with over 170 000 employees (CSIC, 2004-06-25). China State Shipbuilding Corporation (CSSC) was also created in 1999 and is the smaller of the two holdings, that controls about 60 companies with near 100 000 employees. The company originally included several military yards that has converted to civil production and has its geographical focus in the eastern and southern parts of the country (CSSC, 2004-06-29)

The two big shipbuilding groups controls about two-thirds of the sectors' capacity and have, during the first half of 2004, absorbed about 75% of orders in CGT placed at Chinese yards. As mentioned above, this does not necessarily mean that it is so in order value, as the price of a VLCC, measured in USD/CGT, is much lower than most other ship types. The diversity is considerable as there are about 600 shipbuilders in the country. However it has remained an industry with a very low level of profitability over the last few years. The shipbuilding sector with its directly related supporting industry includes no less than 17 000 companies all over the country (CANSI, 2004-09-10). The sector has been hit by rapidly increasing steel prices and augmenting energy prices, and in China, also by energy cuts. Shipbuilding has survived some complicated years that have included both reorganization and expansion, as there has been a sharp increase in demand for its products (CANSI, 2004-09-10)

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During 2004, the delivered tonnage is expected to grow by about one-third, from the 6 million CGT delivered during 2003, to approximately 8 million CGT. If so, this would lift China's world share to about 15%, but still well behind Korea and Japan. The main restrictions to continue expansion would probably be a combination steel prices and energy shortages. In 2002, the Chinese order book for ships numbered 384 and by the end of 2003 had increased to 574. This from orders of near 10 million CGT during the year, or near 20% of the world total, which lifted the national backlog to 32 million CGT. Development in shipbuilding has been phenomenal, as both the kinds of ships have become increasingly advanced and size of ships has increased to the very top of the scale. Starting from the construction of smaller and conventional freight carriers to the top of the scale with the most advanced large LNG carriers. The difference in know-how needed to build the two is an ocean to bridge for a shipyard. Additionally, it takes a different kind of infrastructure at a yard in the form of dry docks to be able to compete for the largest of the tankers. Despite this, the first order for a VLCC came in April 2000, from Iran, to the Dalian New Shipyard, which included no less than a series of five 300 000 dwt tankers. Also for container ships the size is increasing and the COSCO orders for five 8 500 TEU ships and for two jumbo size, 9 600 TEU ships, brings capacity on the containers side into world class. Of the same importance as the first contracts for a VLCC's ship in 2000, a jumbo containerships in 2003, was the signing of a contract in August 2004 for a late 2007 delivery of a 147 000 cubic meter LNG carrier. With COSCO as leading partner in the group that placed the order, the delivery of two LNG vessels, valued at USD 400 million, with options for a third, was signed with CSSC. This indicates that the production capabilities of Chinese yards, if it comes out well, will soon be regarded as among the technically advanced in the world (CSSC, 2004-08-11). The biggest yards in 2003 was the two in Dalian, Dalian New Shipyard Heavy Industries and Dalian Shipbuilding Heavy Industries, with the next two being Hudong Zhonghua Shipbuilding Co and Guangzhou Shipyard International. These four, clearly larger than the other, generated over 30% of the value add in the industry for the year (Maritimeindustries, 2004-09-29).

4.4.4. Aviation

A major reform of the aviation sector was conducted in 2002 by forming the Civil Administration of Aviation of China (CAAC) that controls three new aviation holding companies. A considerable lack of funds for continued reform in the new organization brought opportunities for nongovernmental business. This has made possible the emergence of both foreign and national private business to access different aspects around civil aviation and airport management. In 2002 airport management was transferred to the local

authorities. The new organization has also led to that prices, for both passengers and cargo, has better come to correspond to costs and opened up for competition.

The effectiveness of the reform was shown by the economic result posted by the CAAC for 2004 of 8.7 billion (USD 1 bn). This is four times the losses incurred in previous years and was attributed to the effect of reforms and a turnaround in tourism as passenger figures were up by 38%, to 120 million, with airlines contributing 72% of the profit, airports 17% and other activities 11% (CAAC, 2005-01-14). Air cargo is still a small sector, but with increasing import and export of high unit, value cargoes the sector has shown strong growth. Shanghai is the biggest and fastest growing cargo destination, handling about 1.1 mt during 2003, well ahead of Beijing with 0.7 mt (Airports, 2004-10-12). Still handling volumes are relatively small and highly concentrated to the largest cities like Shanghai, Beijing and the Guangdong region. On the passenger side, a 15% increase is expected during 2005 and over 20% on the cargo side (CAAC, 2005-01-14).

China National Aviation Holding Company was formed in 2002 and included the civil aviation sector, with Air China as the main body. Air China International Corporation in 1988 became the first operator of civil aviation in China to be organized as a company, and was reorganized into Air China Limited in 2004. Being listed in Hong Kong Air China has set in movement an international public offering (IPO) that was initially for USD 500 millions. However, as a result of strong interest, the IPO has been increased to USD 1 bn and has been presented to investors in London. The IPO includes a near 10% takeover of Air China by the Hong Kong, based airline Cathay Pacific, with the entire company being valued at USD 3.7 bn (CW, 2004-11-24).

China's first private airlines, Okay Airways Co., could be ready to fly at the beginning of 2005, with two more, United Eagle Airlines and the Air Spring, being said to be just behind in the process of obtaining approval from the CAAC. All companies, based in Beijing, Sichuan and Shanghai, respectively, are expected to use rented aircrafts in their start-ups. When, or if, they get off the ground it will be the first time that China will see a fully private competition on domestic lines (CW, 2004-10-17).

China is not only a very big passengers, market, but is also expected to be a market growing by several percent faster than the world average. Consequently, it has been estimated that there will be a need to acquire about 2 400 new jet airplanes over the next 20 years. Chinese airlines are, by 2010, expected to fly approximately 2 800 passenger and cargo planes (CD, 2004-09-03). Chinese

airlines are consequently introducing new aircrafts at a grand scale to increase efficiency, and to attract passengers. China Southern Airlines Northern Company (CNASC) can be seen as an example having ordered, by way of a leasing deal, 23 new Airbus A320. This is in addition to the 14 Airbus that are already operated in the fleet of the Shenyang-based carrier. CNASC is a subsidiary of China Southern Airlines (CSA), based in Guangzhou, which over the last decades has been the largest airline in China. In addition to about 260 domestic destinations, CSA also fly to some 90 overseas destinations (China Southern and Airbus, 2004-09-09). China Eastern, based in Shanghai, is also operating about 60 Airbus planes, and has placed orders for another 20. In all, there are currently 230 aircrafts from Airbus in use in China, up from 29 in 1995, with an additional 36 being ordered during 2003. As for Boeing aircrafts, there are about 400 in use with an additional 30 on order. Around the turn of 2004 a boom in Chinese aircraft orders added five of the new large A380 Airbuses, 20 A330-200 from Airbus and 60 of the new mid-range Boeing 7E7. China National Aviation Holding, signed the contracts at official prices worth over USD 12 bn, and will later distribute the planes among the national airlines (CD, 2005-01-28). The internationalization of the aircraft fleet has resulted in an increasing shortage of pilots. All Chinese airlines already have a number of foreign pilots, while Shenzhen Airlines has been the first airline that, on a large scale, has focused on hiring foreign pilots, with already near 60 Brazilian pilots in its staff (Shenzhenair, 2004-09-08).

Not only has the Chinese aviation market seen a large influx of foreign made aircrafts, it has also seen investments in the manufacturing of aircraft parts. The Chinese aviation industry has been organized in two major aircraft manufacturers: China Aviation Industry Corporation I (AVIC I) and China Aviation Industry Corporation II (AVIC II). The two have no larger planes in production, with AVIC I developing an ERJ145 regional jet while AVIC II has began assembling ARJ21 family jets in a joint venture Brazilian producer Embraer at its Harbin facility (CD, 2004-09-03). Exports from the aviation industry has so far been limited, and the export order to Xi'an Aircraft Company for 20 of its 60 passenger MA60 aircrafts to undisclosed buyers could be a major breakthrough in this field (CATIC, 2004-12-20). In the production of the new Airbus 350, the AVIC I company has been included as producer of up to 5% of components, i.e. wing parts, when the manufacturing is about to start in late 2005 (CD, 2004-12-17).

China has collected a fee since 1992 for airport construction, maintenance and to upgrade the airports; 90 Yuan for international flights, CNY 50 for domestic flights and CNY 10 for branch flight routes. This was previously paid separately by passengers, but has since the summer of 2004 been included in the ticket price

(China Avia, 2004-09-07). As a result of these funds many of the larger airports have been given considerable face-lifts and have increased both their technical and passenger-handling capacity.

Despite the increase in passenger volume, China has only seen one major construction effort in this field: the Guangzhou Baiyun International Airport. After four years of construction work the new airport opened in mid-August 2004. It will become one of China's three largest airports, being located in the middle of the Pearl River Delta, just outside Guangzhou. The old city airport was the largest in China in 2003, handling over 15 million passengers and 550 000 tons of cargo, while the new airport has been designed to handle up to 25 million passengers and 1 million tons of cargo by 2010. Terminals, and the two full-size runways, have all been designed for the requirements of future 500 passenger aircrafts. The new airport not only has a rail link to the city, but is also directly connected to two passing highways, and in line with the new Chinese transportation pattern, it features a passenger carpark for over 5 000 vehicles (China Southern, 2004-09-08).

4.5. Other

4.5.1. Natural resources

As China is one of the world's largest countries, the total quantity of resources is relatively big with a fairly complete variety of minerals. Both the quantity and the quality is very high for tungsten, tin, rare earths minerals, molybdenum, antimony, talc, magnetite and graphite, while in the case of e.g. iron, manganese, aluminum, copper, and phosphorus there is also an abundance, although much of this is low-grade ores. China is also a large exporter of minerals, e.g. lead, zinc, tungsten, tin, antimony, rare earth metals, at the same time as large quantities of iron ore, manganese ore, fine copper ore and potash fertilizer are being imported. It is estimated that there are about 140 000 non-state-owned mining enterprises which are mostly very small and inefficient. About 400 of these mines have been supported by FDIs, with about half of these investors from Hong Kong, Macao and Taiwan and the other half from the far abroad.

Over 400 promising potential production sites were indicated when the results of a five-year national mineral survey were presented in 2004. These could serve as a foundation to somewhat relieve the country's hunger for different kinds of minerals. Most important are new copper findings that have been reported to hold reserves of more than 12 mt in the Xinjiang Uygur Autonomous Region, Yunnan Province and in Tibet¹⁶⁵. Reserves could be extensive enough to

dampened negative prognoses, but more detailed information from further testing is needed to set the specific reserves volumes. Statistics shows that only about a fifth of China's rich solid mineral resources are actually being developed.

Also a number of less frequently discussed minerals are mined or produced in very large quantities, being considerable transport generators as well as serving as inputs in other products. Such examples are the production of copper that in 2002 stood at 1.4 mt (with 1.7 mt of expected output 2005), 2.9 mt of aluminum (3.5), 1.1 mt of lead (900 000) and 1.1 mt of zinc (1.7). In 2005, the volume of copper in concentrate is expected to be 500 000 tons while the production of aluminum in concentrate should reach 6 mt. Also in 2003 231 mt of iron ore were mined, 23 mt of phosphorus ore as well as another 10 non-ferrous metals of non-refined quantities had a production above 10 mt for the year. Two other products are also produced in large quantities, phosphorus, that has a production in the range of 30 mt while the production of ferrous sulphide is about 15 mt (MOFE, 2004-10-10) ¹⁶⁶.

4.5.2. Iron and steel

Despite the fact that China shares much of its ideological history with the former Soviet Union steel making was never given anything near an as strong symbolic meaning. Crude steel production has instead slowly but steadily been on the increase. As recently as in the late 1990's there was a serious overcapacity problem of steel production in both China and abroad, but dramatic changes and a strong recovery in the world market have occurred since. Demand from China that consumed 36% of the world's steel during 2003, has been the most dramatic (Metal Bulletin, 2004-08-26). China's steel industry currently plays a very important role in the nation, providing much needed steel as one of the basic raw material in the economic expansion. The sector has progressed rapidly since the 1980s, with steel output passing 100 mt as recently as during 1996, giving China the rank as the largest producer in the world, and having doubled that during 2003. Since 1974, the production increase has practically remained unbroken, with the increase from 2000 to 2003 alone corresponding to nearly the total production of Japan, the world's second largest producer. In 2004, China produced a volume that corresponds to more than twice the Japanese volume and near three times the US volume; the world's second and third largest producers. Despite this enormous increase, China has shifted from a production volume more than 20 mty above consumption in 2001 to what was a slight deficit for 2004. Chinese steel supply is, and will for the near future remain, below demand as a result of the country's strong economic growth and a

continued construction boom and a general increasing demand for steel (Chinaesteel, 2004-03-02). Average production costs for basic steel products in China are estimated to be at the lower end of the scale among major producer countries, but still above Korea by some 5%, but 20% below that of Japan (combined from IISI and WSD, various dates).

When China entered into the WTO, domestic steel enterprises were placed at a disadvantage as wide-ranging promises were made regarding tariffs, non-tariff barriers and trade rights. Since 1994, China has not had any import quotas and licenses for steel products, and only a limited import registration system. Therefore, before entering the WTO, China's tariff rate for steel products almost met WTO requirements and saw relatively few changes. The WTO entry, as a result of this, has had a relatively limited impact on most steel products, but the sharp rise in imports still has seriously challenged the industry and the national trade policy. It is in the segments of high value-added products and for special-steel products where imports have had a substantial impact on the steel industry. Segments where the China's government neither had time nor the resources to take appropriate measures to maximize the benefits and minimize the problems from the full opening-up to trade.

However, China still lags far behind the world's leading steel nations in terms of technology and equipment, product variety and quality, and by all means, in labor productivity. As much of the production comes from smaller smelters, the difference in both production costs and productivity inside the Chinese market can be expected to be much larger than in other major producer's nations. With strong domestic demand, there has been little incentive for domestic producers to diversify into more advanced product niches, which is probably needed to maintain their long-term competitiveness, rather than depending on a continued high demand. Making the best out of the available domestic and foreign resources will be the long-term strategy of the Chinese metallurgical industry. China must combine inland raw material resources for the domestic industry located far from the coast and make use of foreign suppliers for industry located at suitable locations for import, using domestic resources only as a compliment. In recent years, and for the future, domestic production cannot fulfill the needs for raw materials such as iron ore and coke, which restrain the domestic industry's output capacity. Despite this, China holds a domestic iron ore resources of near 40 bn ton, over 97% of this is ores with an average mineral content of 30 - 35%. Compared to a typical open cast mine in e.g. Brazil or Australia that often mine findings with some 55 - 75% ore content. In 2002, the production volume of domestic iron ore reached about 190 mt, while imports amounted to just under 70 mt. In 2003, production of iron ore reached 231 mt with imports for the year adding another 148 mt. Chinese imports of raw

material have increased dramatically in later years and the long-term resolution has been attempted to sign long-term iron ore deals. As the iron ore market has relatively few suppliers controlling a large part of supplies, this has not been easy for the mostly small Chinese consumers. The country's largest producer, Baosteel, has managed to buy into one of the world's largest producers, Rio Tinto's, Australian mines, where the USD 65 million will be used to initiate production (CBW, 2004-04-27). Buying into mines and create joint ventures with major suppliers from Brazil, Australia and its new big supplier India, and securing future supplies are expensive ventures that can only be financed by the biggest steel producers. This will place many of the smaller domestic producers in an increasingly troublesome situation in the near future. China still imports vast quantities, with Australia supplying nearly 40% of the total, Brazil with 26% and India with 22. The size of the country also contributes to a pattern where both the import and export remains considerable in the same categories as overland distances from raw material supplies to customers, can in some cases make import the favored alternative.

Chinese steel production reached 241 mt during 2003, up by 24% over 2002. During the same year an additional 37 mt was imported, up by 52%, predominantly in the higher value quality categories, setting local production to about 85% of total consumption. China imported 24 mt of steel in the first 9 months of 2004, down by 15%, while exports jumped by near 70% to near 9 mt (Chinaesteel, 2004-12-12). September was also a special month for the steel industry as the export exceeded imports for the first time, reaching just under 2 mt for the month. The development of international prices during the year has made it ever more profitable for Chinese producers to export their production. This could well be what the trade statistics are reflecting. As long as the current situation with a strong increase in demand continues, prices of steel products are not expected to drop dramatically. Production is expected to reach about 280 mt of steel during 2004 while consumption will probably reach beyond 280 mt. The steel industry has been showing clear signs of being "overheated", after excessive investments in the steel industry in later years, but so have the aluminum and cement industries. New investments in especially these three sectors have been examined with extra care from central authorities, but continued national growth has managed to somewhat ease the situation, at least for the time being (NDRC, 2004-09-12). The risk for a major overcapacity crisis as soon as demand would fade was a bit eminent as investments in the steel industry was up by near 90% during 2003. These investments were mainly used to upgrade production facilities to increase the share of higher value products. Investments in the steel sector have continued to grow, by over 50% year-on-year during H1 2004, but still only half of the 100% increase during H1 2003, to near USD 10 bn (CD, 2004-09-02). Parts of the industry are doing extremely well and the

combined sales for China's 66 major steel companies, during the first 7 months of 2004, came to USD 64 bn, with profits reaching USD 5 bn; up 60% and 75% respectively over 2003 (Chinaesteel, 2004-09-05). As prices for steel have risen practically uninterrupted since the beginning of 2003 the industry is currently harvesting record profits. However, prices in the steel sector seem to have rebounded somewhat in the latter part of 2004, and could be flattening out during 2005.

Baosteel is currently China's largest steel company, formed in 1998 by a merger of Baoshan Iron and Steel (Group) Corporation, Shanghai Metallurgical Holding Group Corporation and the Shanghai Meishan Group Co., Ltd. During 2004, it produced 21 mt of crude steel, with its 2010 plan indicating a 30-mty production (Baosteel, 2005-01-17). Despite its short history, it was classified during 2004 as among the very best companies in the world inside its line of business, with Baosteel being upgraded to third spot (WSD, 2004-06-24). The company also became the first Chinese company to be included on the Global 500 list ranking of the world's 500 biggest company by turnover, at number 372 (Fortune, 2004-07-12).

Chinese steelmaking is one of the big transport and import generators, with not only much iron ore, but also coal and coke needed in the process being delivered from both domestic and foreign suppliers. Steelmaking is also a process that is highly energy consuming, additionally older steel-making processes are severe generators of pollution and with the whole process being a large consumer of water. It is not fair to generalize the situation for the industry based on this, as China is such a large country. Especially so as some producers are considered by leading experts to be world-class in both size and operation, but with most producers being small using largely outdated equipment. At the same time, there are producers that source practically all their raw material from nearby domestic suppliers, while others do the opposite, but are instead likely to be located near the large consumers in coastal regions. That the industry will at some stage face major restructuring, when the current demand growth will fall off, is quite obvious. There will be no attempt here to predict how severely such a change will affect production volumes and how thorough such a restructuring period will reshape the industry in both China and other nearby nations; but it certainly will.

5. Korea

5.1. Introduction to Korea¹⁶⁷

Korea was one of the world's many underdeveloped countries by the middle of the 1960s, which largely depend on agriculture. Korea has been transformed into a modern industrialized country due to its export-oriented industrialization, within an as short period of time as three and a half decade. Assisted by its rapid growth, which averaged near 8% per annum during more than thirty years, its national GDP soared from only USD 2 bn in 1961 to USD 520 bn by 1996. At the same time, the per capita GNP jumped from USD 82 to USD 11 385 (BOK, 2004-03-17).

Based on this remarkable development, Korea emerged on the world stage as one of the front-runners of the four *Asian Tigers*. Korea was also adopted as a member of the OECD in 1996 as an important newly industrialized economy. This outstanding economic achievement was truly remarkable, considering the poor endowment of natural resources and the limited domestic market. For these reasons, the economic development strategy of Korea has been widely promoted as a possible model to use for other countries on their road to development.

However, structural weaknesses during the process of concentrated growth fractured abruptly toward the end of 1997, due to the transformation of the external economic environment. Consequently, the Korean economy experienced a currency crisis and faced severe internal difficulties. Soon the development changed for the better and already in the first years of the new millennium, Korea, along with practically all the Asian economies, had managed to largely cure the weaknesses that had led them into the currency crisis. Korea for its part, supported by loans from the IMF, had pressed ahead with thorough structural reforms of its economy.

On the listing of the world's economies by the World Bank for 2004, the Korean GDP is tenth in the world, slightly before countries like Mexico, India, and Australia ¹⁶⁸. In per capita terms the GDP for the same year reached USD 16 400. This figure placed Korea near 50 of the world's about 200 economies, behind e.g. Cyprus and Greece or about 65% of the per capita GDP of Singapore and just over half that of Hong Kong (MOCIE, 2005-01-31).

Approximately ten years ago, Korea looked like developing into one of the economically strongest Asian countries, while Japan seemed to have started to fall off, and appeared to be catching up with Japan. Japan was urged to learn

from Korea how to handle non-performing corporate loans in the banking sector during a financial crisis. The situation is more uncertain today as some analysts warn that the future of Korea could lead to a situation similar to that of Japan, and its stagflation in the 1990s, while others say that this is not at all the case (Morgan Stanley and Standard & Poor's, 2004-09-02 & 2004-07-30). The negative perspective, issuing warnings about a possible long-term slump, is increasing finding support, and most importantly so from the head of the Bank of Korea in official speeches (CI, 2004-07-24). Korea, in 2004, finds itself in a new post-industrialization situation with relatively high wages, low domestic demand, and lower yields on investments. It can neither profit from latecomer advantages in its current situation, nor can it start to protect the domestic market behind trade barrier.

Korea has seen more political conflicts during the last few years, despite the economic comeback from the 1997 crises. From the time of taking office in late February 2003, the newly elected President Roh Moo-hyun's administration stated that they would attend problem areas of the economy. But the view on which areas that are problem areas and what measures to apply are far from shared by all Koreans. Policies that tackle issues like social reform and wealth distribution, could well be very important indeed for the long term development in the country but the shift in focus has unsettled the business community. Opponents say that the presidential administration set out that it would not to use short-term policies to support the economy. However, by the end of 2004, the economy had seen about 20 different stimulation measures (CI, 2004-10-08).

Opposition mounted early on in the Roh presidential term, but after a long and turbulent process, the president, in the end of March 2004, faced impeachment from the parliament. That was after only 13 months in office, out of his five-year term. This came about after a parliament vote could finally take place, followed by near riot looking scenes in the parliament. This vote put the president out of office for nine weeks. However, on May 14, the president could return to his position after the Constitutional Court had reinstated him, by overturning parliament's decision to impeach him (Reuters and CD, 2004-05-14). The court did not see Presidents Roh's violations of the election law, when expressing support for one of the political parties as grave, neither so with his call for a national referendum in support for his policies. The scheduled parliamentary elections were held during the weeks the president was out of office, resulting in a new parliamentary majority supportive of the president. Although the majority for the ruling Uri Party is slim, it holds 151 seats out of the 299 in the single-chamber parliament. The prospects of having a majority in parliament, and a supportive president, looked sure to allow for a strong showing of the party during 2004. Instead, reality has been grim and stubborn opposition both

inside and outside the party has resulted in fewer proposals that have moved forward in the parliament than expected. As a consequence, the entire central committee of the party resigned after much criticism in the first days of 2005 (KT, 2005-01-10).

Under the term of Roh, the largest business groups have been set under pressure to increase transparency, to reduce cross-unit transactions and family control. The market is generally expecting, or fearing, tougher measures from the administration, which has somewhat dampened the business sentiments. One such social reform is the highly controversial issue of the enforcement of the proposed five-day working week that should be gradually introduced in the near future. Another such government decision was to bailout the nearly bankrupt credit card company, LG Card in 2003, against market principles. The government should let the market decide the fate of a defaulting credit card firm, and ask them to pay back debts in the same way as militant workers have been forced to pay for illegal strikes. The critical fractions have argued that the government has also promoted a national vision of making Korea a regional business hub in Northeast Asia, without a detailed action plan how this should be achieved. Worse yet, the repeated use of the word “*hub*” has come to irritate its neighboring countries, such as Japan and China, as both have difficulties understand both how and why Korea should fill this position.

Another goal that has been set out for the Korean economy was to reach a GDP level of USD 20 000/capita. Prior to the 1997 crises, this looked possible to reach in perspective, but for which prospects has faded since. One way to achieve such a goal would be the appreciation of the Won that has started to happen during 2004 and will lift the USD measured GDP. The drawback of such a development is that it would hurt the competitiveness of the Korean export, but the government sees the USD 20 000 mark as achievable by 2008 (MOCIE, 2005-01-31). Korea's current uneven performance, with low consumption and investments while maintaining high exports is partly a result of economic uncertainty. Confusion over economic orientation and frequent market interventions has been cited as some of the reasons for the economic policy failures in recent years.

5.1.1. The Korean Economy

After the deep crises in 1997 – 1998, the Korean economy recovered fast in 2002, when GDP grew by 6.3%. The turnaround can be explained by strong exports and increased government spendings (MOCIE, 2004-01-17). Despite the positive trend during 2002, 2003 also became a turbulent year as growth fell off and into

the negative in the beginning of the year, but again gained momentum later in the year to reach a GDP growth for the full year of 3%. The export performance during 2003 was positive and compensated enough for the depressed domestic demand and low corporate investments, to lead the GDP growth¹⁶⁹. The problem for the economy has, for some year, been to uphold consumer spendings that increased by near 8 % during 2002, and then increased by only 1.4% during 2003. In the same way, the fixed capital investment by the corporate sector have grown by near 7% during 2002, but has since fallen back to only 3.6 % in 2003, and has continued to decline during 2004 to 2.5% for the first six months of the year (BOK, 2004-08-22). Measured in economic weight, the dominating sector in the economy is the slowly increasing service sector that generates 57% of GDP, while the slowly declining manufacturing sector generates 27%, construction about 12%, and agriculture the remaining 4% (BOK, 2004-10-12).

The Korean GDP reached USD 667 bn during 2004, in a year when Korea sets a new export record reaching USD 254 bn and when imports came to about USD 224 bn. This resulted in a record trade surplus of USD 30 bn, three times of what was expected in the government's budget for 2004 (MOCIE, 2005-01-31). Over the last year, Korea has also been badly affected by falling prices for its major export products, largely caused by increased competition. At the same time, import prices have gone up, prices of energy has also gone up. It has been estimated by the Korean International Trade Association that every USD 5 in increased oil price over USD 30/bbl hurts the Korean economy by a lowered GDP of 0.9% and a USD 5 bn reduction in exports (KITA, 2004-05-10).

In 2005, the new state budget foresees a growth rate of GDP of 5% and inflation to remain around 3% for the year. The state also intends to raise its incomes by 7%, largely by increased taxes that will reach a per capita level of 3.4 million, but with the relation of tax to GDP to remain at 19.7% (MOFE, 2004-09-23). Two months after the 2005 budget was presented, and after the economy has shown clear signs of stagnation, the government launched the "*Korean New Deal*". This will take full effect from the second half of 2005 and is expected to increase growth by 1% by initiating new projects valued at around 10 trillion. It will draw on the resources not only from the National-, Private- as well as Civil Servants Pension Funds, but also major state corporations like the electric power utility to finance investments in social infrastructure (MOFE, 2004-10-07). Critics say that the "*deal*" has no concrete plan for the financing and that it could make funds increase their deficits. Independent but company- funded researchers warn that the Korean economy could come to see a short-lived recovery during the beginning of 2005, to be followed by a longer decline. Worse, it could lead it into a situation where the economy could become stagnant if not backed up by increased employment and increasing real incomes (Samsung ERI, 2005-01-31).

The insecurities in the economy are again the insecure development of energy prices, possible appreciation of the Won and the low consumer confidence. Other institutions have adjusted their opinion about the Korean economic future during the second half of 2004, with the IMF having downgraded its prospects for GDP growth for 2004 from 5.5% to 4.6%. As for 2005, the IMF, the World Bank and the Asian Development Bank have lowered their estimations from 5.3% to 4%, 5.3% to 4.4% and from 5.2% to 3.6%, respectively (IMF, World Bank and ADB, 2004-09-30; -10-08; -09-29). Citibank in Korea sets out much lower expectations, predicting growth for 2005 at a level well under half that of the government, 2% instead of 5%, as the economy is unlikely to improve significantly during the year (CI, 2004-11-24). At the same time, there is a danger for increased government debt if consumption is assisted by generous state spendings. The probability for this increases as the economy during Q3 of 2004 showed a growth of just 4.6% and with expectations of a continued downward trend for the rest of the year and on into 2005 (BOK, 2004-11-14). To make the economy grow by 5%, as suggested by the government, is seen as futile by its critique, as Korea should learn from the Japanese experience where stimulation led to little more than an increasing deficit. A high economic growth rate requires an optimal use of the labor force and capital, but without increasing inflation. In higher income countries with a GDP over USD 30 000 per capita, growth generally remains below 3%, for countries in the interval above USD 20 000 at 4%, while in countries with incomes in the range of USD 10 000 or under can maintain a 5% or higher growth (KDI, 2004-09-14).

The above-mentioned problems are destabilizing the foreign rating of the Korean economy and contribute to the volatility of stock values, thus risking a large withdrawal of foreign capital and increasing the cost of foreign loans. The tense relations on the labor market, and its relation with the US where a strained relation is seen to increase financing costs, increases the insecurity (KIEP, 2004-07-07). US investors are sensitive to analysis presented from their own government, which makes political relations with the US extra important. For a fresh take-off for the country, basic political stability must first be achieved, offering a clear vision for unification and a clear idea of a lasting diplomacy not only among its most important partner, the United States, but also with its two big neighbours, Japan and China. The need to support growth, create generally market-friendly policies and to improve relations on the labor market will need strong domestic political support, but the real existence of this support is seen as insecure (Morgan Stanley, 2004-07-17). The Roh government started off with changing the political and social landscape, but realities have forced in place a number of stimulation packages. It has been controversial inside the government, which measures to take, and during just over two years, Korea has seen three ministers of Economy resign from the post. The political agenda has

also run into problems as the leadership of the ruling Uri Party resigned in mid January 2005 due to its failure to move forward on its political reform agenda. In line with the controversial political agenda, an unprecedented initiative by the Korean Economic Association (KEA - an association of university professors) 400 professors of economy and business leaders concluded in a public statement that *“the economic policy of the Roh administration has been a failure, not only in regard to implementing reform but also in promoting stability”*¹⁷⁰.

The sentiment of the general public, small companies and large corporations for the economic future has become increasingly negative having reached a 43-month low by August of 2004 (NSO, 2004-08-05). The index for expectations for six months ahead in living standards and consumption stood at 89.6 in July 2004, which was the lowest since December 2000, with all income brackets of the population being negative. Still, the business confidence of manufacturing companies for the economic future has become increasingly negative, reaching a 46-month low by December of 2004 (BOK, 2005-01-04). At the same time the Business Conditions Survey stood at a very pessimistic 86.4, with service-related businesses being more negative than manufacturing (FKI, 2004-08-06)¹⁷¹. Figures that are well in line with the Bank of Korea index, published one month earlier, that points to a falling increase rate in exports for various of the most important items and generally growing pessimism for the future (BOK, 2004-07-16). The situation for many small- and medium-sized companies is problematic with struggling home demand at the same time as the large export-oriented companies are doing very well. Exporters are doing well at the same time as the global economy, while domestic consumption is holding back the economy from showing strong growth. Companies have, over the last two years, been importing more machinery from abroad, while buying less local products. Another important tendency is the declining export of consumer goods at the same time as imports in this sector continues to increase and has practically done so monthly for over a year. It will be difficult for domestic consumption to revive as long as imports continue to increase, despite strong export (BOK, various dates). By the end of the year the Bank of Korea indicated that consumption could have passed its *“rock-bottom”* and should lead to a recovery (BOK, 2005-01-20). By the end of 2004, China accounted for 45% of Korea’s outbound FDI, and 40% of Korean companies with plans of expansion abroad considered China. This rapidly increasing focus on China could become dangerous for Korea and should be handled cautiously not to become too dependent (KIEP, 2004-04-29). Although the manufacturing industry is most positive about the future, or least negative, its productivity level in 2004 stood at 60% of that of Singapore and Hong Kong. The low figure was due to the lack of technology, breakthroughs and sluggish investment in research and development (BOK, 2004-08-12). According to the same study, Korea’s

productivity, using the same amounts of capital and labor in manufacturing, would reach 50% of that of the United States and 66% of Japan. A leading annual international economic competitiveness ranking conducted in Switzerland placed South Korea at 35th among the 60 economies surveyed (IMD, 2004-05-04). The problems that are highlighted are the often-strained labor-management relations, difficulties in attracting FDIs and problems originating from government bureaucracy. In the classification among the world's 30 biggest economies Korea is placed as 15th, as the previous year. A number of its closest competitors are placed well ahead of Korea, like Taiwan (4th), Malaysia (7th), Japan (9th) and China (10th).

This could indicate that the Korean economy is approaching a non-convergence trap situation, and to break this tendency, it might be forced to invest further in R&D to come up with more innovative technologies¹⁷². In Korea, it has been the companies that have funded most of the research and the state's contribution in the R&D sector in 2002 came to only 26%. Companies investing in R&D in Korea seem to focus on memory semiconductors, as in all other sectors investments are below the average of the other G7 countries. The ratio of overall R&D spendings to GDP in 2000 stood at 1.43%, just over half that of the G7 average of 2.63%, with the same proportion seen in electronics and telecommunication where R&D investments stood at 3.7% compared to the G7 average of 8.7%. With 60% of Korean investments in manufacturing devoted to electronics and telecommunication, being far above the 20% average for the G7, the focus could be set dangerously narrow for the future (BOK, 2004-09-22). It could well be so that the outbound movement of manufacturing and investments do hurt the relatively small Korean economy, at the same time as the domestic market is becoming increasingly open for competition.

In an attempt to lift the domestic spendings on R&D, the government has increased support for research connected to foreign companies using high-level domestic staff from the end of 2004. In order to attract such companies, assistance will be given to these companies covering up to 80% employment costs for foreign staff coming to Korea (KT, 2004-05-20). The Government has also approved stem cell research for the possible cloning of a human embryo, which has been a highly debated subject, typically postponed by reluctant governments in other countries (DowJones, 2005-01-12). The Ministry of Environment has also been set to sponsor research for "*future technologies*" and will invest 130 bn in technologies to reduce the emission level from cars and in the processing of wastewater up until 2010. For car exhausts, the goal is set to surpass the European Euro 4 standard by at least 30%, which is to be introduced in 2005. It is also expecting wastewater treatment research to reach a level where water quality is good enough for swimming (NIER, 2004-05-30). If what has

been mentioned are the positive and offensive initiatives in this field, then the new regulation demanding advance approval from the government for the transfers and sale abroad of advanced technology, is the defensive ones. Especially so as informers reporting violations will be rewarded by up to USD 90 000 (CI, 2004-09-21).

Investments

Since the financial crisis in 1997, policies have focused on attracting FDIs and have restrained the outflow of domestic assets. FDIs in Korea peaked at slightly over USD 15 bn for both 1999 and 2000, but have since dropped during three consecutive years to just USD 6.5 bn for 2003. During 2004, FDIs nearly doubled over the previous year to USD 12.8 bn, with USD 11 bn expected during 2005 (MOCIE, 2005-01-05). During the 1999 – 2003 period, the origin of investments has been volatile, with the US investing three times the EU level in 2002, but with the EU investing more than double the US in 2003, USD 3 bn and USD 1.2 bn respectively (MOCIE, 2004-02-03). Of total FDIs made from 1962 to 2003, all European countries were found to have invested 0.1% more than the US. As for the accumulated figure, the EU and US investment total, USD 27 bn for each, slightly more than double that of the number three investor, Japan. European investments have continuously been dominated by manufacturing, while US investments has, in later years, shifted towards real estate and the service sector. Generally, FDIs have been used to buying into existing companies, with little new manufacturing being the result. European investors regard the Korean skilled manpower highly, its technological level, its well-placed geographical location and developed infrastructure system. Europeans also call for stable labor relations and more consistent government policies (AsiaEuro, 2004-08-10).

The largest Korean companies, often called conglomerates (chaebol's), have long been tightly controlled and not very open. In later years, the transparency in Korean companies has improved, but companies have generally also improved their financial reporting while having clearly broadened their board representation (BOK, 2004-10-15). Still, the government has pushed legislation limiting voting rights to enforce the right to trace transactions at bank accounts by the Fair Trade Commission (FTC, 2004-12-03). The FTC has shown that to conduct control over a Chaebol needs very low levels of ownership as it is conducted through a network of companies. The average level of ownership by the president in the 36 biggest companies was 1.95%, but through stakes in affiliated companies, the real level of control was near 49% (FTA, 2004-12-29)¹⁷³. Voting rights for Chaebol-controlled financial institutions are to be maximized at 15%, instead of the current 30%, by 2008. The critique is strong from the most influential lobby organization, Federation of Korean Industries (FKI), voicing concerns that this will undermine investments and in the longer run, also job creation.

It is important to understand that the biggest companies in Korea are very big in relation to most other companies, with the Samsung Group as the number one¹⁷⁴. At the end of August 2004, the value of the four biggest groups, including subsidiaries, stood at USD 84 bn for Samsung, LG Group at USD 29 bn, SK Group at USD 23 bn and Hyundai Motors at USD 22 bn (KSE, 2004-09-19). In the top 10 Korean companies, foreign investors have been aggressively building up their ownership enough to account for nearly 50% of their market capitalization¹⁷⁵. This is up by over 10% in one year, and up near 70% from the below 30% share held in 1998, to make the Korean economy the most internationalized in Asia (SG, 2004-08-28). By mid-2004, foreign ownership in Korea's biggest company, Samsung Group, had reached 57%. In the same mode of economic openness, almost all Korean restrictions on foreign investments, both for direct investments and portfolio, have been lifted. Foreign management openness also prevails. Foreign ownership has also increased in the local real estate market by opening up to foreigners in 1998, where 17% of all higher than 10 floor-buildings in the country have foreign owners, investing another USD 1.7 bn during just H1 2004 (CI, 2004-10-13). In the stock exchange, foreign investors are the most active in buying and selling shares, but far from always taking the money out of the country. During 2004 the stock prices were very volatile indeed, having even had a minor "*Black Monday*", on May 9, when the Korean shares index fell by 5.7%. This was triggered not only by a combination of the announcement about the cooling of the economy in China, but also indications of rising oil prices and a possible interest hike in the US (KSE, 2004-07-05). Share prices during the second half of the year have seen both dramatic new highs and lows, to reach another relative high by the end of the year.

Still a general suspiciousness on foreign companies has probably led to excessive control and tax audits on foreign companies operating in Korea. The tax authority has set up a program to provide a fairer tax environment for foreign businesses in relation to domestic companies to compensate for this, but indirectly also to prove more attractive to foreign investors. The new tax act will also include less frequent investigations into "*transfer pricing*" and states that follow-ups will, in the future, be included in the regular corporate tax audits (NTS, 2004-02-09)¹⁷⁶. Authorities are getting gentler with the foreign companies because over 15% of production comes from foreign-owned companies (MOCIE, 2005-01-05). This group of companies generates 10% of employment and accounts for 13% of exports in the manufacturing sector.

The development of total outbound FDIs by Korean companies during 2003 showed a negative tendency, and fell by over 10% to USD 1.5 bn (MOFE, 2004-01-29). Investing in China has become increasingly popular and has already been established as the most important FDI destination for Korean companies. Their

relation has developed extraordinary well, as seen in the establishment of diplomatic relations as late as in 1992. This is already the second year that Korean companies have preferred to invest in China, with USD 2.5 bn during 2003, up by near 50% over the same FDIs in 2002. Many of the projects initiated in China by Korean companies are relatively small-scale, with a total of 22 208 by the end of 2003. In late 2004, the approval-free level for individuals who want to invest abroad for business purposes was increased to USD 1 million. As a result, the already large number of relatively small-scale investments will probably continue to increase in the future. Total Korean investments in China had, by the end of 2003, reached a value of USD 28 bn, with USD 16 bn (57%) of that sum having materialized (CD, 2004-02-07). The trend during 2004 was an increase in outbound Korean FDIs by about 40%, to over USD 2 bn, but still with a record 50% going to China, 15% to the US and 10% to Japan (MOFE, 2004-09-08 & 2005-01-25).

In theory, it is said that the more economic freedom a country has, the more investments and economic growth it is likely to record. In support of this, it can be pointed out that the countries with a high economic freedom rating are generally the world's richest nations, while the poorer countries are often being rated low. In relation to other countries Korea is just average in overall economic freedom, with a score of 7.1 out of the maximum 10 in 2001, but on a steady rise from an index of 5.4 in 1980¹⁷⁷. The Korean figure is the same as for Japan and Taiwan, but with a score of 8.6 it is Hong Kong topping the list, followed by Singapore at 8.5, with the New Zealand, the US, UK all scoring 8.4-8.3 (Fraser Institute, 2004-04-10).

Domestic investments

Not many years ago, the situation for domestic investors was quite different as the competition was then about funds for investments while in 2004, it is lenders who look for sound projects to invest in. Additionally, the rate of interest is low, down on the one-digit level. The interest rates investments should be booming, but it is becoming ever more evident that the relative direct control of the market that central banks used to have, by way of monetary policies and control of interest rates, appears to be fading. In late 2004, market rates in Korea are at the lowest ever and liquidity is high, but this still has not been sufficient to push up consumption or investments (BOK, 2004-10-15).

The government is well aware of these problems, and two major projects are the building of infrastructure and the facilities needed for two economic free zones in Busan and Jinhae. By 2020, an estimated USD 54 bn should have been invested in these two projects. According to the plans, the two new zones and their surrounding areas will generate USD 70 bn worth of production per year and create over 1.5 million new jobs. One of the largest projects is to increase the

container-handling capacity of the port in Busan that is being upgraded from already being one of the largest container ports in the world. The largest of all domestic state investment projects so far was the High Speed Railway between Seoul and Busan. The line started to operate in 2004 with near 20 trillion (USD 17 bn) having been spent over a 15-year construction period. The largest state project ever discussed was to relocate the nation's capital, Seoul, but this was finally scrapped in late 2004 due to lack of political support.

Though Korea and China now often work as two closely interlinked business partners, the balance looks likely to tip over in the favor of China in the near future. If Korea will not be able to increase its competitiveness, along with its growing dependence on China, then the nation may eventually, and slowly, turn into something like a Chinese satellite. The most important export destination for Korea, being more important than the US, is China. At the same time, the advantage when comparing the technological level, that used to be many years, has constantly been shrinking and is by mid-2004 estimated at the range of 20 months (Business Week, 2004-05-15). In a similar Korean study, the advance in ten technologies designated by the government as future growth engines, including digital TVs, intelligent robots, next-generation of semiconductors and mobile communications the advantage over China, was set at only 36 months (MOST, 2004-10-02). Both studies expect existing advantages to have evaporated five years from now, if current trends remain more or less stable. Considerable investments into Korean R&D will be needed to avoid this and to somewhat maintain the current advantage. Seen as a kind of development outlined here, it is recommended that the internal political problems in Korea should be addressed, for the sake of the future position of the nation.

In the private sector, it is again the largest companies that are the most important. Samsung, the country' largest company, has stated that it will increase its domestic investments by 18% during 2004, reaching near USD 7 bn, and with another 20% for 2005 (Samsung, 2004-06-10 and 12-06). The LG Philips company, considered world leader in the TFT – LCD sector, started the construction of the world's largest TFT - LCD industry complex in Paju City in Korea in March 2004 that will manufacture the next and future generations of TFT - LCD products. The company already had 21% world market share during 2003, and a considerable part of the production volume from the new plant is scheduled for export. LG Philips plans to invest about USD 2.5 bn over a ten-year period, building another 170 hectare plant, and expects to create 25 000 jobs (LG Philips LDC, 2004-03-17)¹⁷⁸. However, competition is fierce and margins are small, as another company in the LG group has instead closed what was the world's largest microwave oven plant in 2003. Production here will move from Newcastle in the UK, to China to avoid yearly losses of USD 25 million (ic-

Newcastle, 2004-06-02). The reason given for the move is the low value of the ovens, on average around USD 50, and the high wages in the UK, over USD 10/hour, being more than five times the wages that will be paid to the workers at the new factory in China (CI, 2004-09-03). Korea was not an alternative for the company as wages in Korea are, in some sectors, already on par with both the US and the UK, despite the fact that Korean manufacturers are generally less productive.

Banking and monetary policies

Korea has undergone considerable financial reform since the 1997 crises, with a number of changes forced upon it by international institutions in exchange for restructuring loans. The reforms have been largely successful and resulted in a financial system that in 2004 is considered as considerably more stable than before, and as further supported by increased foreign ownership. Of the 33 banks that entered the crises, 19, and only 60% of the previous staff were left, three years after the crises (BOK, 2004-10-15).

Domestic savings are necessary for the long-term availability of investment resources, which have to be found outside of the country as a burden for the national finances. At the time of the financial crises in 1998, the savings ratio in relation to available income reached 23%. In the following years, it has continuously been falling, e.g., 16% in 1999, just over 10% in 2000, 6% in 2001, 1% in 2002, restored to 5% in 2003 and up again to 9% by mid 2004 (BOK, 2004-10-18). However Korean banks also hold bad loans and have not been able to entirely overcome this since the financial crises in 1997. By the end of 2004 the ratio had fallen by 25% during the year to a new low of 1.9%, from 13% in 1998. At the end of 2004, all the 19 banks met the target of holding less than 3% of non-performing loans (FSC, 2005-01-31). The banking sector in Korea has generally prospered not only during the economic slowdown as outstanding loans have increased sharply during 2004, generating increasing interest earnings, but also lowering the share of bad loans. For the first half of 2004 the banking sector reported its highest combined earning ever, surpassing profits for the same period in 2003 by nearly four times (Korean FSS, 2004-08-20). The difference between the interest given on deposits and loan interest rates at Kookmin Bank, the nation's largest lender, was about 4.4% in the first half of the year. The profitable market has attracted international attention and by the end of October 2004, foreign banks held near 22% of deposits, to be compared to just 4% after the crises in 1997 (FSC, 2005-01-09).

The inflow of capital remains record strong for Korea, despite the negative development of several economic indicators discussed above. The current-account surplus in 2003 came out a surplus of USD 12.4 bn, which was nearly

twice the 2002 surplus of USD 7 bn (BOK, 2004-02-26). The Bank of Korea in 2004 had predicted a current-account balance surplus of USD 6 bn and an increase in consumer prices by 2.9%. Already by the end of Q1, adjustments had to be done as the current account had already surpassed the predicted level for the full year. The consumer prices' prediction also had to be adjusted upwards as it stood over 5% by the end of H1 (BOK, 2004-09-10). For 2004, the current account surplus came to just under USD 28 bn, again more than double the previous year, but still well behind the record of USD 40 bn in 1998 (BOK, 2005-01-28). The prediction from the government for trade during 2004 set a target for a trade surplus during the year of USD 10 bn, but was already surpassed after five months. Instead, predictions for the full year were doubled by mid-May (MOCIE, 2004-05-25)¹⁷⁹. Neither was this somewhere near the correct figure as the full year resulted in a surplus of a USD 30 bn, in a year of a 31% export growth; second in the Korean history only to the 36% recorded in 1987 (ibid., 2005-01-02). As a result of the positive development and the government's purchase of dollars to stabilize the foreign exchange rate, The Bank of Korea's foreign exchange holdings reached USD 160 bn by the end of H1 2004. South Korea at the time, held the world's fourth largest forex reserve, only behind Japan (USD 820bn), China (USD 440) and Taiwan (USD 230) (BOJ, 2004-07-20).

The Korean Won has been on a slight rise in relation to the US dollar during 2004, supported by its large current-account surplus. By April, it had reached above 1 140, its highest value in more than three years, and by October it reached 1 129, to break through the 1 100 psychological barrier on November 15 to reach 1 092; strongest since November 1997 (Seoul Times, 2004-11-15). The value of the Korean Won has previously remained in the band of 1 160 – 1 175 to the USD, although it has practically been floating freely (KT, 2004-10-25). According to the government policy, it should not intervene in the currency market *“but it must take steps to correct market failures”* (BOK, 2004-05-12). Indirectly any intervention by the government in the currency market becomes a way of supporting (subsidizing) the nation's export industry. After the Won had appreciated by near 10% in just one month, a few percentage points more than the Euro and the Yen, the Bank of Korea started to increase Won circulation and to buy Dollars to defend the exchange rate (BOK, 2004-11-23). Total appreciation of the Won against the US dollar during 2004 came to 13%; starting the year at 1192 and closing at 1035. The Won is expected to continue its slide in 2005 and could stabilize near the 1000 Won to the US-dollar mark (ibid., 2005-01-25 & KCIC, 2005-01-11).

Interventions are probably not only about the USD, but also to offset an increase for the Chinese Yuan. The government would not let the won appreciate too sharply as that is likely to lead to falling profits and job-cuts in domestic

companies. The sudden fall in the value of the USD is expected to deal a sharp blow to Korean exporters, on which the nation's economy largely depends for its recovery. Much also depends on other countries, and especially Korean trade rivals, if they intervene to support their currencies, then it could become unwise to allow the won to float *"too freely"*. As long as the Chinese Yuan is pegged to the dollar, some smaller currencies could become subject to speculation, and among them the Korean Won. The government's foreign exchange policy has contributed to price increases, thus it should accept a drop in the foreign exchange rate to ease the price burden (Samsung ERI, 2004-08-03). From a Korean perspective China got a mixed reaction during the G7 meeting in October 2004. This is a sign that China could be revaluating its fixed exchange rate of the Yuan to the US Dollar. Such a measure could indirectly raise the value of most Asian currencies and would have the strongest effects on export-dependent countries. As an immediate result, the stock prices for export dependent Korean companies fell by 10% on the day of the news (Kopsi, 2004-10-04). Foreign companies that are strongly export-dependent, including the biggest Korean businesses, will face increased difficulties on two of their most important markets through the continued slide of the dollar, and indirectly the Chinese Yuan, in relation to the Won. Additionally, other export contracts are often concluded in USD, and as a result, profits will be eroded when measured in Won. If the Won continues to get stronger, exports may falter, while the advantage of a stronger Won is that it makes imported goods cheaper and will indirectly dampen inflation. Although this is a medium-term effect it is also immediate, and the slow ongoing appreciation has held back inflation to around or below 5% during most of 2004 (FSO, 2004-08-30). Still, this has not helped to lift consumer spendings, that has instead been trailing, which is badly needed to make a struggling economy recover. In line with this, the Bank of Korea followed suit on the US Federal Reserves adjustment of the US interest rate by +0.25%, to lower the base interest rate by the same amount, -0.25%, to 3.25% (BOK, 2004-11-08).

The government's many initiatives must be paid for and Korea's national debt reached a record 166 trillion by the end of 2003 with an increasing amount of public funds of about 14 trillion, which could not be recovered. This corresponds to 23% of 2003 years GDP, at 721 trillion, and as a result, the Korean national debt for the first time exceeded 20% of GDP. Korean debt/capita also increased at the same rate to reach 3.4 million (MOFE, 2004-04-27). During 2004, the debt has continued its slow increase and at the end of August totaled USD 169 bn. The rise in the foreign reserves during the year proved been even more rapid, and already in September, it became bigger than the debt for the first time, and by the end of November it totaled USD 196 bn (Yonhap, 2004-09-08 & 2004-12-22). Since the BOK started to intervene in the currency market to offset the fall of

the dollar, the reserve grew by about 10% in one month. If that is a lasting phenomenon remains to be seen as the estimates for the debt points to a continued increase for several years to come and to be in the range of 300 trillions by 2008 (MOFE, 2004-10-10). These predictions have been based on a 5% GDP growth in coming years and a higher value of the USD; two basic assumptions that, only months later are developing differently.

A possible redenomination of the Won has long been discussed in Korea, and has been evaluated by the BOK as highly profitable. That would take off at least two or perhaps three zeros from the Won. The profit from such an undertaking has been set at 5 trillion (USD 2 bn), despite costs for new software, printing, and minting valued at 2.6 trillion. The positive side is savings from reduced time when counting, easier handling, less exchange of old bills and reduced controls at banks. The last point alone, over three years, would give savings of approximately the same level as the total minting cost (BOK, 2004-09-20).

Employment

From a Korean perspective, its workforce is one of the most productive and dedicated in the world, and its international companies are among the most profitable within their respective groups (KOTRA, 2004-06-10). Although such a state promotion agency statement appears somewhat contradictory to other facts presented above. The total working population in Korea stood at 22.7 million in 2004, with an average education of 11.7 years. The average worker at that time was just under 44 years old, working nearly 59 hours per week and had been for nine years with the same company (MOE, 2004-08-20). In the 30 biggest listed companies in 2004, the employees' average time working for the company was just over 11 years, having increased by nearly two years since 1999.

The large generation born in the 1960, now in their 40s, has already seen fierce competition at all stages of school and university and this has continued in the work market. As one of many signs of an aging population, the number of employed persons in their 40s was 6.2 million in May 2004, surpassing for the first time the number of people in their 30s. People born in the 1960s, standing at 8.8 million, are the biggest economically active group in Korea. At the same time, the number of workers in their 60s account for over 10% of the workforce, with the economically active in the 20s having fallen to under 20% (NSO, 2004-07-29)¹⁸⁰. The last two groups have passed these critical marks for the first time, and clearly indicate that there is an aging workforce that is carrying the economic burden in Korea. With an aging population, the functioning of the Korean retirement system, first introduced in 1961, comes into focus. The existing system has been covering no more than 40% of retirees, as job changes and joblessness from bankruptcy has so far meant that the person has lost his

benefits. Despite being a burden to companies, the system has not worked well. From 2006, there will be personal accounts that will assist in making it easier to change work and from 2008 the system will also cover, for the first time, companies with less than five employees (BOK, 2004-10-15).

In Korea, as elsewhere, increasing exports has a tendency to create ever fewer new jobs, indicating a “*jobless growth*” trend. Despite the registered increase in production during 2003, employment decreased, indicating a relatively new economic phenomenon: the negative elasticity of employment. Job creation in the Korean economy has fallen dramatically and stood at - 0.05% during 2003, compared to + 0.41% in 2002 and 0.5% in 2001 (BOK, 2004-05-26). The difference between elasticity in the service sector and in manufacturing is clear with +0.52% and -0.08% respectively for 2002, with +0.11 and -0.18 for 2003. These figures are supported statistically by that 1 billion in increased exports in 1990 led to 46 workers being hired, while the same increase in export volume in 2000 added only 16 new workers (MOFE, 2004-07-10). More capital-intensive products not only have contributed to this development, but also increasing imports of parts has reduced the share in the total value generated by domestic manual labor. It follows that a focus on increasing exports has largely failed to deliver as a major generator of employment. Employment generation is one of the most important issues on the government’s agenda, and to compensate for lost jobs, some 500 000 jobs per year needs to be created in Korea. As pointed out by the deputy Minister of Finance, Lee Hun-jai : “*To create 500 000 jobs, Korea’s economy needs to grow 5 percent annually, and to do so, corporate investment and establishment of new enterprises are essential*”(CI, 2004-05-05). The government believes that if only the growth is high enough, then the employment elasticity is expected to break away from the negative rule that was indicated above.

It might be so from the minister's point of view, but in times of severe price competition from industrializing countries that can offer lower wages, like China, Malaysia, Thailand and India, many basic manufacturing industries have relocated away from Korea. Aiming to reduce labor costs, many smaller- and medium-sized factories have moved abroad. It is more alarming that the number of larger factories that used to be the source of much employment, are decreasing rapidly in Korea. In December 2003, the 1617 large factories that employed more than 300 people down by 409 from the December 2001 total of 2026 (-20%) this is equivalent the closure of one factory every other day (KICC, 2004-03-26). Employment in manufacturing from 2001 to 2003 decreased by 62 000 to 4.2 million (-1%) (NSO, 2004-04-25). The difference in reduction between the two figures indicates a trend of mergers at remaining factories.

During the same period, another 150 000 jobs have been lost in larger manufacturing companies, but have to some extent been absorbed by smaller upstarts inside the same sector. There is not much that can be done to prevent firms from moving production abroad to cut costs and for reasons of structural adjustment. The big problem for the governments' side is that if this process occurs too quickly, then it will cause widespread employment insecurities and indirectly social problems. As shown above, the speed of the process with the employment effect received from all the new upstarts inside different sectors should be kept under control to give this time to happen. Few counter measures are available for a state, as long as wage reductions are not acceptable, which they would seldom be, apart from easing regulations and reducing other non-economic barriers, like employment issues. This is actually supported by statements from the biggest companies during 2004, when the car manufacturer KIA planned to add over 2 500 employees in its 13 overseas factories, up by 20%, while employing less than 1 000 in Korea. Not only KIA, but also other carmakers will hire considerably more overseas workers than domestically during the year, thus worsening the exodus of employment from Korea. Similar statements have been made by other large manufacturers, like Samsung, LG and Hyundai, that all will create about twice as many overseas jobs as they will do in Korea (KEF and KNSO; 2004-05-10)

What helped to keep South Korea's jobless rate relatively low during 2003 and 2004 was exporters' investments. Total registered unemployment stood at 3.5% at the end of H1 2004, still indicating that there are some 780 000 unemployed. Unemployment in the youth is about double the general level, at 7.3% in November (NSO, 2004-12-22). The age segment with the largest increase in unemployment during 2004 is in the +50 group where unemployment in the latter part of the year has been rising by some 30% per month over 2003. In the midst of serious levels of youth and "older age" unemployment, it is often among the mid-sized companies that unfilled positions can be found. Though the official number of open job positions in mid-size companies, in June 2004, stood at 140 000, it is estimated that up to 50% more jobs are available. That the two figures do not match is partly caused by the strong preference among college graduates for employment in large conglomerates. The same relates also to other unemployed as surveys have shown that unemployed practically never turned down a job offer from a large company, while over 70% had done so, at least once, from a smaller company. At the same time, as the unemployment rate remains high among younger workers, over 20% of all newly employed quit their jobs within a year, with over 65% of these are in their 20s (Joblink, 2004-08-27). Workers who quit are not satisfied with the pay, working environment and that the company generally falls short of expectations. Young employees also show an unprecedented desire to work abroad, as near 97% of respondents to a

survey said that they would like take up a position abroad, with the US, not surprisingly, as first choice for over 50% of the respondents (Korea Recruit, 2004-09-06). The work market is getting ever more difficult for the young generation as only 60%, lowest ever, of 2003 university graduates in Seoul had found work by September 2004 (CI, 2004-10-04). As a result of the continued stagnation of the economy, companies have become increasingly reluctant to hire new employees, leading to continuously increased job competition during 2004. In a survey of 180 major companies it is revealed that it has been electric and electronic companies that have taken on new staff during 2004, while companies in the local service sector have not employed them (CI, 2004-12-23). In another survey of 57 major companies, the number of applicants for announced positions had increased to 101 to 1 in September, up 35% on the same period 2003 and up 45% in 2002 (CI, 2004-11-22). Of the new jobs created, an increasing share is for irregular workers with little job security, i.e., part-time and on limited time contracts, the number is estimated to have reached 5.4 million, jumping by over 0.8 million in one year and near 2 million in four years (NSO, 2004-12-14). This group of employees could well be as large as over 8 millions, and has changed dramatically in the sense that these irregular jobholders used to be relatively unqualified, but in 2004 the share with an academic background had risen to just under 30%. Also the fact that the increasing share of irregular and part-time workers earn less than 50% of regular workers, contributes to the unfairness. This is the largest difference among the OSCE countries with the average in e.g. the EU being 70% (KT, 2004-08-23).

By mid-2004, just under 190 000 received financial unemployment support, which was just 5% less than during the crises in 1999 and nearly twice as many a one year before (Korean MOL, 2004-07-15). A person that has lost his job due to restructuring or business closure is normally entitled to 50% of previous salary for a period of between 90 to 240 days, depending on length of previous employment. The costs for the state to support this program are increasing dramatically in line with the increasing numbers of people enrolled.

In the summer of 2003, the Korean government legalized the status of 186 000 II legal immigrants, out of an estimated stock of 300 000 II legal workers. The remaining 124 000 were offered voluntary departure incentives at the same time as crackdowns were launched on companies using II legal workers and followed up by forced deportations. This system was much criticized, and especially so after a handful of immigrants, under the threat of forced deportation, committed suicide (Base21, 2004-05-25). The measures were aimed at reducing the numbers of II legal foreign workers in the country ahead of the August 2003 implementation of a new worker permit system. During 2004, the situation on the labor market has deteriorated, along with an increase in the number of II

legal workers. It had proved that a large number of the workers were given permits and remained in the country after that permits had expired, lifting the total well above the level at the time of the 2003 crackdown. A status quo of the current situation is encouraged because there are a large number of small- and medium-size companies that are eager to hire this kind of workers. Il legal workers currently do much of the “3D-work” in Korea (being Dirty, Difficult and Dangerous) that the local workforce is reluctant to do (Asian Migrants, 2004-05-05). This new legislation, put in place in August 2004, was intended to help smaller companies to find the kind of workers they need if they cannot find Korean nationals. The law is also intended to give foreign workers (holding a work permit) proper legal protection. Last year, bilateral agreements have been signed with the Philippines, Mongolia, Thailand, Vietnam, Indonesia and Sri Lanka, who’s nationals will be allowed to work legally in Korea, but all foreign workers must be registered by the authorities. Employers found to employ Il legal workers will be heavily fined and barred from the right to employ foreign workers (CI, 2004-08-17). The increased crime rate among Il legal immigrants, with the number of convicted having risen by near 100% in just one year, is at the same time eroding public support for their presence in the work market, and the country (KT, 2004-10-06). On the other hand also Korean’s overstay in other countries in even larger numbers, with their number being estimated to 350 000 (ibid.). Of the Koreans who work Il legally outside Korea, 180 000 of these are to be found in the US and about 50 000 in Japan.

A silent and slow restructuring of the Korean labor market has also been ongoing as more and more women work. However, it is not only the number of women that has increased, but also women who are also entering into fields that previously were practically reserved for men. The number of women studying technical subjects at universities and institutes has risen by over 25% from 2002 to 2003. At the same time, as several surveys have shown, up to 70% of female students do not see it as necessary to get married and that a marriage will discourage her chance to work and studies (CI, 2004-05-05). The former rules that used to ban married females from Korean universities have been lifted since 1998. Still today, there is a big difference between the number of females with higher education that are active in the labor market, 56% compared to the 91% of men with higher education. On average, 60% of working age women really works, which is lower than among neighbor countries, as the same percentage for China stood at 83% and Japan at 66% (Globewoman, 2004-05-27). The problems for female workers are still considerable as, e.g., the availability of public childcare is under 15% compared to the number of children under six. When women do find a job, the average wage level is at 62% of the average male level, to be compared to Sweden, Norway and Finland, where the same level in 2002 stood at over 80% (Korea Insight, 2004-10).

The Korean labor market has also been affected by the opportunities that the ongoing globalization has given companies. As a result Korean companies have also started to take advantage of low price-foreign labor outsourcing, made possible by way of improved communication technologies. Ethnic Korean labor is available in nearby China where, e.g., Internet-related work can be performed at about 25% of the costs in Korea. Although productivity is clearly lower, the huge margin of savings can often make up for this. In the Chinese Shenyang province, where a lot of ethnic Chinese Koreans live, this kind of establishment are being encouraged by the local authorities. Low-cost foreign language knowledge, e.g., in English is in the same way available to Korean companies in India or in the Philippines.

A low domestic consumption level has been blamed to hold back the economy, which is unexpected as a large share of the population saw their earnings fall during 2003. During the year, money earnings for the population fell for the first time in seven years, at the same time as the income gap in society widened. The bottom 10% earned 782 000 monthly, a fall of 6% in one year, while incomes for the top 10% earners increased 2% to 7 000 000 (NSO, 2004-02-15). Not only is the difference between rich and poor growing with the richest 20% earning nearly 8 times the poor, having increased with 0.5 from 2002, but also between urban and country dwellers (KNSO, 2004-06-10). Increasing income inequalities in the population will simultaneously reduce the likelihood of a recovery. Such inequality could be shown by the commonly used Gini coefficient, measuring economic equality in a society, has increased from 0.30 to 0.36 from 1996 and to 2000. In these terms Korea is badly positioned if compared to the OSCD group of countries, just behind the US and Mexico. It is expected that the executives at large companies earn the highest salaries with a 6.2 million average, almost four times the national average of 1.7 million (KT, 2004-08-23). Richest in Korea is the Hyundai chairman Chung Mong-koo, with shareholdings worth USD 1.2 bn, just ahead of the chairman of Samsung, Lee Kun-hee, controlling holdings with a value estimated at USD 1.1 bn (CI, 2004-12-07).

The share of the population living in poverty has, during the 1998 - 2003 period, increased to 11.5%, with another 5% living on incomes just above the domestic poverty line¹⁸¹ (KDI, 2004-06-09). To somewhat maintain living standards, many have obviously decided to live off debts as 32% of families in 2003 (4.6 million out of 14.3) consume on a level above disposable income. As a result, household loans in September 2004, for the first time ever, exceeded the volume of corporate loans from banks (CI, 2004-10-04). Especially the 20% with the lowest incomes, having a disposable income of on average 621 000 (USD 550), consume a value of near 1.1 million, i.e., 70% above incomes. Low interest rates and very generous credits have resulted in a flash back from 2003, in the form of defaults.

As a result, the number of credit defaulters had, by mid-2004 reached 3.7 millions, but still with less than 0.1% having applied for individual bankruptcy (CI, 2004-08-09). Despite the willingness of consumers to go into debt to maintain consumption, supermarket sales have fallen for over 22 straight months, which is several months longer than during the financial crises in 1998. At the same time, the average household debts are constantly growing, having reached an all time high of 30.4 million per household (USD 27 000) after Q3 2004. This figure has doubled since 2000 (BOK, 2004-12-05). It is estimated that 80% of the household debt is invested in real estate in the form of housing and apartments.

It is not surprising that the Consumer Sentiment index, measuring consumer confidence in economic conditions, has been falling during 2004. Logically, Koreans have been restricting domestic consumption, as they hold a negative view of the future, and in August, confidence fell in all age groups and in all income brackets, for the first time. The year has continued in the negative, when it comes to consumer confidence, and from a value of 94 in March, the figure had fallen to 87 in August 2004. This is the lowest value since 2000, with the inflation reaching 5% (NSO, 2004-09-09). In contrast, to all these negative tendencies, companies listed on the Korean stock exchange registered record net profits during the first six months of 2004 with combined net profits reaching near 27 trillion (USD 23 billion) (KSE, 2004-08-18).

Other related issues in brief

Tourism is one sector where Korea has a large and dramatically expanding deficit. Tourism abroad has seen cost increases, which include payments for foreign studies, reaching about USD 12 bn in 2003. During 2004, outbound tourism rose by 23%, with one in every five citizen going abroad; or 9.1 million (KNTO, 2004-05-02). Positive though is that during 2004, the number of visitors have turned upwards again, after a 12% fall during 2003, and could surpass even the numbers from the football World Cup 2002, when 5.4 million visitors were registered (ibid., 2004-11-21). Asian tourism is increasing the fastest. This is especially positive for the neighboring relations, with Japan where e.g. tourism is going up rapidly and has surpassed 40% of the total.

On the world corruption ranking, Korea finds itself behind most competitors as it ends up as number 47 in the world, with a position between South Africa and the Seyshelles Islands, with only China of the four just mentioned behind in the listing (Transparency, 2004-12-11). In the Korean Independent Commission Against Corruption, the state and community agencies the Ministry of Planning and Budget came out as the most “*unclean*” (KICAC, 2005-01-04). The largest problems can be found in the agencies issuing licenses, but the tendency of the yearly KICAC investigations is a general improvement in later.

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5.2. Trade

In 2004, WTO Trade Policies Review, released every four years in the case of Korea, voiced concerns on the increasing and worryingly high dependence on exports and external economic factors. The WTO argued for further economic reforms to compensate for this and continued restructuring to reduce the imbalance between consumption and exports (WTO, 2004-09-17).

Export

In 2003, the Korean terms of trade index deteriorated further and came to end the year at its lowest level since 1988, and continued its decline during H1 of 2004. According to the terms of trade index that stood at 138 in 1996, has since fallen uninterruptedly, as it stood at 95 in 2002, 89 in 2003 and reached 84 by the end of 2004 (BOK, 2004-08-24 & 2005-01-27)¹⁸². The reason behind the sharp change during the year was due to increasing global raw material and oil prices, products that constitute a large share of Korean imports, and falling prices for export products, especially for semiconductors. The current index series was introduced in 1988 with the index standing at 117, later to peak at 138 in 1995, but has since more or less shown a constant downward tendency¹⁸³.

In 2004, total export came in at USD 254 bn (+31%), having passed USD 100 million in 1964 and USD 100 bn for the first time in 1995, with 2004 imports valued at USD 225 bn (MOCIE, 2004-10-21). Already by mid June the 2004 trade surplus had reached USD 15 bn, surpassing the total for the full year in 2003 (MOCIE, 2004-07-04). The strong export was due to the international demand from several of Korea's biggest export markets like China, US, Japan and Hong Kong. This is especially true for Korea's most important export products: semiconductors, automobiles, computers, and mobile phones¹⁸⁴. The export growth of some important export categories, like semiconductors, reached 45% with exports for telecom equipment, computers, cars and ships seeing growth from 40 to 33%. Of all items it is PDP TV panels and mobile handsets that show the largest increases with near 100% for both. The destinations that grow the fastest are China with a 43% increase, the EU with a 40% increase and both Japan and the US with 25% over the previous year. The government had forecasted that overseas sales would rise by 12% in 2004, after having increased near 20% during 2003. Exports were expected to drive the economy to sustain Korea's economic growth, but both assumptions were proved wrong. For 2005 most forecasts have indicated that export growth for the year will stay on the one-digit level, while the official forecast is projecting exports to rise by 12% to USD 285 bn and imports to increase by 14% to USD 257 bn (MOCIE, 2005-01-05).

Korea had a USD 24 bn trade deficit with Japan during 2004 while earning a surplus of near USD 14 bn with China. For Korea, this indicates that the money earned in China is being spent in Japan, while Japan is spending the money it earns in Korea on imports from China. However, in this triangular drama, Japan is improving its trade balance the most, from having had a USD 20 bn deficit vis-à-vis the other two, in only three years the deficit has contracted to USD 1 bn. This improvement can be traced back to Japanese companies that earlier invested more in own factories in China. Korean companies, that entered China later, continued to trade with their mother companies and have been late in expanding their own facilities on the Chinese market.

Imports

On the import side, prices for raw materials and intermediate goods have risen sharply during the last few years and have reached their highest level since the crises in 1998. The import price index in September 2004 stood at 114, having increased by 16% in one year, with 100 as the base of the index from 2000 (BOK, 2004-10-15). This tendency is expected to transform into inflation as a 10% increase in import prices has been estimated to result in a near 2% increase in consumer prices and near 3% for producer prices. These price increases for raw and intermediary products will, sooner or later, result in rising consumer prices that are likely to put further strain on domestic consumption. During 2004, much of the 26% increase in imports, to a total of USD 225 bn, was due to higher raw material prices (MOCIE, 2005-01-05).

The sharply raising international prices of raw materials and energy and low domestic demand has contributed to low profits for domestic businesses and a focus on exports¹⁸⁵. In this respect, the Korean situation shows a number of similarities to the Chinese situation. Financial knowledge inside small- and medium-sized companies to handle price fluctuations of this kind is relatively limited, which has made the effects of the crises considerably worse. The situation had probably been less dramatic if companies had made better use of derivatives and other risk-hedging techniques (LG - ERI, 2004-05-10). The Korean government has, during 2004, taken a string of new measures to support domestic business and ensure the supply of raw materials to industry in light of soaring international prices.

In March 2004, import tariffs on imported raw materials were lowered as their share often weighed heavily in the production cost of typical small- and mid-sized Korean companies (MOCIE, 2004-02-08). The government has also started to release, e.g., electrolytic copper and nickel, from the national reserves and to provide 230 billion (USD 200 millions) in loans to small businesses. A decision was also taken to crack down on speculative stockpiling of raw materials, but no details were given on how this measure should be followed up. Few market

economists would have anything to argue against the fact that an actor who is willing to take the risk of speculation should be rewarded if successful; but also made to carry the burden if unsuccessful.

Trade with China

Total trade between Korea and China reached USD 57 bn during 2003, but after a 40% increase during 2004, the total reached USD 79 bn. This was enough for China to move up, with a USD 8 bn margin, to become, Korea's most important trade partner (MOCIE, 2005-01-05). Trade with China during 2003 generated a surplus of near USD 14 bn, and increased during 2004 increased to USD 20bn, from USD 50 bn in exports (36 in 2003) and USD 30 bn in imports (22). At the same time as China has emerged as Korea's biggest export market, 30% of exports to China are destined for just one province: Guangdong. Korean exports to Guangdong surged by more than 38% in 2003 and over 40% in 2004, amounting to nearly USD 11 bn and USD 15 bn. The demand in the Guangdong region for semi-manufactured goods, from its quickly expanding electronic and IT-related industry, was particularly strong during the year (KITA, 2004-02-11 & 2005-01-31).

The trade surplus with China is projected to shrink to USD 7 bn by 2008, and could at the present trend turn negative by 2011 (KITA, 2004-02-04). At the Korean – China presidential meeting in 2003, the goal for bilateral trade was set to USD 100 bn for the year 2008. The Chinese government encourages Korean companies' investments, especially in projects to develop the lagging behind industry of western and northeast China, which is hoped to also benefit from Korean economy. KITA, however, expects exports to China in 2008 to have reached beyond USD 75 bn, with imports of USD 68 bn the same year, and to have equaled out at around USD 105 bn by 2011.

Korea is rapidly becoming ever more dependent on China, that became the largest Korean FDI destination in 2002 and export market in 2003, overtaking the US on both accounts. Increased dependence on one market is always worrying and the growth rate in the relation to China is impressive with exports increasing by near 50% during 2003 and 40% during 2004, to reach 18% of total export. Yet more important is that the trade with China accounted for 2/3 of the national trade surplus for the year.

Surveys have shown that Chinese youth consumers see Korean products as better designed and more innovative, although Japanese products are seen as having good quality (Hakuhodo Inc., 2004-04-09). The “*cool products with good sense*” answer was given by 32% to Korea, with Japan 30% and US 28%. More than 2/3 of respondents (68%) replied that “*high-quality*” referred to Japanese products with only 26% said this about Korean products.

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The trade relation with China is not rosy due to 19 current cases of dumping against Korean exporters. In June 2004, the first preliminary Chinese dumping charges against foreign optical fibers exporters was introduced, with Korean exporters being forced to pay a dumping margin of 7 – 46% (KITA, 2004-06-17). The importance in the charges against the optical fiber producers is that this is the first dumping charge set by China on a high- tech product, which makes it likely that more of this kind will come in the future.

Trade with Japan

Since diplomatic relations with Japan were normalized in 1965, trade, investment and individual exchanges have increased dramatically. However, trade and investment between the two countries stagnated throughout the 1990s and fell further during the Asian currency crisis in the summer of 1997. The crises spread to Korea, which came to suffer a severe economic stagnation, while Japan had to live through a prolonged recession in the 1990s, with both countries showing a negative growth rate in 1998.

At the same time, as trade with China is extremely profitable for Korea, trade with Japan displays an ever widening trade deficit. Korea remains dependent on Japanese chips as inputs in its own export products, but also on steel and petrochemicals as the most important product groups. This is a mutual dependence as Korea is Japan's third biggest export market. The imbalance in trade is increasing rapidly, with imports for 2004 having reached nearly USD 46 bn while exports reached just USD 22 bn. As a result, the trade deficit came out larger than the Korean export, or nearly USD 24 bn, more than doubling from the USD 11 bn for the full year 2000 (MOFE, 2004-10-29 & MOCIE, 2005-01-05). The Korean trade deficit with Japan is even USD 1 bn bigger than the trade deficit with the combined group of countries in the Middle East; in a year of record high-energy prices. The accumulated Korean trade deficit with Japan since 1960, including 2004, stands at no less than USD 240 bn. Precision machinery, industrial electronics goods and steel products from Japan are the most important items among Japanese exports in 2004. Noticeable products imported from Japan are equipment for the manufacturing of mobile communications goods and semiconductors nearly doubled during the period; all used in the production of the most important Korean export products (KITA, 2004-09-06). Korean goods constituted 4.7% of the Japanese imports in 2003, and this has only changed marginally over the last ten years.

Trade with the US

In 2003, Korea exported products to the US to a value of USD 37 bn, corresponding to 2.9% of total US imports, but still small in relation to the four biggest; Canada, Mexico, China, and Japan supplying an 18%, 12%, 11% and a 9% share each of US imports¹⁸⁶. Similar to total Korean exports there are just a

handful of major products that dominates in the exports to the US market, with just three products making up 57% of the value; vehicles, mobile phones, and different electronic communication parts. Other major exporters to the US, like China, Taiwan, Mexico and Japan showed a much lower dependency for their five most important products: 36%, 26%, 33% and 44% respectively. At the same time, the Korean growth in export is alarming low, compared to that of China, 4% and 22%, respectively (KOTRA, 2004-03-03). China overtook Korea as exporter to the US in 1992. While the Korean share in US trade has stayed around 3% since, the Chinese share has increased to over 10%. With its relatively small share in the imports of the world's largest importer, the Korean dependence on just a handful of products could prove to be a dangerous strategy. That is from both the point of view of innovations in these fields as well as if there would come up restrictions on the import side. Worrying from a Korean point of view is the increasing penetration in the market of high price segment by goods produced in China, where much of the above-mentioned growth is taking place. China is emerging as a serious competitor, during 2003 about 63% of Korean exports was competing with Chinese products in its potential export markets (KDB, 2004-01-28). One such sector is textiles where Korean export to the US market could be hard hit from the abolishing of the textile quotas from 2005 when Chinese exports are expected to make prices fall by 20 - 80% for different products (KOTRA, 2004-09-30). It is feared that the Korean textile export to the US market will be hit hard, due to an expected fall in prices of cotton and wool products, which will lead to a reduction in the number of workplaces. For 2004, total exports grew by 25% to USD 43 bn, with imports increasing by 9% to USD 29 bn, resulting in record surplus of USD 14 bn (KEIA, 2004-09-10 & MOCIE, 2005-01-05).

Trade with others

Korean exports to ASEAN members came to nearly USD 24 bn in 2004 (20 in 2003), while imports from the ASEAN region nearly balanced exports coming to USD 22 bn (18), constituting approximately 10% of ASEAN's total trade. At the same time, Korea's trade surplus with the ASEAN group, in over just 8 years, has contracted to just 20% of the level recorded in 1996, from USD 8.2 bn to USD 2 bn for 2004. During the same period, the Korean share of ASEAN trade has been more or less stable around 5% while the Chinese share in the same period has grown from around 6% to over 9%, with Japan's 16% being the largest (ASEAN, 2004-10-10 & MOCIE, 2005-01-05). In principle, the Korean surplus has dropped because of increased competition from cheaper Chinese products and high-quality Japanese goods. Korea should strengthen the marketing of products with comparative superiority to not lose out further, or at least maintain its markets. However, it should also push forward with the signing of free trade agreements with the more important of the ASEAN countries (KOTRA, 2004-04-06).

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Trade with the Europe is rising strongly and has gone up from USD 40 bn in 2001, to USD 71 bn in 2004, from USD 45 bn in exports and 31 bn in imports. With the extended EU 25, the trade volume had go well beyond USD 60 bn for 2004 (Eurostat, 2004-10-29 & MOCIE, 2005-01-05). Out of Korean trade with European nations, the EU takes over 80%, with Germany as the largest single market, with a balanced trade of about USD 8 bn in both export and import.

Trade between Russia and South Korea is also developing very positively, having nearly increased by 80% from 2001. In 2001, the value stood at about USD 3 bn to nearly reach USD 6 bn for 2004. Trade between the two has, in later years, relatively and persistently seen the value of imports from Russia constitute about 2/3 of the trade value (MOFE, 2004-08-02 & 2004-01-05).

Total inter-Korean trade, according to the Ministry of Unification, fell by nearly 4% during 2004 to just under USD 700 million. Imports decreased 11% to USD 258 million while exports were up by 1% to USD 439 million. South Korean imports has seen much of the worth of goods being textiles and agro-fisheries while a large share of the export has been constituted by steel and chemical goods. The fall in imports during 2004 is attributed not only to the bankruptcy of some major textile manufacturers, but also to falling domestic consumption.

Miscellaneous products

Korean exports have remained strong despite global downturn. However, there are still growing domestic concerns that Korea needs to break away from, e.g., its reliance on just some few export products, topped by semiconductors, cars and wireless communications equipment. Semiconductor exports was, in 2003, the most important item for the 12 years in a row. During the year, shipments of non-memory chips alone totaled just under USD 20 bn, up 18% over 2002, making up slightly more than 10% of total exports. Meanwhile, chip imports were up by 22 % to 21 bn. This translates into a trade deficit, for the third consecutive year, of nearly USD 2 bn for the countries most important export item¹⁸⁷. Cars and wireless communication equipment has been the two items behind semiconductors in importance, and the mentioned three products, together with the next two, computers and ships, are becoming increasingly important. Together, these five accounted for 43% of Korean exports in 2003 and by the end of July 2004, approached 45% (KITA, 2004-09-09). A level of dependence on these five products that is on the rise, as the product among the five that rose the slowest increased its export volume by 36%, while semiconductors increased by 53%. The dependence has increased by nearly 6% in just three years, which could make the country alarmingly vulnerable to fast changing market conditions in these segments. The result of competition has already shown in the export of several important products. The negative

tendency of prices in high tech sectors was initiated in 1999, when average export prices fell by 19% during the year. Export prices for items like DRAM chips and television-related good, weighing heavily in the Korean export, was down by 19% and 14%, respectively during 2003, and the trend has clearly continued during 2004. Prices for flash memory chips, LCDs and for DRAMs have all been falling during every month of the year (BOK, 2004-08-15).

According to a Korean survey, China is catching up with Korea in terms of technological advancement. The technological level of Korea's export items will be equivalent to that of China by 2010. Currently, China is only 2 years behind Korea in the mobile handset industry, 8 years behind in the TFT - LCD industry and 7 to 10 years in the petrochemical sector (MOCIE, 2004-05-05). The same kind of estimations from a large-scale survey among Japanese manufacturers indicates that China will surpass Korea and reach the level of Japan, within ten years (Nihon Keizai, 2004-07-29). The scores for "*technological power*" registered by the news agency survey placed the US first at 4.6, out of 5, with Europe and Japan at 4, Korea at 3.3 and China at 2.6. What is worrying about these kinds of figures is when foreign trade for the NEA group of countries is compared with each other an increasing overlap of products can be identified. As observed in Korea during Q1 2004, 14 export items out of the 30 most important, overlapped with those of both Japan and China. How rapidly markets are changing is clearly indicated when considering the overlap for the same period just one year earlier of just 6 products. In 1998, just five years earlier, only 9 out of the top 30 Korean products overlapped with any Chinese or Japanese product (KITA, 2004-05-30).

According to the Korea Chamber of Commerce and Industry (KCCI), the number of internationally acknowledged first class products made by Korean corporations amounts to 53 products in 2003. This is only 6% of that of the US, that had 954, and 7% of that of China's 753 products. In 1994, the same figure was 82, i.e., decreasing by 29 products over 10 years, while the number of US "*first class products*" has increased by 178 products in the same time period. In 1994 China had 383 products on the list and managed to nearly double its number, while Japan, showed a slight decrease (KCCI, 2004-04-13). As other surveys have shown, Korean technological level is only 60% of that of developed countries. The declining number of first class products is perhaps no surprise. Increasing the number of highly rated products is a priority in strengthening the long term Korean competitiveness (KCCI, 2004-04-13). Although competition is generally increasing on the export market, the situation could still be favorable for individual products. As analyzed by the Korea Export Promotion Agency, 77 products dominated its export and was number one in world sales in 2002; five more products than the year before. The US dominated the world in this respect,

being the leader with 884 items (KOTRA, 2004-08-11). For Korea to maintain its competitive edge in key sectors in relation to China in the future it must develop more high-tech components, cut manufacturing costs and further differentiate its products. Along with these efforts, Korea must cooperate with China, as both a supplier and as a market to achieve win-win situations. A problem for Korea is that China has been more stringent than other developing countries in demanding investors to transfer new technology. China has therefore managed to bring in relatively advanced technologies from abroad inside just a decade, in a way that practically no other country before China has managed to do. A development process that has included the promotion of mergers among Chinese companies as well as acquisitions by foreign newcomers.

There are two major worries connected to this development as it is becoming increasingly difficult for Korea to remain an important exporter of several products. Not only has China generally low costs, but Korean producers are rapidly building new production units in China. Eventually, this is bound to reduce the demand for parts from Korea's biggest market in the future, but Korea also runs the risk that these new production facilities will be the ones used by the Korean parent company for future exports to overseas markets.

5.2.1. WTO and (free) trade agreements

Only during 2003, it has been estimated that Korea lost USD 600 millions in exports because neighboring countries' favor their FTA partners (MOCIE, 2004-02-07). The successful conclusion of future FTAs has a great effect on the Korean export, currently being concluded or negotiated between USA – Singapore, Japan – Chile and Thailand – India, could mean an additional loss of the same amount. This development aggravates the potential negative effects from further delays in the negotiations of FTAs with other countries. Korea should therefore take urgent steps to its efforts in negotiating FTAs, as soon as possible. The number of existing agreements, at the end of 2004, was worryingly low, just one, with Chile. As a result the government has, under the Foreign Affairs and Trade Ministry, decided to set up a special FTA Bureau to better coordinate the national efforts in this field (CI, 2004-12-21).

For a relatively small actor as Korea, it remains important to keep up with the global economy as closely as possible as trade conflicts are still very much present. Korean manufacturers were estimated to be facing a total of 140 safeguard measures in some 19 nations as of the end of October 2003. In neighboring China alone, the import of Korean products were restricted by 18 safeguards, while there were 24 active measures in India (KITA, 2004-02-19).

With the Korean government's increased emphasis on free trade, it has also actively started to promote negotiations with Canada, Mexico, Mercosur and India for future FTAs. India is a market with over 1 billion people, Canada and Mexico are members of the NAFTA and Mercosur being a common area for the southern part of South America, they are all important future trade partners. Other countries on the FTA agenda are the European Free Trade Area (EFTA) members, (Switzerland Norway and Iceland). A group that is closely associated with the EU and will serve as a very good test case in preparation for possible future FTA negotiations with the EU (MOCIE, 2004-06-10). Both the EU, and especially the new EU members, has been rapidly expanding markets for Korean exports. With the EU expansion, the Korean side is fears that there could be a considerable trade diversion inside the EU in favor of the new members. Making the negotiations for a possible future FTA even more urgent. Practically all major Korean companies have already established production units in the new member countries, profiting simultaneously from low wages and membership.

Negotiations with Singapore have been ongoing for almost a year with a draft for a final agreement being signed by the two parties in the final days of November 2004. At the same time, an agreement is also being discussed with the ASEAN group ten countries that saw Singapore as one of its founding members. There has also been positive advancement with several delegation meetings having been held during 2004, and with the two sides planning to start real negotiations in 2005 to sign a final draft in 2005 (CI, 2004-11-24).

The relation with Japan

In the course of the recovery from the economic hardship in 1997 - 98, the leaders of Japan and Korea found the time to re-examine the bilateral relationship. This has advanced to stage where Korean and Japanese officials held the first round of official FTA talks in December 2003 with what, at the time, was a hope to conclude a free trade agreement by the end of 2005. High level talks between the two with the intention to find a basic direction towards a mutual FTA has advanced positively, but slowly, so far. During subsequent meetings on minister level the work to sort out details has been organized in committees. Subcommittees have been set up to hold meetings concerning six important subjects: trade in goods, non-tariff barriers, investments and services, other trade issues, economic cooperation and settlements of disputes. The next issue to be negotiated is mutual recognition of product testing and standards. The two parties in 2004 agreed on a custom pact to facilitate mutual assistance and harmonizing procedures (JT, 2004-12-14). Sharply rising Japanese investments in Korea during 2004 could be interpreted as occurring in anticipation of a future agreement. During the first nine months of 2004, investments had reached USD 1.6 bn, up from USD 340 in 2003, lifting the Japanese share from under 10% to just above 20% (MOCIE, 2004-12-01).

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The negotiations between Korea and Japan preparing for a future FTA are difficult, which is indicated by the fact that 73% of Korean exports compete with Japanese products on international export markets. Competition between the two is apparently escalating as the same figure stood at around 65% in 1998 (KDB, 2004-01-28). Examples of fields where the competition between the two is full-fledged and fierce are shipbuilding, automobile and steel. With a rapidly increasing Korean trade deficit with Japan that reached USD 24 bn during 2004, it could well become increasingly difficult to find local Korean support to a further opening of its market. In late 2004, the Japanese Ministry of Finance officially warned against premature expectations of an agreement being reached in the near future.

The relation with the US

The trade relation between Korea and the US is currently being strained by a few bilateral issues, which have proven very difficult indeed to resolve. Korea has banned the import of American beef since January 2004, due to domestic concerns over mad cow disease, while Korea has been put on the US priority list due to intellectual property piracy. As Korea is the US sixth largest export market, the Korean failure in meeting international standards in protecting US music and films against piracy is indeed serious. The Korean requirement of a 40% minimum of domestic films to be shown in local cinemas is another constant issue of discussion (CI, 2004-11-15).

As a large agri-product exporter, the US concerns over the Korean market is not only limited to beef, but also to rice that currently is imported under what has been named the Minimum Market Access Quota. Several rounds of talks have been held to shift this system into a tariff system, while Korea wants to maintain the quota system. Under a 1994 agreement, Korea has been allowed to protect its rice market for ten years, and will have to bring in changes during 2005. The import quota is currently set under 4%, with no imported rice being sold in the retail sector (US Agri. Dept., 2004-08-18). Changing food habits, with instant food like noodles and bread becoming increasingly popular, has meant that per capita rice consumption in Korea has fallen by nearly 1/3 over 15 years; from 112 kg/year/capita in 1990 to 82 kg in 2004. This puts increasing pressure on remaining farmers and indirectly on the Korean government. Other key issues in the relation to the US, apart from rice, are US countervailing duties on Korean memory chips as well as Korea's stringent customs clearance regulations on other agriculture imports from the US.

To add to the tense relation between the two, Korea was among the countries that were given the right by a WTO ruling to retaliate against the US "Byrd Act". The US actions are estimated to have caused damages to about USD 29 millions

over two years to Korean exporters (WTO 2004-09-01, CI 2004-09-02). The actions to be taken in retaliations from the Korean side are very sensitive towards a long time partner (see also the chapter on WTO under Japan). A persistent problem for Korea, as for its neighbours, is the US visa policy that is making not only conventional traveling more difficult, but also spills over to business contacts. In an attempt to resolve mutual problem the two have since years staged quarterly meetings (Korea Insight, 2004-09).

Despite ups-and-downs in the relation, the US is said to have indicated unofficially that negotiations of an FTA with Korea could be a possible option in the near future, because the US rather wants few major agreements with large partners than a large number with smaller trade nations. However, any hopes of that this could become reality was ruined by the US Trade Representative that see it as impossible as long as the Korea keeps it agricultural market practically closed for US products (USTR, 2004-09-21). If such an agreement could have been reached, it then had been forecasted to give gains 12 times larger to Korea then eventual losses from trade under a US FTA. Again indicating that rice and farming gets, what from the outside looks to be, disproportionately much attention (Samsung ERI, 2004-12-15).

The FTA with Chile

The Korean FTA with Chile that took effect in April 1 2004, was not only the first for Korea, it was also the first one for an Asian nation across the Pacific, although soon to be followed by the one between Japan and Mexico. Being the first FTA concluded by Korea, it shows that Korea has so far had difficulties to distinguish between the advantages and disadvantages that are at stake, resulting in the conclusion of only one FTA agreement.

After three years of negotiations, Korea and Chile signed an FTA in October 2002. The resistance to the agreement has been especially strong from Korean farmers, fearing that cheaper products from Chile would force farmers out of business. Agricultural issues were the main stumbling block that kept the FTA stuck in the Korean parliament for 15 months until it finally passed its third and final reading in February 2004. An additional farming support fund of 1.2 trillion, over four years, had to be established to make the approval possible in Parliament.

Although an agreement was signed with Chile, the 20-month ratification period, from the signing in October 2002, until it took effect in April 2004, saw many Korean products lose out to EU and US products for just that reason. The EU signed an FTA with Chile in February 2003, which rapidly came to increase its car and car parts exports to Chile, often at the expense of Korean producers. The US FTA with Chile was signed in June 2003, ratified quickly by both parties and

took effect on January 1 2004. China has recently proposed an FTA with Chile, and if such an agreement comes in place, Korean exporters will be facing severe price competition. Chile is a part of the Mercosur customs union together with Argentina, Brazil, Paraguay and Uruguay. Through an FTA with Chile, some Korea products and Korean production in Chile gets tariff-free access to large parts of South America.

In its agreement with Chile, Korea, on the day the agreement took effect, abolished tariffs on 87% of all industrial goods and most agricultural products, fish and forestry products imported from Chile. Tariffs have been lifted on 224 Chilean agricultural products where there are no or very limited competition from Korean producers. An increased import of Chilean pork is expected to lower the price of pork in Korea to under USD 6.50 per kg. Prices for red wine will go down by 2.5% per year during 5 years. Fruits like apples and pears, which are also harvested in Korea, have been excluded from the agreement, as well as rice. Chile, on its part, has sharply reduced fees on 42% of some 2 500 Korean items, including cars, mobile phones and computers. For other products, like tires and vacuum cleaners, fees will be reduced over ten years, while some other home appliances, like refrigerators and washing machines, have been excluded from the agreement (KITA, 2004-04-01).

It could be seen as a warning of the difficulty to foresee the effects of an FTA, as the Korean deficit in its trade with Chile has, five months after the FTA took effect, reached the level of the full year 2003. Chile has continued to export copper, paper and wine to a market that is one of the quickest expanding wine markets in the world (KT, 2004-09-07). Prices of, e.g., copper have been rising dramatically during the year and it is not clear from preliminary statistics if the souring trade with Chile is generated by a trade diversion effect due to the FTA agreement (in favor of Chile), or by just increasing prices, on copper. For the full year 2004, trade with Chile reached USD 2.6 bn, from exports of USD 0.7 bn and imports of USD 1.9 bn, resulting in a deficit of USD 1.2 bn (MOCIE, 2005-01-05).

In a world with an increasing number of global trading alliances being formed, Korea continues to lag behind in this respect. The necessity of establishing FTAs with potential export markets has increased in importance as a form of indiscrete discrimination towards non-FTA nations. Mexico is just one example, out a number of such examples, where tariffs for imported cars and related parts from nations not holding FTAs, like Korea, have been raised significantly. Malaysian steel import is another such example, EU textiles, newsprints in Vietnam, and car tires in Brazil are all other such examples. A market of great concern is India, where an FTA with Thailand is being negotiated. If concluded, foreign producers that manufacture in Thailand will be able to export freely to India, which Korean-based producer will not.

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5.2.2. Neighbor relations

North Korea

At the June 2000 summit in Pyongyang, Kim Dae Jung became the first South Korean leader to visit North Korea since the peninsula was divided in 1945.

The northern neighbor has caused much concern in later years with its suspected nuclear program, but it also holds an army of about 1 million. The initiation of talks have improved the international rating of the Korea debt by the Moody's agency, after having been down rated in February 2003. The change is due to that the valuation of a future conflict on the Korean peninsula is seen a considerably reduced as a result of the six-party talks and a future that includes a "*complete, verifiable and irreversible*", nuclear-free zone being created (KIS-Moody's, 2004-06-10). A warning is also being issued that US troop withdrawals will not only reduce military capabilities but could also considerably weaken the links to the US. The US announcement of troop withdrawals of about 1/3 of its troops from Korea is feared in the south to send the wrong signals to the North. As this has been one of the several demands from the North, the refusal to dismantle their nuclear weapons has informally been accepted, or at least given them a favor.

On the micro level, the relation is slowly improving with a continuing exchange of people between the two. During 2004 about 2 000 people were given the possibility to reunite with relatives and about 80% of the 1 600 contact applications were approved during the year. The construction of a special family reunification centre has long been negotiated and construction work is expected to start during 2005. During the year, 29 000 visitors were granted visas to North Korea, which was up by over 70%.

The US

The US is not exactly a neighbor to Korea, but as the US, in 2004, holds about 37 000 soldiers in Korea, and have had a strong military presence since the Korean war, the US must be looked upon as a "*neighbor*". Despite being close in the defense field, Korea still holds a very complicated relation with the US as shown in the field of trade above. These problems were again demonstrated in June 2004 when the US unilaterally declared that it will withdraw 12 500 of its soldiers from Korea by the end of 2005. The US suggestion was later renegotiated and the troop reduction will go ahead, but at a much slower rate. This could be seen in the light of the Korean public opinion that is divided on the advantages and disadvantages of the large US military presence in Korea and especially so about Korea's participation in Iraq. Still, this large military presence contributes considerably to the local economy, apart from the security aspect.

China

Korea has kept a low diplomatic profile in its relation with its big neighbor, but especially one historic issue has clearly broken that near silence. In recent years, Chinese scholars have come to claim that the ancient Koguryo Kingdom, (or Goguryeo) was a regional government subject of China. The Chinese Foreign Ministry has made these claims official by posting this change on its homepage. The two current nations on the Korean Peninsula have no doubt that the two kingdoms are part of their history and see the Chinese position as a bid to distort early Korean history. To make the issue even more sensitive, the UNESCO in 2004 included the Koguryo tomb mural paintings on its World Heritage sites list (UNESCO, 2004-08-10). The positive result that could come out of this tragicomic discussion is another reminder of the common history of the two Koreas. This debate on history has developed into something like a diplomatic row between South Korea and China. Soon after the diplomatic row broke out in the open, the Chinese ministry erased all information on pre-WWII history of Korea (and Japan) from its site (FMPRC, 2004-08-10). North Korea has also opposed to the Chinese claims of historic sovereignty over Koguryo and Balhae, but has been considerably more reluctant to officially criticize the Chinese position than its southern neighbor. North Korea has avoided mentioning China as the country distorting history and has instead referred to it as “*foreign nations*”(KT, 2004-09-14). However, the Korean position against China has generally been low profile and “*quite diplomacy*” has been the rule. This has not been the case when similar protests have been forwarded to Japan (KT, 2005-01-14).

Koguryo, or Goguryeo, was a kingdom that stretched from the upper Korean Peninsula into what is Manchuria today, in the years from 37 B.C. to 668 A.D. The kingdom of Balhae was established by a former Koguryo general 30 years after the fall of Koguryo. In the Korean version, the people of Koguryo formed Balhae and its territories were almost identical. This époque played a great role in developing early Korean history with Balhae existing for more than 200 years from 698 A.D. to 926. Historians have given the kingdom of Balhae a reputation of having had an advanced political and military system affecting the neighboring regions. Balhae is also given the reputation of having had a considerably more developed culture and economy than its neighboring kingdoms (Korea.net, 2004-08-01).

Japan

Also in Korea it has caused concerns among ordinary people, and hurting mutual relations, when the Japanese Prime Minister Junichiro Koizumi has been visiting the Yasukuni Shrine, which also honors Class A war criminals. With this in mind, it is difficult from the Korean side to understand the Japanese request for “*respect for each other’s position*”. In Korea, the memories of the victims after the Great Kanto Earthquake in 1923, the tragedy of the young Korean men who

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were conscripted into the Japanese military only to be executed and the women who were forcibly taken away as “*service women*” during the Pacific War, are especially strong¹⁸⁸. The above-mentioned feelings are not pacified when the Japanese side has continued to impose the same distorted view of the common history to the next generation. It is not only in China that the so called “*text book incident*” has again come to initiate a debate on the Japanese sincerity and its will to correct mistakes in the past (further discussed under Japan and China).

Russia

Having established diplomatic relations in 1990, Korea and Russia have not seen any major bilateral crises since the shooting down of the Korean Air Flight 007 Boeing 747 airliner in August of 1983, killing 270 people. There is also an ethnic connection to be found between the two, as the Russian Far East holds a Korean minority. Emigrants that started to settle there in the 1860s, of which 150 – 200 000, under the years of Stalin, were moved by force to Central Asia. During transition years, many in this group have made their way back to the Far East. With President Roh’s visit to Moscow in September 2004, the improved relation between the two was confirmed in the form of a declaration of “*mutual trust and comprehensive partnership*” including an agreement to hold regular talks in the future (Kremlin, 2004-09-22). The current day relation with Russia revolves around three issues: energy, transport and the North Korean stand off.

On the energy front, Korea has not given up hopes to one day be connected to Siberian gas, and possibly oil findings. This issue has been discussed for years. During the president’s visit to Moscow in 2004, a memorandum of understanding was signed (not a contract) for Korean companies to participate in the pipeline construction and oil field exploration in both Siberia and Sakhalin. As for transport, there is the intention to connect the Trans Siberian Railway with the Korean network, which would ultimately make it reach all the way to the port of Busan. This issue depends on the results of the six-party talks and a future acceptance from North Korea. The third issue, the nuclear problem, is the key question in making it possible to realize both the two first mentioned on any larger scale. Russia and Korea have both argued for large-scale aid program to be suggested to the North in compensation for a secured cancellation of the nuclear program. The two have also agreed on the goal of a nuclear-free Korean peninsula.

Generally, the two countries ought to be very complementary indeed in the economic field and trade between the two should hold a considerable potential for a future increase.

5.3. Energy

Korea is not a country endowed with any larger domestic energy resources. Of natural energy resources, Korea originally only processed limited coal, hydropower and wood resources that can contribute to the energy supply, but in 1987 the first gas findings could be added to this list of domestic energy sources.

In the energy sector, Korea has a history similar to that of Japan, with a strong oil dependence that turned into a major problem in line with the 1973 and 1979 oil crises. From the point of energy use, the industrialization process in Korea that took off prior to the first energy crises, still came to be much based on energy from oil. Somewhat surprisingly, oil dependence, having stood at 47% in 1970, had increased to over 60% by 1980. Total energy consumption in Korea has grown very rapidly and slightly more than doubled from 1970 to 1980, and again so by 1990 and once more until 2000. At the same time, as total energy consumption increased ten times during this period, oil consumption increased by a factor of 12. Small growth figures compared to the increase of per capita consumption of electricity during the same 30 years that shoot up 22 times (MOCIE, 2004-08-15). From the time after the energy crises, the use of imported coal was expanded, only to be complemented by the introduction of nuclear power as an additional source of energy. Over the last few decades, the base of energy has been widening with the growing importance of LNG. This energy resource was added already in the early 1980's, but consumption jumped by more than 600% during the first five years in the 1990s. Exploration for oil and gas on land and at sea has continuously been conducted since 1980 by the Korean National Oil Company (KNOC) but still part of the continental shelf has still not been surveyed.

In Korea, it is currently the Ministry of Commerce Industry & Energy that formulates the overall policy for energy and coordinates the basic plans for electricity generation. In preparation of an *"age with high oil prices"* the government has initiated the work with a three-year energy conservation plan from 2005 - 2007. Energy efficiency in Korea is generally seen as low, with its industrial energy efficiency having been estimated to be 40% below that of Japan (KITA, 2004-05-12). Among a list of measures, large companies will be obliged to yearly diagnose energy efficiency, enhance energy conservation, intensify the use of recycled energy and plan the compulsory usage of high efficiency electric motors (MOCIE, 2004-08-10). To make matters worse, recent research has indicated that 11% of total electricity consumption in 2003 was wasted by active standby of electrical appliances (Kemco, 2004-10-11). With, e.g., the US state organizations having decided not to buy equipment using more than 1 Watt at

standby, which conventionally is near 10 W, something still has to be adopted by manufacturers in Korea.

When oil prices started their latest dramatic rise in the beginning of 2004, stringent measures were prepared by the government to meet the need to restrict consumption in the country. At that stage measures like, e.g., the banning of traffic with cars with number plates with a last digit that corresponds to the date, were discussed. However, this has not come about as high prices have, by itself, made consumption, as well as petrol sale, fall to its lowest level in years.

The expansion of electric generation capacity that is currently under construction will increase available capacity by near 30%, although some of this will replace low efficiency older capacity. The plans for the next five years include a considerable expansion in nuclear capacity, followed by a near as large expansion of capacity from coal, 6 GW compared to 5 GW, or together over 75% of the total. It is slightly unconventional that the capacity of hydropower pumped storages will be extended by as much as 2.4 GW, which if the equivalent of three nuclear power units. The basis for this is the nuclear power that can feed these stations at non-peak hours.

However, Korea remains highly dependent on imported energy, as it has limited coal and gas resources that, together with its hydro power make-up some 15% of consumption. With a wider definition, nuclear energy can also be included in the calculation, and then the share rises to about 40%, as such a definition will make it possible to include the pumped storage capacity into the calculation. As a security measure, the government, in cooperation with commercial companies, normally stockpiles about 100 – 110 days' worth of emergency oil reserves, with a day estimated at near 300 000 tons (KNOC, 2004-03-21).

5.3.1. Petroleum

Trade statistics show that Korea is probably the most severely affected by higher oil prices among the more important Asian nations, due to its high dependence on foreign energy. During 2003, Korea even spent more on crude imports than China, USD 23 bn and USD 20 bn, respectively (KITA, 2004-05-12).

During 2004, oil consumption has been falling dramatically, by 10 – 15%, and total consumption per month has been the lowest since 1999, with industry consumption having fallen even more dramatically (KNOC, 2004-04-05). With constant high prices for oil in later years, the dependency on oil as source of

energy has fallen and by July 2004 it reached its lowest level since 1990, at 46% (NSO, 2004-08-09). Back in 1970, the dependence stood at about the same level, 47%, but reached its highest degree at 61% in 1980, and then fell to under 54% in 1990, but to again grow above 60% in the strong growth of 1996. The dependence has constantly been downward and was back at 47% for 2004, and this trend is expected to continue in the medium term (MOCIE, 2004-09-12 & 2005-01-31).

Korea is, through KNOC, actively trying to reduce its strong dependence on the Persian Gulf by finding alternative suppliers. In line with these ambitions, KNOC has signed a USD 250 million agreement with Russian Rosneft for exploration efforts in Sakhalin and explorations in Kamtjatka for oil reserves of estimated to 240 mt (RIA-Novosti, 2004-09-21). Putin and Roh also discussed possible South Korean investments in oil refineries and gas pipelines in eastern Siberia. Still, it is Saudi Arabia and Dubai that has long been, and remains, the biggest suppliers of oil for the Korean market. Contacts between Korea and these two are well established and regular meetings are being held where not only supply, but also bilateral business exchange and investments, are on the agenda.

During President Roh's state visit to Kazakhstan in September 2004, a deal was signed with KazMunaiGas as the state oil company in Kazakhstan. It will give a Korean Consortia, lead by KNOC, the right to develop a capacity of about 15 000 ton per day. The aim of the deal is to widen the geographical base for the Korean oil import, but how the oil will reach Korea remains to be settled.

5.3.2. Gas

This sector has, in its 30 years of history, been dominated by the state-owned Korean Gas Corporation (KOGAS) that was set up in 1983. In 1997, it was converted into a government invested-organization, to prepare it for future privatization. The first natural gas came into use for domestic consumers, as well as for heating/electric generation, in 1986, and has been made available in most of the country. The introduction of gas came as a reply to the need to further diversify the energy base and as a result, the mainline gas network has since been extended to over 2 500 km (KOGAS, 2004-06-28). The single biggest consumers are the five energy stations that have been build, which together holds over 50 generation units. The share of gas/LNG in the Korean energy consumption has been increasing since its introduction, reaching the level of 5% in 1994, then 10% in 2000 and has just surpassed 15% during H1 2004 (NSO, 2004-08-09). The generation is still some 30% below the capacity installed in the

sector. Surprisingly, the new project under construction or planned by the major energy companies include only two LNG stations with a combined capacity of 1.4 GW (CEPCO, 2004-07-07). If the current projects will be carried through as planned, then the share of LNG will be falling in the near future for the first time in some 20 years. Still, 2004 was an important year in the history of Korean natural gas, as the first domestic gas was finally, near 20 years after offshore prospecting started, taken ashore from the Donghae-1 gas field. With a production of 400 000 tons of LNG/year, the field is expected to last for about fifteen years. This production will correspond to the energy consumption by over 300 000 households, in first of all the Ulsan province.

During President Roh's visit to Russia in 2004, it was also indicated that KOGAS will actively participate in the development of the Siberian Kovykta gas field, controlled by TNK-BP. This gas field is expected to connect a pipeline to China in the near future and perhaps, in perspective, onwards to South Korea. Additionally, another long-term contract for LNG supplies has been said to be under way for 2.5 mty from the Shell-led Sakhalin-2 project (Interfax, 2004-09-20). The expansion into a foreign market, like the Russian, is not new to KOGAS that already holds a long-standing business interest in its main Qatar supplier. Other major gas projects in Vietnam, India, Myanmar and Nigeria over the last 30 also have seen large Korean investments (KOGAS, 2004-06-28).

5.3.3. Coal

Coal has for a long time been an important source of energy in Korea, as there are local anthracite findings that have been explored for a long time. Until the industrialization started to develop, coal used to be the most important source of energy. From then on, the importance of oil increased and later coal also came to be imported in large quantities. The basis of the current generation comes from imported thermal bituminous coal. Coal used to be the most important source of electric energy with an installed generation capacity of near 15 GW. Still, local anthracite coal is used at four different plants that generated about 1 GW in 2003, which corresponds to 7% of what is generated by coal, or 2% of total electricity produced.

For the near future, the capacity that is under construction continues to be based on imported coal, and is nearly as large as the nuclear capacity, which indicates an increasing importance of coal for the future. Any loss in confidence in nuclear, or problems in the ambitious construction plans of nuclear reactors in the coming years is probably to be compensated by coal plants for electricity (Coaltrans, 2004-08-02).

5.3.4. Electric

The generation of electricity in Korea is dominated by the Korea Electric Power Corp. (KEPCO). In 2001, KEPCO's holdings were split up into six different production companies, in preparation for a full privatization in the future. Although these are now operating as competitors, the group controls the majority of the generation capacity in the country with an installed generation capacity of 51.2 GW. The most important among the six is Korea Hydro and Nuclear Power Company (KHNP), operating the country nuclear industry that delivers about 40% of all electricity in the country. The other five, basically covering different geographical area of the country, are practically equal in size when measured in generation capacity, and fairly similar to the energy base they use for generation.

Coal used to be the most important source of electric energy with an installed generation capacity of 14.7 GW. This has largely been based on imported thermal bituminous coal. On top of this, local anthracite coal is used at four different plants that together generate about 1.1 GW.

LNG is the other major source with a capacity to produce 12.2 GW. This is the latest of the energy resources and has been expanding rapidly since the mid 1980s. Oil, on the other hand, has been falling in importance and its present capacity come to 4.4 GW, or 9% of capacity. The increasing use of LNG has pushed the share of oil in electric production under 10% for the first time in decades. During 2003, the most important generator was nuclear power, contributing about 40% of the electricity with coal making up 37%, LNG 12% and oil 8% (KEPCO, 2004-09-12).

The southern part of the Korean peninsula does not have the topography that is normally considered to be suitable for hydropower generation. Hydropower generation has the least installed capacity of 2.9 GW, but still generates about 7% of the electricity. Capacity in the sector is relatively concentrated to dams on the Han River, with several having been built already in the 1940s. Generally, hydropower dams are as important for the regulation of water flow and for flood control as for power generation. Somewhat exceptional with the Korean hydropower sector is that it is not conventional units that dominate, but over 80% of the power is being generated from pumped-storage units.

5.3.5. Nuclear

The nuclear power age in Korea started in 1978 when the first station was completed in Koori in the southeast of the country. This was followed by five more units in the early 1980s. Since then the use of nuclear energy has expanded rapidly and by 2004, there are a total of 18 units in operation.

The regulation of nuclear energy use in Korea is summarized in the *“The Atomic Energy Policy towards 2030”*. This was first outlined in 1994, and adjusted in 2000, and emphasizes the safe and peaceful use of atomic energy in Korea, with the spirit of a better life harmony with nature¹⁸⁹. Its first objective states that the use of nuclear power should be promoted as a major domestic energy source, ultimately to improve the economy and to strengthen the international competitiveness of domestic industries. This will include future self-reliance in nuclear reactor and nuclear fuel cycle technology through research and development. One opening for a sudden change in policy is however given: *“unless an epoch-making alternative energy source becomes available in the foreseeable future”* (Nuclear Energy Policy, MOST, 2004-08-02).

The state-owned Korea Hydro and Nuclear Power Company (KHNP) operates the four nuclear reactor sites in Korea with a total capacity of 15.7 GW, which corresponds to about 30% of national generation capacity (KHNP, 2004-07-10). During 2003, generation reached a total of 130 TWh, or over 40% of Korean electricity generated during the year. In addition to the existing capacity, four more 1 GW units are under construction, of which two are expected to become operational during 2005. Four more reactors are being planned around 2010 and another six by 2015. If construction is fulfilled according to the long-term program, this would lift the share of nuclear generated electricity by nuclear to near 45% by 2015 (MOST, 2004-08-10).

The nuclear sector has been developed into a major domestic industry over the last 20 years, with the last 10 of the reactors being based on domestically designed technology. The performance of some the later reactors has proved world class in both capacity and availability. Also on average availability, Korean nuclear reactors have been in use 10 - 15% above the world average, or above 87% annually since 1993. The KHNP imports its uranium needs, some 500 – 600 tons/year from Australia, Canada and Russia. In Korea, spent nuclear fuel is currently stored at each of the four sites, and will be so until a central storage, scheduled for completion by 2016, has been build. The last proposed site in Buan, was voted against by near 95% of local residents, adding to the insecurity over the future handling of spent nuclear fuel (MOCIE, 2004-02-16).

5.4. Transport

Due to the geographical location of Korea and its focus on export-based economic development, its transport infrastructure has to be developed accordingly. The current Korean ambition, under president Roh, has included the broad idea of developing Korea into the key logistic hub of NEA by 2020. This plan includes large-scale improvements and investments into a number of fields of transport infrastructure, including railways, roads, ports and airports. Such plans would probably find it difficult to take off without a near future reunification or at least a peace accord between the two Koreas. However, the idea is not really unique, especially many of the other large ports and airports in the NEA region will probably want to play an as important part in the future of the region as their Korean competitors. The carrying through of such a “*hub-vision*” includes a large number of pieces to the jigsaw puzzle that must be settle before making development project somewhat self sustainable to avoid exorbitantly high costs.

5.4.1. Rail

April 1, 2004 is one of the most important dates in the history of the Korean railways. At 05.05, after 12 years of construction work, delays, endless controversy and construction cost increases, the first high-speed train entered into service on the new Seoul – Busan line¹⁹⁰. The new train link makes traveling between the country's two biggest cities, which are 410 km apart, possible in less than three hours, compared to six with a conventional train. The building of the Korean Train Express (KTX) line has seen numerous delays not only caused by cost overruns, but also by route and design changes. The price for the line, including trains, has been in the range of 20 trillion (USD 12 bn), but is expected to support a new takeoff in the Korean economy. It will now be possible to do day-trips between the two cities and the Korean Railways estimate that the business society will be able to save over 2 trillion yearly in logistics cost in 2005 (Korean Railway, 2004-05-10). The launch of the new train is also hoped to ease the chronic traffic congestion for this connection where over 50 trains per day in both directions has been far from enough to meet up with demand. The designed capacity for the high-speed train-line is set as high as near 500 000 passengers per day.

In 1989, when the government announced the high-speed train program, total costs were expected to be in the range of 6 trillion. The cost estimation was raised to near 11 trillion four years later, and then again to over 18 trillion in 1998. The figure has not been revised since, but it is widely assessed that the

final figure will exceed 20 trillion (CI, 2004-07-25). The problem that has emerged, after just a few months of operation of the KTX, is that the number of passengers, and as a result of that also the profit level, has come out far under expectations. The average number of passengers per day on the KTX has, during the first three months, been just over 70 000, which is only half of what was originally estimated. If this level is maintained for a longer period of time, the KTX will not be able to cover even the interest on the loans, and it becomes highly likely that taxes will have to cover future deficits (CI, 2004-07-25). At the same time there has been an ongoing development on the KTX project since 1996. A breakthrough was the newest version of the KTX that broke the 350-km/h speed barrier in December 2004. This achievement makes Korea the fourth nation in the world to have broken this speed barrier reached with a new version of the KTX that holds a local content in parts of 87% (CI, 2004-12-16).

As Korea has long been an established market economy, as well as a geographically small and compact nation, cargo transport by rail has been largely out-competed by trucking. Of the transport work, trucking constitutes over 90% and with trains and costal shipping sharing the rest.

Linking the Korean network with the Trans Siberian Railway so that it reaches the port of Busan has been discussed for several years. This would make over 9 000-km Trans-Siberian railway to continue beyond Vladivostok through North Korea and on to the South. This USD 3 bn project has only been initiated, but would, if or when completed, allow for faster freight access to Europe than by conventional shipping. At the meeting between President Roh and President Putin in September 2004, the idea to link Russia's Trans-Siberian Railroad with South Korea's rail network, via North Korea, was again on the agenda. If it would prove possible to create a fast and cheap route for South Korean exports to Russia and the rest of Europe, then Russia would profit considerably not only as supplier of most of the transport service, but also through transit fees from goods crossing its vast territory.

In line with the agreement signed as a part of the Korean summit between the two Koreas held in June 2000, (where the South Korean leader symbolically arrived by train) both the South and the North have started to build two railways, including parallel roads, across their common fortified border. Once completed, this will, in principle, allow transports from the south to connect to the Trans Siberian Railway. However, with an as infected history in the background as on the Korean peninsula, it is far from enough to have built the infrastructure to get a project of this kind rolling.

5.4.2. Road transport

Road

As in most developed countries, the road network in Korea is its most important transport infrastructure, where over 90% of the domestic transport work is being generated. In all, there were 88 000 km of different roads in the country in 1999, which is three times the 1950 figure. The first expressway in the country was opened between Seoul and Incheon in 1968, and by 2004 has been extended to include 21 routes and over 2 000 km of expressways. The expansion of expressways is to serve as the backbone in the development scheduled for the coming 15 years with over 6 000 km more to be build. In 2020, there will be a total of nine expressways running east west and seven more running north souths. The full implementation of the intelligent transport systems (ITS), which will be used to optimize the flow efficiency on the roads, will also have been completed by that time (MOCT, 2004-06-23).

The Asian highway project that was first mentioned at a UN conference in 1959 is still being discussed in the region. More than 30 countries have been discussing ambitious highway projects to support regional exchange in the Asian continent, under the United Nations Economic and Social Commission for Asia and the Pacific. These projects have not progressed due to political tension among the involved nations (UNESCAP, 2004-08-10). At the 60th congress in Shanghai in 2004, the program was once again born, and its participants reaffirm their intention to participate. In the case of Korea, this could mean two links where Route 1 would stretch from Japan, over the Korean peninsula, China, India and then on to Turkey and Europe. Route Six would start in Busan, go across North Korea and then into the Russian Far East and will, in its continuation, also lead to Europe. The current guidelines for the program includes a total of 55 different roads, together measuring nearly 140 000 km (ibid.).

Local production

Korea's vehicle production, reached nearly 3.2 million units in 2003, of which 2.7 million passenger cars and over 400 000 commercial vehicles. This volume made Korea the world's sixth largest producer, while eleventh in domestic sales¹⁹¹. Production for 2004 is estimated at 3.3 million, based on strong export growth offsetting a dramatic decrease in domestic sales. Exports are expected to reach 2.1 million and domestic sales around 1.2 million. For the first half of 2004, exports increased by over 30% and domestic sales fell by over 25%, which in both cases were far above expectations, although this is expected to somewhat flatten in the last quarter of the year (Korea AMA, 2004-09-07). The strong export growth has compensated for the sharp fall in domestic sales during 2004, making manufacturers putting additional efforts into export (CI, 2004-08-01).

Hyundai - Kia, as Korea's biggest producer, during 2004 overtook Peugeot-Citroen as the world's sixth biggest producer with its total of 3.4 million vehicles, 2.3 million and 1.1 million for each of the two. As a result of the positive development of exports sales from the motor industry vehicles and parts became the most important sector in the Korean export for H1 2004 with a share of 13% and over USD 31 bn (Korea AMA, 2005-07-10).

As a part of the government's ambition to support high tech research and the car industry, the Ministry of Environment will fund research to develop new technologies to reduce emissions from cars by 2010. It will invest 65 bn in the development of "*marketable and strategic technologies*" in this field with the aim of approaching a level of low pollution or even near pollution-free cars. New techniques should reduce the pollution from diesel engines to a 30% level below that of "*Euro 4*", that go into effect inside the EU from 2005. For gasoline motors the aim is to reduce carbon monoxide emissions 40% below the level of the ultra-low pollution cars used in California (ME, 2004-06-10). Research on the car industry is already ongoing, and Hyundai Motors, in October 2004, presented its hybrid car version of the Click model. Its fuel efficiency is 18 km/liter, 30% better than the standard version of the same car, with production of hybrid cars expected to reach 300 000/year by 2010 (KT, 2004-10-05). Also GM Daewoo has revealed its S3X model, hybrid car, fuelled by gas and electricity, and its fuel cell Hy-Wire. The S3X is said to be more fuel-efficient than regular gasoline-powered cars, but still with a too low top speed, with both models being scheduled for production by 2007 (gmdaewoo, 2004-10-28). If the global market for hybrid cars will grow as expected, from currently under 2% to 40% by 2020, the mass production stage, which will come in 2005 for the Click, is an important step forward for Korean carmakers.

In a time of already declining volumes of domestic sales, three of Japan's car producers had by late 2004 established sales organizations in Korea. Toyota, Honda and Nissan, in that order, have from 2001 to 2004 established themselves in the Korean market. This has not happened earlier because Korea previously had a 20% import tax on new cars. In 1995 it was reduced to 8%, complemented by an import ban on Japanese-made cars that was finally lifted in 1999.

In the Korean automotive industry, it has only been Hyundai that has proved big enough to develop largely on its own. In late 2002, Daewoo Motor became GM Daewoo Auto & Technology Company after having faced financial difficulties, and having declined a takeover bid from Ford. It is now a part of the GM to 42%, with GM-controlled Suzuki holding another 15%. As a result of the negative publicity surrounding the bankruptcy of the brand name Daewoo in the European market, it will be abandoned and renamed Chevrolet (autointell,

2004-10-07). However, the level of foreign ownership in the Korean motor industry was reduced in August 2004 when the former 10% partner of Hyundai Motors, Daimler Chrysler announced that it has sold on its stake, acquired in 2000 – 2001 (FA, 2004-08-17). The reason for the break-up of the partnership was said to be a disagreement between the two partners about expansion plans in the Chinese market. The third manufacturer in Korea, Ssangyong Motor, has also faced financial difficulties and during 2004, saw a 50% take-over from the Chinese car giant Shanghai Automotive (SAIC) in a USD 500 million deal (SAIC, 2004-11-25). SAIC's interest in Korea is not new, as it also took part in the 2002 restructuring of Daewoo, where it currently holds a 10% share, at the same time as SAIC is a partner of both GMs and Volkswagen in China.

Production abroad

In contrast to Korea, China has increased production rapidly over the past couple of years. As a result, it moved up from fifth to fourth place in the world production in 2003, having increased production volumes by 37% during the year. The difference in volume between Chinese and Korean automotive production has increased from around 100 000 units in 2002, 1.3 million in 2003 and 1.8 million in 2004 (Korean AMA, 2004-05-02 & 2005-01-13). Behind the large increase is the Chinese jump in production and consumption, where a number of leading automakers, not least Korean, have established production units. Korean manufacturer KIA, a part of Hyundai Motors, is one such example producing 130 000 units in China, investing another USD 660 million to expand capacity to produce 430 000 cars by 2006 (KIA, 2004-08-10) ¹⁹². Hyundai is simultaneously expanding its capacity in China to reach a volume of 300 000 units by 2005 and 600 000 by 2008 (Hyundai, 2004-04-04). It is not only in the Chinese market where Korean manufacturers are expanding production capacity. On the Russian market, both KIA and Hyundai are set to invest into new production. KIA's production is set to surpass 50 000 by 2006 and will include the launch of new models within its Russian JV, that is run together with Izh-Avto. Hyundai, on the other hand, has joined forces with Severstal-Avto, owner of UAZ plant in Ulyanovsk, where production will be centered (Interfax, 2004-09-22).

In Europe, KIA Motors is building a USD 800 million production plant near the northern Slovak city of Žilina that is expected to employ about 2 400 workers when reaching its estimated 200 000 cars per year volume by the end of 2006 (Slovak Spectator, 2004-03-28). The international expansion by Korean producers reached both Europe and the US in what is soon to become three decades ago. Korean products are becoming increasingly established in foreign markets, and Hyundai became the third Asian automaker, after Toyota and Nissan, to hold over 2% of the European market in March 2004 (Automotive News, 2004-04-

23)¹⁹³. Other foreign markets with Korean production or assembly are India, Turkey, Thailand plus a number of other countries with smaller operations.

5.4.3. Water transport

As a peninsular country with over 12 000-km coastline with few domestic raw materials and a strong export orientation, Korea has all the preconditions necessary to make the sea important for the national transport system.

Shipping

The shipping sector in Korea has never really come to correspond to the importance of the country in the respect of foreign trade and shipping volumes. Since the beginning of the 1990's to mid 2004, the number of registered ships in Korea has increased by near 50%, while their carrying capacity has increased, by only 15%. Mainly it is small ships that are increasing in numbers, while the capacity of cargo vessels has been falling by 10%. The only major increase in capacity over the past 15 years has been seen for tankers, +45%, to just above 1 million dwt (MOMAF, 2004-08-23). As is the case in both Russia and Japan, most, if not all, the larger Korean ships, owned by its shipping lines, are registered abroad.

There are currently three major shipping lines in Korea, with Hanjin as the largest one. Hanjin is the result of a merger between Hanjin Container Lines and the country's first shipping company, Korea Shipping Corporation, established in 1950. Hanjin has diversified its business into both container and bulk vessels, but also land operations, including terminals and logistics services. At sea, it owns 20 container and 25 bulk ships, including large modern containerships, specialized gas tankers, and bulk carriers, that give it a fleet of 3.3 million dwt. At the same time, Hanjin is an active chartered and in all operates about 140 vessels (Hanjin, 2004-11-10). The second biggest shipping line is Hyundai Merchant Marine that owns about 50 ships, with the majority being containerships. In all its fleet comes to 2.4 million dwt (HMM, 2004-11-10). The third biggest shipping company is Korea Line. It has a somewhat different focus with its entire fleet of larger bulk carriers sailing on long charters for some of Korea's biggest companies like POSCO, Kepco or Korgas. It also owns a smaller fleet of ships that sail on tramp contracts, which in all brings its owned fleet to 2.5 million dwt (Korea Line, 2004-11-10).

Ports

In line with the President Roh's ambitions for the future of Korea, the Maritime Ministry is promoting the NEA hub idea: *“Construction of hub-ports with a view of becoming the logistics centre of northeast Asia”* (MOMAF, 2004-09-12).

The Korean port sector is highly dominated by the port in Busan. In the container sector it is even the fourth most important port in the world, only behind Hong Kong, Singapore and Shanghai (Busan, 2004-09-10). The port handles about 40% of the national seaborne trade and near 80% the national container volume. Busan is still the by far largest in total handling, despite the fact that Korea has 12 ports with a handling capacity over 10 mty each. On the container side, which is extremely important seen to the foreign trade structure of Korea, it is practically only three ports that are of any major significance. Busan is the biggest, with its near 80% of the total, followed by Gwangyang handling just under 10% and Incheon at about 6%. In all Korean ports handled 14.4 million TEUs in 2004 (13.2 in 2003), which was double the volume five years earlier, with the share handled by Busan remaining constant (MOMAF, 2005-01-18).

Over the last two years the Korean port sector has seen the ports in Incheon and Busan reformed into being overseen by a port authority, independent from both central and local governments. Under this organization, the two will be able not only to develop more freely and to attract participation from users, but will also be forced to show performance under corporate accounting rules (MOMAF, 2004-08-10).

After recent problems with container congestion at the Busan port, the government is pressing ahead with the construction of the new Busan Port in a bid to decentralize container shipments. It is hoped that it will be possible to complete the project nearly two years ahead of schedule and to have some terminals in operation by late 2006.

Shipbuilding

One of the export success industries in Korea is shipbuilding where the industry has developed from a purely minor domestic supplier to a world leader in 25 years. The first major Government initiative was taken in 1967, and already by 1979, Korea was the second most important producers in the world, with ULCC-size docks having come into use at Hyundai, Daewoo and the Samsung shipyards (ATIP, 2004-09-05). The Korean position as world-class shipbuilder over the last decades has been reinforced and today, the world's three biggest shipyards are all to be found in Korea. The industry is said to include about 130 000 workers in shipbuilding and its supporting industries, with about half of the employees working at the yards (KOSIPA, 2004-07-09). The world leader

Hyundai delivering more than one ship per week, while Daewoo and Samsung deliver about 40 per year. In 2003, the export value of ships came to an all time high with 7 million compensated gross tons (CGT) delivered, up 4% on its previous highest in 2002, valued at USD 11 bn. A volume, and value, that made up nearly 1/3 of the world total and that placed Korea as the number one shipbuilding nation in 2003, after having lagged behind Japan for three years (MOCIE, 2004-01-24). Out of a total world ordering of 43 million CGT during 2003, Korean shipbuilders secured orders for a total record level of 470 vessels of 18.3 million CGT; or 43% of the total world volume (KOSIPA, 2004-05-05). Meanwhile, orders for 230 vessels totaling 7.6 million CGT was made during 2002, from a total of 22 million CGT, or 35% (Fearnleys, 2004-03-07). Korea continues to dominate among shipbuilding nations, compared to its closest competitors, Japan, that secured 29% of orders during 2003, Kina 13% and with the combined EU taking 7%. The trend has continued during 2004 with orders of about 18 million CGT, on a level way above Japan as second, at just under 9 million CGT (Kosipa, 2004-12-25).

The sharp rise in ordering and deliveries volumes in the world are much attributed not only to the replacement of old ships, especially new double-hulled tankers, but also to the persistent high chartering rates in world shipping. This has led to continued high ordering volumes during 2004, well surpassing previous expectations. Most important for Korea is that 90% of the orders for high value cargo ships (especially LNG carriers) were placed at Korean yards (KOSIPA, 2004-07-09)¹⁹⁴. During 2004, Hyundai signed a groundbreaking order for the world's four first 10 000 TEU containerships from Chinese COSCO (HHI, 2005-01-21)¹⁹⁵. Development will not stop there as Samsung has started to market 12 000 TEU designs to shipping companies. As a result of the continued high ordering level, the production capacity for all yards has now been signed up in Korea, Japan and China. As a result it is currently practically impossible to book an order for a ship with a delivery date before mid-2008 (SeaNews, 2005-01-13).

During 2004, shipbuilders not only in Asia, but also in other parts of the world, have had to face the effects of dramatically raising prices of steel and especially steel plates. Depending on ship design, steel normally makes up some 15 – 20% of the price for a vessel and with increases in the range of 50 - 70% in prices during the year. As an example, spot price for imported hot-rolled steel in China rose by 49%, to USD 450 per metric ton, over the last 12 months (Metal Bulletin, 2004-08-10). On the local Korean market there are only two possible suppliers of steel sheets; POSCO and Dongkuk Steel Mill Co, and both have raised prices by near 60% on average since the beginning of the year (Daewoo, 2004-08-28). Higher steel prices have eroded profits for shipbuilders. As a result, e.g., HHI,

despite its USD 8.5 bn of new orders and an 11% increase in turnover, posted a negative result for 2004 of USD 95 million (HHI, 2005-01-31). Consequently, the yards have also been forced to increase prices in the range of 10 - 15% for new orders. It is not only the steel prices that constitute a major problem for the profitability of the Korean yards, but also the increasing value of the domestic currency. However, it was positive for the Korean shipyards were given an interim clearance of having received II legal subsidies, for which Korean yards had for years been accused by EU competitors (WTO, 2004-11-27).

Despite the gigantic number of orders for new ships in later years, that reached its highest level ever, the future of the Korean shipbuilding industry could be doubted. At 200 million dwt, the peak in delivery will be reached in 2008, when deliveries could come to exceed scrapping by 50 million dwt. The big question is if trade can continue to expand enough to absorb such an increase and to maintain a need for new orders (SSG, 2004-10-13). The peak of the Korean shipbuilding industry could be near for practically the same reasons as in car manufacturing. The future expansion of the yards could well be focused on increasing production capacity in foreign markets. The second biggest yard, Daewoo, has declared that its future includes the acquisition of yards in both Europe and joint ventures in other parts of the world, and possibly to build a facility in China. This expansion, including venturing into new fields, should be seen as a part of a strategy to raise sales manifold over the coming ten years (Daewoo, 2004-06-05). HHI, on the other hand, has agreed on the sale of technology and know-how to US shipyard for USD 27 million, a small and overprotected industry, for the design of ships (HHI, 2005-01-14). Additionally, Hyundai has already established production in Vietnam and is an important reason behind the very rapid expansion of shipbuilding in Vietnam in later years.

5.4.4. Aviation

The largest investment to date in the field of Korean aviation was the building of the new international airport at Incheon 40 km west of Seoul. Inaugurated in March 2001, it was built with two full-length runways and a capacity to handle 27 million passengers and 1.8 mt of cargo (Airports, 2004-08-23). After a slow start, it has reached a passenger volume around 19.5 million for 2002 and 2003, placing Incheon as the tenth busiest airport in the world (ICAO, 2004-05-10). At the same time, the domestic airport in Seoul, Gimpo, remains one of the world's bigger airports with 13 million passengers during 2003, but still a dramatic reduction from near 37 million passengers in 2000; the year before the opening of the nearby Incheon airport.

Outside of Incheon, there are other 8 international and 8 larger domestic airports in Korea. The popular domestic air travels have seen passenger numbers in the range of 50 million per year in later years on its 26 lines. Since the introduction of the KTX (the Korean Train Express) between Busan and Seoul in April 2004, domestic air travel has overall fallen by 11% and by 25% at airports along the line (KADA, 2004-10-17). Despite the fact that a slight fall in passenger numbers for the year has been expected at practically all airports, as a result of the contracting state of the economy.

In 2003, Korea was the 8th largest air transport market in the world. The cargo handling of the airline industry is expanding much as a result of the lucrative contracts from special air cargo exports of semiconductors, mobile phones, LCDs and PDPs. These are all product lines that require delicate handling and are more or less entirely shipped by air. After a troublesome time with a decrease in passengers due to public fear over SARS, terrorism and the Bird Flu, cargo handling generates an ever-larger share of air carriers turnover and has reached over 1/3 of the turnover for both of the two major Korean carriers (KAL-Cargo and Asiana-Cargo, 2004-05-20). In the case of Korean Air, the increase has been over 30% in one year with semiconductors, mobile phones, LCDs and PDPs making up almost 90% of the total air cargo exports. In the export boom that Korea has been experiencing in 2004, the conventional competition among the carriers has been set aside for competition among exporters for space onboard the aircrafts. An understandable development when the increase in Korean export of air-cargo products like semiconductors, mobile phones and LCD monitors has come to 40 - 100% during 2004 (MOCIE, 2004-12-22).

Korean Air Line, until 1969 was state-owned, and is the bigger of the two national flag carriers in Korea, carrying about 21 million passengers during 2003. The fleet of KAL includes 115 aircrafts connecting destinations in 29 countries. On the cargo side, KAL has expanded very rapidly and is currently the world's second carrier in volume, with 1.3 mt. The second largest carrier in the country is Asiana, founded as recently as in 1988 that carried a passenger volume of 600 000 in 2003 to 17 countries. Asiana is considerably bigger on the cargo side, with a volume of 500 000 tons, and holds over 60 aircrafts in its total fleet (Asiana, 2004-11-19).

When Korea established diplomatic ties with mainland China in November 1992, a number of the previous agreements with Taiwan, among them the Civil Air Traffic Pact, had to be abolished. As a result, all direct flights between the two had to be abolished. Beginning at the end of 2004 though, direct flights were resumed at an initial level of 18 times per week for passenger flights and twice per week for cargo, shared between Korean and Taiwanese airlines. Owing to

the special status of Taiwan, the new agreement is not a bilateral interstate agreement, which would be the conventional, but instead has the form of a civilian agreement signed by representatives from the two states (CI, 2004-09-02). During these 12 years, charter flights, as well as indirect flights, have been operational between the two countries. The traffic volume that stood at 420 000 passengers in 1992 is expected to reach near 500 000 already during 2005 (MOCT, 2004-06-23).

5.5. Other

5.5.1. Iron and steel

Korean modern steel-making history does not really start until the beginning of the 1970s when crude steel production reached above the 1 mt mark. Since 1970, production volumes have seen continued increase, with a slight two-year slump in 1997 – 1998, approaching a production volume of about 48 mt for 2004. The production volume in Korea corresponds roughly to the domestic consumption volume with consumption having increased faster than production over the last five years. Average production costs for basic steel products in Korea are estimated to be in the lower range of the scale among larger producers in the world, some 25% above Russia but 10% below the costs in China (combined from IISI and WSD, various dates).

POSCO, the by far largest steelmaker in Korea and fifth in the world, produced about 29 mt during 2003 and 30 mt in 2004. As other companies in the steel sector, POSCO also has seen its sales and profits jump during 2004, by around 40% and 90%, respectively. In line with this international trend, it has been possible for POSCO to increase prices three times during the year, due to an over 100% increase in coking coal and raw steel prices (DowJones, 2005-01-10). The most important factor behind the improved result is strong demand from China, with sales of 20 000 bn for the full year (POSCO, 2005-01-13). To secure what could be estimated to be a 30% share of its future needs of ore, POSCO during 2004 has signed an agreement with the world's largest miner, Brazilian Companhia Vale do Rio Doce (CVRD), for 103 mt of iron ore over 10 years (POSCO, 2004-11-15). At 2004 prices, the deal would probably be worth over USD 2 bn. In an innovative move, POSCO has embarked on the construction of a new production unit using the Finex Technology. When completed in late 2006, this will be the world's first full scale application of this “*next-generation*” process of steel making technology¹⁹⁶. The advantages with the process are numerous, as it is hoped to cut production costs by 15 – 20%, plant construction costs by 8%, and perhaps most important of all, is expected to reduce pollution by up to 90%.

The new plant, being built at the company's main production facility in the southeastern city of Pohang, will have a capacity of 1.5 mt of steels, at a cost of about 1 300 bn (POSCO, 2004-07-20).

Leading analysts already consider the company to be the most competitive among all of the world's major steel producers, topping World Steel Dynamics ranking of steel producers for 2003 (WSD and KT, 2004-06-21). The company plans to increase the share of its production of products with a higher value to maintain and strengthen its position, as these also give a higher margin. This should help secure its long-term profit, and try to strengthen its position in East Asia and China. Of the 2 trillion that POSCO intends to invest during 2004, up 35% from 2003, investments will be concentrated to its facilities in China and India, rather than in Korea (POSCO, 2004-07-20). However, the steel industry as a whole intends to increase investments by 88% over 2003, to 3 500 bn. Of this, about 50% will go into maintenance and 10% into R&D. (KOSA, 2004-04-05).

6. Democratic People's Republic of Korea - DPRK

6.1. Introduction to North Korea¹⁹⁷

Finding a wide range of sources for a deeper analysis is almost impossible concerning North Korea because it is one of the most secluded countries in the world. Its secrecy persists in practically all sectors of North Korean society, especially on its economic situation. The difficulty to access domestic statistics effectively voids attempts to analyze the development, thus making the sources used being practically all foreign. Studies and statistics on North Korea often originate from the South Korean Ministry of Unification in Seoul, complemented by some other foreign sources. Although figures used here can be questioned in their details, the indications given of trends and the magnitude of changes can probably be seen as: “*as good as possible*”.

6.1.1. The Kim Jong Il years

DPRK is being ruled under a philosophy that has been called “*Juche*”, first introduced in the mid-1950s. Domestically it is the former leader, Kim Il Sung, who is personally given the credit for the intellectual development of the *Juche* philosophy. It could possibly be labeled as something that finds its theoretical base relatively near Soviet style Marxism – Leninism, “*developed*” by a leader first educated and later serving in the Russian army. However, over the years, it has been adapted along with the shifts in the fortunes of North Korea. *Juche* was initially a collective movement, but under the guidance of the North Korean Workers Party (NKWP) and its leader Kim Il Sung. It was, e.g., used in the late 1950s and early 1960s to avoid the problem of choosing side in the emerging conflict between the two main supporters: Russia and China. In the succeeding years, *Juche* was also used to justify the need of national self-subsistence and independence. This led to a forced industrialization, labeled as another *Juche* offspring, but in the conventional socialist way it was focused on heavy industry. This has resulted to a very high level of industrialization and has further led to a situation that became a burden, with reduced foreign support from the late 1960s onwards. After the death of Kim Il Sung on July 8 1994, Kim Jong Il unofficially took over as leader of North Korea. Although the country passed through a three-year mourning period after the death of what was named as its “*eternal leader*”, Kim Jong Il could celebrate ten years as a leader in the summer of 2004. Kim Jong Il has never been officially declared as the country's leader, despite being commander of the armed forces. When he took over as leader, he had a reputation of being a somewhat unbalanced young man,

which led many in the late 1990s to predict that North Korea would eventually collapse in a not too distant future. For quite some time after the shift of power, the West doubted his political leadership. At the time the country was in the middle of ten consecutive years of negative GDP development of Kim Jong Il's rise to power. This crisis had already started in 1989 and had largely been overcome by 1998, with 1991 and 1996 as the most difficult years. These were the years when the economy contracted by 6% during each of these years. Kim Jong Il regime got off to a very tough start due to severe floodings, famine and energy shortages. Kim Jong Il has brought few major changes ten years after the takeover of power from the country's founder. Celebrating his 63rd birthday in 2005, he could still have some 20 years left as leader. If compared to his father that died from a heart attack at the age of 82. With three sons in the house the possibility of that there is an intention on his part to build a "*family dynasty*" could never be ruled out.

Despite having been founded on September 9, 1948, North Korea has only been in the headlines a few times since the end of the Korean War in July of 1953, as it completely cut-off all contacts with the west. There is still no peace agreement between the two Koreas and the mutual border along the 38th parallel remains heavily guarded. The initial economic system introduced in North Korea, under the NKWP, was originally formed on the basis of a Soviet style system, and included an early agrarian reform with the nationalization of companies, banks and infrastructure. Reforms were soon extended to collectivization of farming and later also made to include service and commerce. The North Korean economy was growing during the following years, although with a strong focus towards heavy industry and armament. The basic idea during much of its history has been system competition between the paths chosen in the north compared to the system of the south. The outcome of an assessment of achievements much depends on ones ideological point of departure and is therefore left open here. From an economic point of view, it was in late 1980s that the nation started to face problems, which were further aggravated by system change in the socialist block in Europe and the later break up of Soviet Union. The rigid system that had been created in North Korea, similar to other centrally planned economies, had great difficulty in reacting on changes in the surrounding environment. The acute crisis in the 1990s was triggered by floodings and droughts, and worsened by reduced energy deliveries from its two allies. These external factors were inflicted upon a Juche-economy that had already been degenerating for quite some years. In the same way as other centrally planned economies, North Korea also had come to promote quantitative ahead of qualitative, production goals. Production was never really aimed to meet demand, but to fulfill plans at a minimum quality, and with a price structure that had little relation to actual production and factor costs.

During the crises of the 1990s, the central planning system faced increasing difficulties in steering the economy, as the crisis did not generate any surpluses for the system to distribute.

6.1.2. Neighbor relations - with a background of a nuclear crises

The first non-aggression pact on the Korean peninsula was signed in 1991 between Seoul and Pyongyang and a summit was held in 2000, but the current state of war between the two neighbours cannot be ended without involving Washington. From a more forgiving attitude to the conflict of the Clinton administration, the approach hardened when the Bush administration took office. For a long time a two-country Korea has served the interest of cold war enemies while the current status can hardly serve any neighbours and political system. In the long term, the other parties that must be involved, like China and Russia, and are not likely to approve to a long term solution that will include US troops to be stationed in a united Korea.

Over the years, it is China that has remained the unrivalled partner for North Korea and there has been a clear trend in later years of the promotion of contacts in a range of economic sectors (Unification, 2004-10-16). The only known upset in the relation between the two over the last year has been the problems in writing history. As mentioned above, the interpretation of the writing of history related to the kingdoms of Koguryo and Balhae has been allowed to surface and has been the cause of some tension (see also Korea; 5.2.2). North Korea has refrained from the strong diplomatic criticism of the Chinese actions of its southern neighbor. A seemingly moderate form of criticism has been voiced in the state controlled media (CI, 2004-08-08). The relation to Japan has for long been strained by the abduction of Japanese citizens to North Korea, to serve as teachers of language and customs for under cover agents to be sent to Japan. A number have been allowed to return, after visits by Premier Koizumi, but the full list, as seen from the Japanese side, has not been settled. The whole issue has become even more confused when remains of what was declared as Japanese abductees that was sent back and, by way of DNA testing, proved not to belong to the correct family. Additionally, there have been a number of incidents in Beijing wherein North Korean refugees in Beijing have succeeded, but on some occasions failed, to escape over the high fences of Japanese and South Korean institutions. These have also put strain on relations.

The first nuclear crises, in relation to North Korea, arose in 1994 but never took the proportions of the most recent one. The latest crisis started in October 2002, after a visit to PRNC by the US Secretary of State James Baker. Baker made

public that the US had secured information that PRNC secretly had started a build-up of its nuclear reactor at its located in Yongbyon, about 100 km north of the capital. If North Korea had built small-scale production facility for plutonium at Yongbyon this would be a clear violation of the previous agreement from 1994.

Initially, it appeared that the DPRK was willing to cooperate and accept inspections from IAEA of the critical sites, in exchange for oil and supplies for two low-scale nuclear reactors. Relations with Japan also improved by allowing some of the abductees to visit Japan. Relations with the US changed for the worse when President Bush, the same year, labeled DPRK as part of the “*axes of evil*”. Foreign nuclear inspectors were suddenly not welcome, and at the same time, a ship bound for Yemen was found to carry Scud missiles from DPRK. Simultaneously, surveillance from American satellites registered activities around the Yongbyon reactor that was said to confirm previous statements. Meanwhile South Korean attempts to mediate in the crises proved in vain. The escalation of the conflict then continued with an official DPRK confirmation that the reactor had been reactivated and with missile testing in the Sea of Japan. At the time of the fall of Baghdad in 2003, it was surprisingly suggested from Pyongyang that three party talks with DPRK, the US, and China should be launched. Progress in the talks proves to be minimal and the only real progress is to extend the group to six countries that met for the first time on August 27 – 29 2003. Negotiations have emerged from a standoff between the clash of identities between the “*greedy American warmongers*” and the “*dangerous North Korea*”, giving an ocean to bridge for negotiators. It also involves the principal dilemma of, seen from any of the extremes, rewarding the wrongdoer despite “*wrong*” behavior. The current “*balance of terror*” along the mutual border between the two Koreas, the world’s most heavily guarded has been constantly upheld by both sides. The political costs involved have become increasingly difficult to bear and the situation is considerably worse here, and resembles what reined in regions of the world during the cold war. However, also now there were few results and no new date was agreed at the meeting as the list of demands from PRNC, including the exclusion of Japan from the talks, was seen as unacceptable from the US side. Since, the north has refused the offer to close the nuclear reactor because the demands for energy deliveries and the security guarantees that the North wants to see in return are deemed as unacceptable. In preparation for the next meeting, US experts – who were given permission to visit Yongbyon – have reported to the US Congress that they had seen traces of plutonium handling. Despite this, the second round of the six-party-talks started on February 25 2004. Again, little progress is made at the meeting and by April, the US has gotten what it sees as confirmation of the development of nuclear weapons in DPRK. The head of the Pakistan nuclear program, Abdul Qadeer

Kahn, confirms that he has been shown nuclear devices when visiting a secret underground plant (New York Times, 2004-04-13). To make matters worse IAEA, in early September 2004, published a report revealing that South Korea had enriched uranium and made plutonium separation experiments. This complicated matters dramatically, and made the North announce that the US used “*double standards here, like with Israel*”, and that under such circumstances the North Korean nuclear program could not be abolished (KCNA, 2004-09-08). Still, North Korea is said to be interested in continuing the six party talks that China wants to hasten, but the US election was said to have encouraged the North to adopt a wait-and-see attitude (Guardian, 2004-09-14). Even if the rhetoric's could be exceedingly strong in the Korean language, the Foreign Ministers made a very strong statement and said that North Korea can turn Japan into a “*nuclear sea of fire*”. He also stated that North Korea had turned 8 000 fuel rods into nuclear weapons (KEIA, 2004-10-10). However, it is difficult to assess if such statements are intended to raise the stakes in the negotiations just to maximize its revenue from an agreement. On the other hand, there is also a risk that the stakes have gotten so high that the retreat, and/or loss of face, could become too big for North Korea to back off after having openly declared itself as a nuclear state for ten years. Rumors in the West, during the latter part of 2004, have suggested indications that a regime change could be under way. The North has denied this, stating: “*The system in the DPRK is politically stable and is as firm as a rock*” (JT, 2004-12-18). Commentators in the west have suggested that the denials have been too strong, indicating that something is probably wrong.

Pyongyang has been demanding massive energy aid and other economic benefits from the US during the six-party talks, but the multilateral meetings have ended without an agreement so far due to Washington's attempts to convince North Korea to dismantle its nuclear weapons first. Although the US unwillingly came to initiate negotiations with NK, it gave the impression of rewarding the threat by paying attention to it from the highest level. It is now necessary to find ways to lead North Korea away from the nuclear track and pursue other options than building its future on threat. Negotiations are also important for the US as a way to secure support from the outside world. If no solutions can be found by way of negotiations, then the ability of the US to secure such support for future actions will depend on how serious the approach to find a settlement at the negotiation table has been.

6.2. Economic development

The 1990s were largely economically backward for North Korea; however, the situation has stabilized, but not really improved very much. Since some limited

economic reforms have been introduced in July 2002, to counteract the continued deterioration this was practically the first step away from the central planning that has steered the country since it was formed in 1948. The economic activity per sector spread evenly as of 2002, with 32% generated from the service sector, 30% from mining and industry, 8% from construction and 30% from farming (Unification, 2004-10-16).

The 2002 reform included an overhaul of prices, wages and the system of central planning. A reform that included the reduction of state subsidies was also new, that workers were paid according to production, prices could be set freely at farmers markets at the same time as the free sale of production surpluses from industry would be allowed. In this new situation, when earnings should become better related to production, all kinds of workers who cannot influence or increase their productivity have come out as losers. These are, e.g., workers in outdated industries and employees in local and government administrations. At the same time, the economic reform has given a limited autonomy for entrepreneurs that did not exist before, although run under the state nominally. Many of the new entrepreneurs are ethnic Koreans but have found South Korean, Chinese or Japanese as sleeping foreign partners. North Korea has also established its first joint venture with South Korea in assembling cars. With the improved possibility to make profit at the market, farmers are among the winners in the economic reform program, with only 18% of the land being suitable for farming activities, as they can sell surpluses in city markets. The collectivization of farming, as opposed to a family ownership of land, can be expected to reduce both productivity and competition. However, farming remains highly inefficient with much manual labor still being used on the limited agricultural land. Structural problems in farming have – for three years in a row – resulted in far below average harvests, which have completely drained reserves. North Korea is estimated to have a yearly grain demand of about 6 mt, while domestic farming has produced about 4 mt in recent years (Unification, 2004-10-16). However, the 2004-05 new-year message from Kim Jong Il called for increased agri-production during the coming year, by the slogan “*rice is our gun*”, in the year of the 60th celebration of the party (KCNA, 2004-01-02)

Most North Koreans before reforms earned in the range of North Korean Won (NKW) 150 – 200 a month. Additionally, citizens used to have not only apartment, utilities, education and health care practically for free, but also basic food as distributed through the national rationing system; here called by the not so negatively sounding name of the “*Public Distribution System*” (PDS). Prices have gone up after the introduction of reforms, but so has wages. Non-qualified work now pays about 2 000, while a better placed civil servant can earn about 2

700. At the same time, the price for a normal apartment, including utilities, has reached 150. Prices on the free market for products under rationing are also many times higher than the official price. Some visible signs of change have occurred in the three years that passed since North Korea initiated its market reforms in July 2002. Parts of the local population are also starting to understand the basics of mercantilism, and much so through the open agricultural markets that have been created. Street stalls with, e.g., beer and steamed potatoes can be seen in the streets, with products not only being sold in the local currency, but also in US dollars and South Korean won. Demand is also sharply rising at restaurants in Pyongyang, with prices for a better meal having reached the range of a normal monthly salary. There are more cars now, compared in the past when cars were scarce. A TV set sells for around 75 000 and demand is rising sharply. Per capita income in North Korea has been on a roller-coaster ride in the last decade, and after having peaked at USD 1 140 in 1990, it practically halved to USD 578 by 1998 and then has risen to approximately USD 820 for 2003 (Unification, 2004-06-05). Other negative sides of a market system also has started to emerge with increased economic inequality, at the same time as certain residential areas, with low-income housing, are rapidly degenerating. The official trading currency for foreign trade, since December 2002, is the Euro, with the official value set at 171 in April 2004. The level in the unofficial / black market is many times higher and one Euro can here buy over 1 500.

A considerable share of consumer goods are still distributed through the PDS despite the abovementioned changes at the same time the crises has made 15 – 30% of the population dependent on foreign assistance (Unification, 2004-10-16). The UN sponsored World Food Program (WFP) in 2004 distributed food for some 6 – 7 million North Korean's who could hardly survive on the PDS ration of 250 - 350 gram rice per day and person. A food intake that covers only half of the minimum daily energy requirements (WFP, 2004-06-20). Still, some 70% of the 23 million inhabitants are by WFP estimated to be at least partly dependent on the food supplies that are distributed through the PDS. However, aid through the WFP has declined as donor countries are becoming increasingly reluctant in giving further support to the PDRN.

The economic development for the economy of North Korean has, despite problems in other fields, been relatively positive and has grown for five consecutive years. Its national GNI grew by 1.8% during 2003, up from 1.2% the year before, to a total of NKW 22 trillion (USD18 billion) (BOK, 2004-06-07). Statistics are based on estimations, as practically no official economic data are being released, and place the economic size of the country at about 3% of that of its southern neighbor (USD 600 bn) and on par with countries like Zimbabwe and Cameroon. The difference between the two Koreas can be summarized by

difference in the national GNI, which was 10 times higher in the south in 1990, 30 times in 2000 and 33 times by 2003 (Unification, 2004-10-10). The difference between the two neighbours is extremely striking in the field of foreign trade and has continued to widen. From 126 times larger in 1990 to 156 times larger in 2003, with the North Korean foreign trade volume corresponding to about 0.6% of that of the south (ibid.).

Today, however, China is not only the most important trade partner for North Korea but also its largest investor. Cooperation with South Korea is also expanding with the 650-hectare (16 000 acres) special industrial zone in Kaesong as a good sign. In Kaesong 15 South Korean companies have established manufacturing units, located eight kilometers across the mutual border and only 40 km away from Seoul. The wage level of workers in the zone has been set at USD 57/ month, or some 5% of the Korean level, will serve as an extremely good incentive. In line with the acceptance of the new industries, also the first Korean bank, and the country' third in size, Woori Bank, have been given permission to open an office in Kaesong (KEIA, 2004-10-10 & CI, 2004-09-09). In the near future, growth in the national economy of the North and its manufacturing sector has to overcome restrictions of outdated equipment and shortages of raw materials and energy. The chronic shortage of the same set of factors also poses a threat to possible foreign investments, which could assist in restructuring domestic production. It is only to lament that this happens at a time when relatively investor friendly policies, aimed at stimulating the economic development, have been introduced. As a result of the new approach handful of foreign ventures have appeared in Pyongyang during 2004. A London law firm became the first company from the west to open up a regular business, with an Irish company having been taken on as technical consultants in developing the local mineral and oil industry (KEIA, 2004-10-10).

The prerequisites for continued success of a reform of the kind introduced in 2002 were far from ideal as it was introduced in a situation when the economic system was under extreme stress. Also when similar reforms were introduced in other socialist countries in transition, the chances for a positive outcome without a continuation of reforms, proved minimal. In practically all cases, major liberal reforms have led to the fall of the governments that introduced the reforms. So far, little political reform has been seen and North Korea remains a one party state, with the Workers' Party as the only party represented in the 687 members Supreme People's Assembly. If a change of regime will be the near future outcome of the reform agenda also in North Korea remains to be seen.

However, the security dilemma remains the most important problem, where steps must be taken to break the vicious circle. One of the main interests of the

Pyongyang government – and the most difficult issue for the international community to overcome – is probably to save as much North Korean uniqueness as possible. The indicated cooperation in the fields of transport and energy could come to serve as an important tool to increase security and create confidence. Hopefully, this could instead be turned into a virtuous circle that could include the building of railways, roads, gas- and oil-pipelines as ways of attracting FDIs. Hopefully, this process could lead to increased prosperity for the whole North East Asian region.

The new and probably only realistic long-term, challenge is how to program a balanced opening of the country. A similar conversion of the system as China has done could be a possible way out, i.e. officially sticking strictly to the socialist/Juche label, while basically converting to capitalism. The difficulties during the six party negotiations in Beijing over the nuclear program will first have to find a way out of the current deadlock before an opening can be expected. However, it will also be necessary to keep North Korean political hardliners and the army happy with the outcome of the crisis. A possible access to nuclear arms will probably need a massive compensation offers to make a majority of influential North Koreans changes their opinion.

6.3. Trade, energy and transport

North Korea partly opened up to the west already in the 1970, when limited foreign trade was initiated. The first of several special economic zone, as defined by North Korea was opened in the Rajin-Sunbong area near the Russian border, already in the late 1980s. Factories in these zones appear to be in operation still today, but bear no resemblance to similar zones in other Asian countries.

As the domestic economy contracted, foreign trade also saw the same collapse in the later part of the 1990s. Foreign trade stood at over USD 2 bn in 1995 and then fell to below 1.5 bn in 1998 and recovered to above USD 2 bn in 2001. Trade, over the last ten years, has not been balanced as all years during the period have seen imports that are 2 – 3 times larger than exports. It has also been highly volatile with increases of as much as 45%, and declines of 25%, from one year to the next during the period.

Foreign trade during the recovery period – reaching USD 2.4 bn in 2003 – has seen China come out as the outstanding partner. Bilateral trade volume between China and DPRK during 2003 surpassed USD 1 bn, up by near 40% over 2002, from imports of USD 628 million and exports of 395 million (Unification 2004-10-16 & CBW 2004-08-29).

The other big partner in foreign trade is its neighbor, Korea. Total inter-Korean trade, according to the Ministry of Unification, fell by nearly 4% during 2004, to just under USD 700 million. This was the result of an 11% fall in exports to USD 258 million while imports were up by 1% to USD 439 million. North Korean exports in later years have been concentrated to textiles and agro-fisheries while import products have been elaborated goods like steel and chemical products. The fall in exports during 2004 is not only attributed to the bankruptcy of some major textile manufacturers in the south but also the general fall in consumption in the south.

China and North Korea has been trading uninterruptedly since 1948, but trade has increased sharply during the 21st century and reached a volume of USD 1 bn for 2003. North Korea was initially under a trade embargo from Japan, which was lifted in 1962 when small-scale trade was initiated. Japanese trade has seen a reverse pattern compared to total trade, with exports to Japan being about twice the size of imports. With its peak volume in 1977, trade has since remained small, with a total value of USD 260 million in 2004, which was slightly lower compared to 2003. North Korean exports have been concentrated to animal products, textiles and minerals, while imports have first of all been transport equipment and textile products (Japan Customs, 2004-11-15 & MOF, 2005-01-31). A considerable problem for North Korea is that the foreign trade with its largest partner is of considerable importance to the stability of its national economy. This is while North Korean trade represents well under 1% of trade to its main partners and is completely neglectable to their economies.

Today, however, China is not only the most important trade partner for North Korea. It is also its largest investor. The number of delegations and ministerial meeting by delegations has increased dramatically in the last few years. As a result, DPRK has seen a number of investments from China in various fields. The most high profile, and the single largest foreign investment is the USD 6 million takeover of the management of "*Department Store No. 1*" in Pyongyang by Chinese investors (CD, 2004-08-28).

The North Korean energy base is strongly dependent on its domestic coal resources. Yearly mining is in the range of 20 mt, compared to the import of 500 000 tons of oil in 2002; or about 1/90 of the per capita import of South Korea in the same year. Nearly 4 mt of domestic iron ore were mined in 2002, resulting in 1 million ton of steel being produced by the domestic industry; or about 1/45 of the volume in South Korea.

As for transport network, there are about 5 200 km of railroad in North Korea, with over 80% electrified. The road network is 96 000 km, with only 12% of this being paved. There are very few cars, trucks and busses in DPRK with domestic production never having reached above 10 000 during the last ten years.

The theoretical capacity of the available ports is given as 36 mt, which is probably a somewhat outdated figure (Unification, 2004-10-16). Nampo, the most important port that serves as a gateway to goods in the Pyongyang region, currently has just a single container berth completed in late 2003. Only small ships of 250 TEU, and equipped with self-loading equipment, can be accommodated (Fairplay, 2005-01-09). Domestic involvement in international shipping is a small thing, with aggregated vessel volume being only 810 000 dwt in 2002.

Tourism in general, and especially from China, has been promoted as a way to earn foreign currency. A new regular air route between Shenyang and Pyongyang, the fourth by the state carrier Air Korea, was opened during 2004 to facilitate access. It still remains possible for outsiders to visit DPRK, but it remains both difficult and expensive to obtain a visa, with citizens from a number of countries not being allowed in. Very few inhabitants speak any other language than Korean and all visitors, coming in groups as well as individually, from the few selected countries are always “*assisted*” by several especially assigned personal guides. This system has made it practically impossible for visiting foreigners to establish any form of contact with the local population.

6.4. The information problem

Not only does the DPRK remain what still today is the most sealed and secret country in the world, but also information is being both distorted and withheld. Foreign information agencies have not really been able to secure much reliable information about sensitive issues, despite considerable efforts.

An example of the information problem was the official North Korean handling of the explosion that occurred in Ryongchon, in the North Phyongan Province, on April 22, 2004. Two trains in a shunting station exploded and killed at least 160 and injured another 1 300. The domestic media did not even confirm that anything had happened at all until April 24. Also then the news-line was very brief, without mentioning the damages, indicating no more than that an accident was “*under investigation*”. The next mentioning appeared on April 26 when the condolences that have arrived from abroad were commented. A statement appeared for the first time on April 27 that included the number of dead and

injured, along with the size of the crater (KCNA, 2004-04-22 - - 27). In a similar incident, on September 9, 2004, a huge explosion was said to have taken place in a practically uninhabited part of northwestern PDRK near the border with China. This incident, which originated from South Korean media, was given wide coverage in other western media. The explosion was first mentioned by the North Korean state news agency two days later in the form of a denouncement stating that the news about the explosion had been planted as a distraction of attention from the news of South Korean nuclear experiments – that appeared the day before (KCNA, 2004-09-09 - - 14). The explosion that took place on the same day as the 56th jubilee of the establishment of the state, was officially declared to have been aimed at “*demolishing a mountain*” as a part of a hydropower construction project. A few weeks later, it was stated by South Korean defense sources that there had perhaps not been any explosion of the size first announced. North Korea also allowed a delegation of diplomats to visit the proposed site of the explosion to prove its point in this matter (KT, 2004-09-19).

However, the explosion in Ryongchon seems to be similar with the Soviet Union way of handling negative news, e.g., the catastrophic accident at the nuclear station in Chernobyl in late 1986. Initially, nothing unusual was said to have happened at Chernobyl and later, as the full scale of the accident emerged, secrecy became practically impossible. This accident was probably the single most important event in creating media openness, and “*glasnost*”, in the former Soviet Union. As a result, the next major Soviet disaster, the earthquake in the then Union Republic of Armenia in 1988, was given a more or less fully open media coverage. The scale of the Ryongchon explosion did not reach anything near the dimension of Chernobyl, but nevertheless well demonstrated the increased difficulty for the government in concealing the truth. The state media of DPRK has been devoted to spread the message of positive domestic achievements, at the same time as the negative news have been reserved for stories about the enemies abroad throughout the years of the PDRK. Logically, the DPRK has even been given the highly un-attractive award as the country in the world with the lowest degree of press freedom (RSF, 2004-05-10). All news media are under strong state control, and all radios and TVs sold are pre-set to domestic channels only and cannot access the Internet and foreign news, making these practically inaccessible from North Korea. At the same time, the cracks in the information monopoly are clearly appearing as, e.g. smuggled mobile telephones, which can be used in border areas, and the ongoing micronisation of electronic equipment, increases the difficulty of upholding an information monopoly.

At the time of the first nuclear crises in 1994, and the domestic natural catastrophes that surrounded it, North Korea seemed to be on the edge of economic collapse. However, the collapse never came about, then, but it is not difficult to make very negative predictions for the future, also ten years after the worst crises. If a system change is to take place then the process has better to be a gradual and controlled one, than the more catastrophic scenarios that could follow from an outright collapse. The road to a future unification, if it will happen, could be a bumpy one and will need huge support from the outside world to lift a country that, from a western economic point of view, is both underdeveloped and genuinely poor.

7. Discussion and Conclusions

The spirit in this book has generally been very positive, much as a result of the economic development that is taking place in the NEA countries during the last few years. This development was made possible by the relative stability in the world economy, which can partly be ascribed to the phenomenal economic growth that is taking place in China.

Globalization was set out as a theme already on the first pages and a most important issue, where the NEA countries are very active participants. The process is not really possible to pin down in a simple definition as initially discussed as it appears with so many different faces and leads to different results, depending on the setting. Increasing long distance international trade followed by energy and raw material dependence are just examples of this. The flow of manufacturing employment away from developed countries in the direction of low labor cost locations is an indirect result of the same process. The rapidly increasing flows of capital in-between countries is another aspect, although not being physical, of the ever-tighter international net that is being woven. A similar process that is both reducing and changing employment in developed countries is the moving out of service functions to far away locations. This bears a resemblance with capital flows as something less visible than the movement of production and workplaces inside the manufacturing sector.

This global change also makes the process of making value creation from any kind of the above-mentioned undertakings less connected to the geographical location of consumption. A trend that also increases the anonymity of the players involved as initiators, sellers, middlemen, owners, and buyers. This aspect makes pure rent-seeking behavior less visible and as a result more attractive. With the creation of a more open and interactive world society, the search for expected quick returns has become increasingly commonplace, partly replacing the more conventional form of entrepreneurship in business.

Contradictory in the process is that e.g. investment- or pension-funds in the developed world where employees save for the future has also turned into a highly competitive business. Savings in these funds must show high returns to retain old and attract new customers, which is achieved by way of putting pressure on the companies they invest in. If the expected returns for the fund are not achieved, the capital will be reinvested in other companies, as investors are free to move around capital to the company or country where the best payback is expected.

On the other side, in this process are these business leaders in the companies appointed to make companies remain profitable and to, preferably, increase shareholder value on top of that. Under these circumstances any manufacturing operation, especially so if labor- intensive, will find it hard to be highly attractive to by opening up shop in countries that offer wages of about USD 100 / month. The result is a process that sometimes practically forces companies to move out to locations where they expect to find the highest returns to remain attractive. As a result of recent years advances in technology, transport, as well as ICT, the prerequisites now exist to make it possible to both control and operate separate undertakings that are being performed in units separated by many 1 000's of kilometers.

In the example mentioned here and in the introduction, using e.g. the capital from a pension fund for an investment, the contradiction become very obvious indeed. That is when the persons making their monthly installments to the fund who have an interest in receiving an as high payback as possible and the conduct of the fund, or indirectly the company receiving the investments, contributes to unemployment by moving production facilities abroad from the very region/country where the original pension installments were made. Creating macroeconomic problems in the nation of origin that can many times over outweigh the advantages gained by the individual from his investment. Such conflicts of interest arise based on a previous stable system that is being overtaken by a new development. In the case of the pension fund, used as an example here, it was originally seen as a solution to the future pension payment crises problem that faces the aging populations in the developed world. Instead it has now increasingly come to contribute to the creation of new structural problems for tomorrow. If the same process is looked upon from the point of view of conventional trade theory, as described by Adam Smith and David Ricardo, then it is perfectly logical that lower prices will enable increased consumption for all. However, it most often remains difficult to quantify the advantages, and even more so to explain these positive effects to the workers in the developed world who were made redundant in the process. As these changes are ongoing, more research is needed to better understand the processes involved and explain how these processes are interrelated. Workers in the developed world will not need science and theory to understand that they have been made redundant by development, but science will be need to explain how it actually came about.

The access to more information on changes have always happened, albeit in other shapes and of which we have not been fully aware, have perhaps lead us to become increasingly worried about developments and accidents where mankind previously never found reason to worry. Natural disasters are

examples of areas where information currently spreads rapidly around the world, and have had reason to do so especially during 2004. A year with a record number of typhoons hitting China, Taiwan and Japan (26), record-breaking summer temperatures, a record strong storm hitting the Philippines, several earthquakes in the area and with the disastrous tsunami devastating other parts of Asia on December 25. The more interconnected the business society and countries become, the more widespread will the effects of disturbances to the everyday pattern from natural disasters and other accidents be. Such interconnection has increased both the importance and the price of rapid information concerning all kinds of sudden changes.

Economy

A positive economic performance can be seen in the four NEA countries during 2003 and 2004, albeit for different reasons. First of all, the economic position of the four coming into 2003, as well as their approach to handle their situation, was fundamentally different. Two, China and Russia, had come little over a decade into a transition period from central planning towards a more market-oriented economic system. These are two countries with two different approaches to this process. Both have been successful reformers in some sectors, while they have failed in others. Japan, as the strongest economy, had in 2003 just began to see signs of what was hoped to become a more long-term and sustainable growth period. Korea was at the time approaching a new period of what looked like a continued rapid economic growth, but instead has proved a somewhat unpredictable development.

Major economic crises often emanate out of debt problems or foreign exchange problems, but this seems not to be at risk here. Instead, there are relatively healthy state finances at hand, supported by highly successful large companies that are leading the way in generating considerable foreign incomes. What has instead become a problem in the two developed economies is the relatively low level of domestic consumption and stable, or even rising, unemployment. A problem that is most often ascribed a cure in the form of reforms to the labor market encouraging free employment while emphasizing the importance of promoting both domestic and foreign investments. Other initiatives that are often quoted as necessary to revive a market are reducing barriers by opening-up for increased domestic and international competition. However, this also often requires other bold and painful reforms. Processes that are not seldom being initiated or speeded-up in relation to e.g. negotiations for membership in the WTO; like in the case of China. This is also bound to happen in the near future also for Russia.

Companies are often well suited to find the road to prosperity on their own when entering established markets. On the other hand, this is less likely when entering markets in the NEA group of countries, and especially so in Russia or China. Domestic firms in these countries have an unparalleled advantage in their understanding of the local market and from the fact that they already know the language, local customs, have ready networks and a commitment to the market. That is often the explanation to that so relatively few outsiders have been successful in these markets without working through a JV. However, the low wage levels for average workers in e.g. China, in the range of USD 100 – 150, could also be seen as a reflection of low productivity. It is undoubtedly so that productivity is lower, but probably not 1/10 – 1/20 of what is the case in developed countries. If an investor with labor-intensive production can organize and establish his production and new logistics needs well enough inside a not too long time, then considerable profits could be harvested.

However, there is still an ever-present information problem when it comes to emerging markets on company as well as on the macroeconomic level that could lead to anything from individual misjudgments to misleading national initiatives. An example of the severity of the problem came into focus in an UNCTAD report, released in late 2004, on the Russian economy and its FDIs. The report stated the Russian FDI volume for 2003 as USD 1 bn. This figure was based on the information posted on the CBR homepage in the beginning of June 2004. Later an updated figure, promoted by the state, had been posted in July, but now setting the figure to near USD 7 bn. It is noteworthy that a preliminary figure can be revised by some 700%, and to make use of a figure that is given six months into the year cannot be considered all to wrong. This example deals with what is both a high profile and important figure being stated by the national bank. It then turns out to be completely wrong. If misjudgments of this dimension can still happen, then there are few figures that can be trusted, making both international decision-making, as well as book writing, even more difficult. The CBR figure above relates to problems in collecting information about the past, but it is even more difficult to predict the future. The official estimations for the Current Account and export values of Korea during 2004 demonstrated this. The predicted full year value was, in the case of the Current Account, reached by the end of Q1 and the export value was reached in the first six months. It is apparently becoming increasingly evident, with both Japan and Korea as examples, that what used to be the governments conventional set of adjustments to keep the economy on track, e.g., easing monetary policies and keeping the interest rates low, works less efficiently than before. As a result not only predictions becomes increasingly insecure, as high liquidity and low interest rates does not necessarily lead to increased investments and consumption, as was hoped in Japan and Korea.

Russia for its part has seen major currency crises over the past ten years but has been able to ride this out by making use of a considerable international economic support. It has now reached considerable economic stability while profiting from a much higher price level for its energy and raw material export. China, so far, has not been anywhere near currency instability, but it probably needs to accept more flexibility in currency operations as its involvement in the world economy increases. China has been accused, sometimes unfairly, to strongly influence unemployment figures in faraway countries. However, there can hardly be any long-term sustainability in a trade system being built on a long-term huge deficit in the largest of the import market of products from China, Korea and Japan, the US. Somehow there will have to be an adjustment in currency values, i.e. a depreciation of the US dollar, which will result in a fall in US imports. Both governments and companies in highly export dependent countries in both South and North East Asia will have to prepare for this situation. Albeit being a change that could indicate difficult prospects for the same group of countries.

The economic stability of all the NEA countries currently relies strongly, and from what it appears increasingly, on the success of its multinationals. Many of these multinational corporations have created a system of both dependence and reliance in-between the major countries of the world where many economies will struggle as soon as their neighbours will face a crisis. These multinationals may well become the glue between the nations of the world that could see-to that potential conflicts will be kept at bay. At the very least, the multinationals could serve as mediators and lobbyists for dialogue as the international-political-economy continues to change in a dramatic and often unexpected fashion. In a global capitalistic world, as it is shaped in the beginning of the 21st century, there are no major opposing economic blocks as during cold war years. Instead, global competition has partly come to replace, or supplement, geopolitics in its search for the best partner or location for different functions of the biggest of the global corporations.

The functions of the state cannot be summarized into just something of a supplier of favorable conditions to its economic actors while enforcing law and order. It also has a duty towards its citizens to organize services and education allowing citizens and economic actors to take a longer-term perspective on their actions. Under more liberal conditions, enterprising could come to take over the responsibility for some national needs that would require less central control. However, this seems not to be the direction in which Russia under Putin and China under socialism are moving. Both have seen widespread economic freedom but have practically made no advances in the political field. In Korea under Roh, the picture is mixed, while Japan under Koizumi is slowly moving towards increased liberalism with a decreased role for the state.

Trade

Trade is increasingly important to most countries, but possibly even more so for those in the NEA group. Here foreign trade moved into the centre of attention to overcome the burdens from the Asian crises in 1997. Trade dependence, when measured by the relation between the GDP and the foreign trade value, is constantly increasing as trade figures have been going up by double digits for some countries, while GDP growth has remained much lower. Increased trade dependence makes countries increasingly dependent on both the global and regional development while reducing the domestic window of opportunity for governments. As a result, the importance of trade rules and their use is increasingly coming under scrutiny. A rapid increase in the interest of concluding FTAs has been seen to secure future access to important markets. With the current eagerness to negotiate FTAs with neighbor nations inside the group, it will probably not take long until the forming of something like an extended ASEAN is being formed. These steps in the NEA region are currently being taken within the rules of the WTO and could lead to, if the momentum can be kept, the emergence of larger trade areas that is much more rapidly developing than what has been seen elsewhere. Both the Southeast and Northeast Asian region must continue to improve their internal relations to make such a scenario possible the internal relations between neighbours. However, there are a number of bilateral issues to be solved that could stall the process at any time, like several of the different contested islands. There are also other internal conflicts among the NEA group, e.g., opposing views on historic conflicts that could spill over into trade conflicts, if not carefully contained by the involved governments. If something like a dark scenario was to develop, the economic and trade related effects on a lot of countries, not only in NEA, will be both widespread and immediate. In the case of Russia, again something of an exception, more than 2/3 of its recent years growth originates from increased prices in the fuel / energy complex and other raw material sectors such as wood, ferrous metals and mining. All being products that are not based on any unique know-how or manufacturing skill, which is the case for the export of the other three in the group. The Russian situation is unique because it is dependent on a string of basic products in high demand and has so far seen little when it comes to diversification into other sectors. Russia has yet to raise its general competitiveness in most other fields. The same kind of dependence, but on a small number of products, can also be seen in Korea, but its products are basically high-tech in nature. Consequently both Russia and Korea are exporters vulnerable to changes in demand for a small number of products in overseas markets. In this respect both Japan and China find themselves in a better position, with a considerably wider export base.

There are also concerns in the international arena that emerges from increasing trade imbalances between the world's big powers. The ever-increasing trade deficit of the US in relation to China, Korea and Japan looks unhealthy and is more or less bound to generate upcoming trade disputes. So far, much of the US deficit has been financed by the central banks in these same countries that save much of their ever increasing foreign assets in US state bonds, making the NEA group ever more dependent to the development in the US.

Energy

Energy remains a major problem area for the NEA group of countries. On the other hand it is a positive problem for Russia that is more about maximizing profits with no supply problems to be expected as long as the country can be held together. The main worry in the remaining countries is to secure a future supply of energy in the form of oil, LNG, coal and increasingly important, nuclear material. Energy has already been the cause of many conflicts around the world and remains one of the reasons behind the infected discussions about islands in this region. With the seabed's surrounding these islands not having been properly surveyed, no country wants to let go of potential offshore resources. However, it is difficult to move beyond the everyday issues with the lack of a regional forum for discussions at the top level in the region. In this respect, it is probably Japan that holds the key to any future success. The high profile, and by neighbor countries detested, shrine visits by Prime Minister Koizumi makes him ill-suited to take the lead in bridging these disagreements. At the same time, he holds a relatively strong domestic position and will probably have to be accepted by the neighbours, as the only available alternative for a dialogue.

In the absence of large-scale renewable energy resources, a future dark scenario could always be predicted where the tension mounts among major powers of the world while attempting to secure enough energy for themselves. Cooperation among the world's most important countries would therefore be the best solution for everyone, but will and can these countries cooperate? Again, a strong reason for countries to cooperate is continuously being generated by the sometimes much criticized globalization process and the increasing interdependence.

During 2003 and 2004, prices in the international energy market have surged, much due to increased Chinese demand for practically all kinds of energy, as well as other raw materials. Inevitably, the continued problems surrounding the Persian Gulf, the world's main source and reserve of world oil resources, has aggravated the energy situation further. As a result, a new and higher price levels for energy seem to have been established, with crude oil being the

commodity that has come to represent the turnaround. The volatility of energy and raw material prices has added an extra dimension of insecurity for all countries and even threatens to lead to a possible rebirth of inflation in some cases. For the countries that are relatively energy inefficient in relation to their GDP, energy costs have increased its share in their currency spending and have had a clear knock-on effect on all sectors of their economies through higher costs for electricity, heating and transport.

For Japan and Korea, the consumption of hydrocarbons in later years have fallen in volume, but both, since the 1970s, have had the necessary infrastructure to handle large import volumes. Since the first oil crises, the mix in the energy imports has changed with a considerable increase in coal imports and with LNG and nuclear material having been added to the mix. These changes have widened the energy sourcing alternatives during years when total consumption has been rising. Changes in China have been dramatic and in later years when the combination of a stagnation in domestic production volumes has coincided with a dramatic surge in demand. Simultaneously, bottlenecks in transport capacity have become a major problem related to the handling of all kinds of energy, from the transmission capacity in the high-voltage electricity grid to the distribution of the imported coal from the ports. The transport problems that occurred in Russia were practically the opposite, as at the time of the falling apart of the Soviet Union production fell dramatically, but so did consumption, and therefore both the energy sector and the transport system were faced with overcapacity. Instead Russia has been in the fortunate position during the last few years to be able to harvest considerable profits from both high energy and raw material prices, while it has continued to be less successful in many other sectors.

Energy, and especially oil, remains a strategic heavyweight among products in what will continue to be a geopolitical game for energy security. This will leave Russia in a relatively unique position for a long time where it can make use of cooperative partner nations and companies to its own good. Russia and its Far East region, wants to profit economically from the Chinese growth, at the same time as Moscow has no intention what so ever of giving away control over this largely uninhabited area. China is building much of its expanding economy on a growing manufacturing sector and low wages, a trend that has proved strong enough to absorb also the uninterrupted surge in prices for the extra energy and raw materials that must be imported. Japan, with the most advanced industry in the group, has also had to pay more for its imports, but with energy and raw material representing a relatively small share of product prices, these costs have proved easier to absorb. Korea, for its part, is much less energy efficient and more raw material dependent, which has made the upward global price trend considerably more difficult to handle.

Transport in all the countries in the NEA group could be said to be key in the energy sector as they all source most of their consumption from far away suppliers. Also inside Russia, findings supplying oil and gas are increasingly found 1 000 kilometers away from most domestic consumers. Energy of different kinds weighs in heavily in the trade balances for all the countries in the group and it is an additional problem that it is being sourced from faraway locations. The combination of high-energy costs and insecurities has resulted in considerable efforts to develop nuclear power in all of the NEA countries, despite the increased risk and long-term problems involved.

Transport

Trucking dominates the domestic cargo transport market in the NEA countries in the two more developed and smaller, countries Japan and Korea, while rail transport dominates in Russia and China. It is a similar situation in passenger transport, where private cars are performing much of the transport work in Japan and Korea and where the market is mature when it comes to car ownership. In China and Russia, the share held by cars in the transport sector is relatively small, but booming car sales in both markets have made these two the currently most interesting in the world for producers. However, sales of cars and trucks have, by far, outgrown the infrastructure development for years, resulting in considerable congestion problems on a deteriorating road system.

Changes in Russia and China have been fundamental over this period, as both energy consumption and transport needs have multiplied. Initially, and during socialistic years, domestic energy sources were favored and self-sufficiency was an integrated part of the official policy. As prices picked up in 1999 it took time for the energy sector and for the Russian state to fully understand that exports would become as profitable to start making transport investments. At a time when new energy fields reached production, new transport infrastructure in the form of rail tracks and pipelines were also needed. Additionally, new ports were also needed to export the increasing volumes and to profit from the higher prices. In China, the problem soon became the opposite, to increase the import capacity. At the same time findings in both Russia and China were located even further away than the previous ones and domestic transport distances have increased as a result. This is despite the fact that the big consumer countries can be found relatively near large Russian findings, but where no cross border pipeline has been laid so far. A possible connection from somewhere in Siberia towards China or Japan has been much debated and despite the fact that a decision appears to have been made, a completion of such a connection is several years distant. Meanwhile, other long distance connections have been laid, with a gas pipelines across China as one example and, e.g., the ongoing work to connect oil fields in Kazakhstan with western China.

Another aspect of the increasing dependence on long distance transport and increased global goods interdependence is the booming shipping sector. Shipping over long distances is in itself no new phenomenon, but the continued accelerated increase in ship size in the container sector is. The ship size has rapidly doubled to carry increasing volumes of manufactured goods and the first 10 000 TEU ship have already been ordered, with yet bigger to come around the corner. Although there is an increased demand, prices for long distance shipping have doubled in approximately one year, it still remains a very small portion of average product prices. Although increasing transport costs are negative for exporters it is positive for the shipping companies. This it has led to a boom in shipbuilding that has booked up all available capacity until 2008 in the three biggest shipbuilding nations of the world: Korea, Japan and China.

Security concerns in the shipping sector are constantly being kept on the agenda and during a voyage to/from Europe and the Middle East, ships pass the other major security worry; the narrow and pirate-rich Singapore Strait. No other waters in the world see some 50 000 ships pass loaded with something like one-third of world trade. There could also be a similar security burden to be carried by a pipeline, regardless of the connected regions. Not only does some of these long distance lines originate in less democratic countries, like Kazakhstan, but are also being laid in sparsely populated areas. As a result, they could become ideal terrorist targets in obstructing the functioning of a state. However, no matter how rapid the increase in shipments from Siberia, Central Asia and from booming production around Sakhalin will be, the main transport origin for energy for the three big consumers in the NEA group will continue to be hydrocarbons shipped from the unstable Middle East.

The road to future prosperity

To achieve a state of future prosperity in an ever more interconnected and globalised world stability is a major concern. With the exception of Russia, the NEA nations are all considerable raw material importers, manufacturers as well as traders, which further enhances the need for peace and stability. Geopolitically, the peace agreement signed between Russia and China during 2004 was a huge step forward, which included a common stance on a number of issues, e.g. over Taiwan, and they are also planning their first common military exercise. However, the NEA region still includes a number of current hot and potential problem spots, where some have over the years turned into something like a part of every day life. The most obvious is the nuclear problems related to North Korea, with the slowly improving relation, that has also seen setbacks, Russia and Japan, still 60 years after WWII have not moved much closer to a peace agreement. Also the infected wound caused by Japan's war crimes, and forgiving descriptions of this in school books, have lead both China and Korea to

show continued anger as old wounds have been slow to heal. Attention on islands are also seen, e.g., the Diouys that remains disputed between Japan and China while there has been continued friction over the Dokdo islets that are currently under South Korea and not Japan; not to mention the island of Taiwan. The future existence of Taiwan as a separate country continues to be based on fundamentally opposing opinions on the mainland and a large part of the Taiwanese population. A relation that has seen considerable improvements in later years, but also several setbacks, continues to be based on fundamentally opposing opinions as to the future existence of Taiwan as a separate country.

As long as mainland China continues its rapid economic and military expansion, it will inevitably and increasingly often come across situations where its interest in energy or in geopolitics will oppose interests among its neighbours, or the US. Despite a firm official stance on the Taiwan question over the years, actions, or the lack of Chinese actions, speak louder than words. This should perhaps be interpreted as a sign of a benign giant panda instead of a frightening dragon. On the other hand also China must be ready to accept responsibilities and to actively participate in the running of the world as a consequence of its increasing economic power. At the same time, others must also overcome the fear of letting China shoulder such a position.

Additionally, there are a number of internal problems in the NEA countries that are slowly getting increasingly difficult to handle, although they have hardly been mentioned here. Demography is just one aspect with long-term effects on the macro economic situation in each of the countries. In Japan, the age group over 65 is now over 20% of the population, while in Russia, the mortality has reduced male life expectancy to below 60 and the population as a whole is falling by about 500 000 per year. Korea displays a pattern similar to Japan, which is also happening in China, but with a worryingly large surplus of boys among the newly born.

If the increasing average age will affect all inhabitants of the mentioned countries more or less equal, then that is not the case with increasing income inequalities. As private car ownership in China and Russia is increasing rapidly, the lower income strata of the population are increasingly unlikely to ever earn enough to pay the price of a medium size car - in a lifetime. This development is exceptionally contradictory if the constitution, like in China, clearly bans "*...the exploitation of man by man*". Also in Korea and Japan, the well offs are connected to higher positions and active in prosperous sectors that are increasing their wealth, while workers in the less-favored sectors and locations are constantly losing out. Although the numbers are smaller than in Russia and in China, both countries see a growing group of younger people that never enters the labor

market and that are often unlikely to ever earn any official income. All NEA countries have developed from a history where life-long employment was the rule, guaranteed either by the employer or the state ideology. This has changed completely as 30% of workers in the Japanese labor market get along on short-term contracts, are employed by temporary staff agencies or have a part-time job. If strong economic growth with low employment generation is a phenomenon for the future that is to stay it will certainly be something that will limit the window of opportunity for governments. As policy measures to steer away from threats of increasing unemployment, increasingly liberal arguments could be used, and are already in line with the freeing the market forces. Some are based on real tendencies and hard facts, while other remains open to change. If this is the best way forward is probably impossible to tell, as it much remains partly guesses to predict the future. It serves here to remind the reader that concerns are already being voiced in China that the shifting focus towards more capital-intensive industry sectors will lead to an industrial development that cannot generate enough work opportunities already in the near future.

Income inequality is often a politically sensitive subject, but is still to be seen as a standard issue compared to democracy. All societies, being transition economies or not, face the problem of finding a path to initiate their necessary changes and make use of available opportunities where advantages are more or less fairly balanced by the drawbacks. The necessary decisions, by politicians who have been elected democratically, on which path to follow as a nation, should be taken at the political level. However, the world has so far not seen a clear-cut definition of democracy that has been accepted by a majority of its countries.

In the NEA group Japan is leading the way in applying a western style democracy, with Korea having seen an impressive democratization in approximately 20 years' time. The two transition economies are considerably more open today than ten years ago, but few, with a western definition, would call Russia fully democratic and certainly not so with China. Increased democracy is probably needed in all countries that would like to see stability and long-term economic growth. Such countries must be willing to make the necessary investments in education and health care, and not only focus on economic growth. These two directions of development are not always fully compatible, as attempts to promote diversification of the economy is often doomed without having reached a stage of good democratic governance. While many countries, e.g. the "*Asian Tigers*", have seen their strongest economic growth during stages when they are less democratic, the Russian transition appears to be different. In the Soviet Union, the collapse of the government, at the time of the break-up, was followed by continued weak governance. As a result, no central governing "*strong hand*" steered the development and set out

the direction for the manufacturing and service industries to follow. Instead, the focus was set on the attempts to introduce democracy before a sound economic development had taken root to carry the economic burden of such a development. In 2004, the president gave his verbal support to a continuation of this dual development: *“Our goals are absolutely clear: high living standards... .. a mature democracy and a developed civic society”* (State of the Nation Speech; Kremlin, 2004-05-26). China, as the other transition economy, although from a socialist point of view, has largely followed the same track as the *“Tiger Economies”* did some 20 years earlier; a strong state controlling the economic development. However, it maintained the socialistic ideology behind its emerging market economy. Of the two approaches to economic change, the few examples used here indicate that strong central governance has initially been better suited to carry through the large-scale reforms needed. Gradually, Singapore, Taiwan and Korea have, since their years of rapid economic development, converted themselves into full-fledged democratic societies. This can, sooner or later, be expected to happen also in Russia and in China, and, in a long-term perspective, also in North Korea.

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Chapter 1

- ¹ South Korea will from here on be referred to as only Korea in contrast to North Korea.
- ² Outsourcing is the process of letting other companies take care of functions inside a company that traditionally has been done by own employees, e.g., transport services <= >the opposite is to do something “*in-house*”.
- ³ Countries, which offer secrecy to owners of bank accounts and very low company taxes, but sometimes attracts deposits from not always legal business. Examples could be countries like Lichtenstein, Switzerland, Cayman Island and Guernsey.
- ⁴ The GDP figure is based on UN estimations for 2003; Population figures are UN medium development estimation for 2005, based on 2002 population figures.
- ⁵ The “*current-account balance*” measures the total flow of goods, services, investment and other financial transfers in and out of a country.
- ⁶ ASEAN includes Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. ASEAN + 3 -> is normally being referred to as the ASEAN group + China, Japan and Korea.
- ⁷ Clusters -> geographic concentrations of related and supportive business in one line of business.
- ⁸ The “*Asian Tigers*” are normally referred to include Hong Kong, Singapore, South Korea and Taiwan.
- ⁹ The natural advantage comes from the fact that one country is richly deposited with something the other has nothing or very little of. The comparative advantage derive from the fact that both will still profit from the fact that despite only a seemingly minor advantage for one of the countries, in one of two possible products, both will still profit from specialisation.
- ¹⁰ The expression “*inside companies*” here relates to when products are exported to other units of the company abroad, or another company inside the same group of companies.
- ¹¹ What is currently the EU was initiated as an initiative to establish common control over coal and steel production, to make future wars impossible. ASEAN – Association of Southeast Asian Nations; APEC – Asia Pacific Economic Cooperation.
- ¹² GATT was one of the organisations that were outlined as a result of the 1944 Bretton Woods conference, between the powers that were winning WWII, together with the World Bank and the International Monetary Fund, and came into being in 1949. In late 2004, WTO had 147 countries as members.
- ¹³ “*Non-tariff*” refers to regulations that makes trade/imports more difficult without being in the form of a money tariff that should be paid; it could instead be difficult permissions or specifications needed.
- ¹⁴ The regulated quota system under the MFA terminated by the end of 2004. Trade in textiles is also being discussed in greater detail in the chapter about China, under the headline “*Textiles and its trade*”.
- ¹⁵ Agreed on July 30, 2004, as a negotiation step in the framework of the Doha round (WTO, 2004-08-01).
- ¹⁶ For non-WTO members, it is often difficult to settle such difficulties if they become subject to anti-dumping on over-sea markets. A membership does not make a country immune to complaints, but the way these are launched has to be standardised and will

be decided by a third party; the WTO. The name originates from the capital of Qatar, Doha, where the negotiation round was initiated.

¹⁷ Most countries have a “*Foreign Trade Legislation*”, setting the limits of how foreign trade can be conducted, it still must be reformed and brought in line with the framework of the WTO.

¹⁸ “*Structural unemployment*” is the result of that a whole line of industry has lost its competitiveness and

is unlikely to generate any future employment; e.g., coalmining, textile industry and older steelworks.

¹⁹ GATS – General Agreement for Trade in Services; concluded in 1995 before the inauguration of WTO.

²⁰ The number of FTA’s in the world that currently exist can not be set very exactly as it continues to increase, and as there is no standard definition what is needed to be considered an FTA. With the US, about 50 countries have signed different kinds of arrangements related to trade. For an update see: http://www.fas.usda.gov/itp/Policy/trade_news.htm

²¹ This will be further exemplified within the China chapter dumping case against TV manufacturers.

²² It was not until then that WTO’s predecessors, the GATT, started to take notice of such actions. What happened before was seen as bilateral issues that were not given any wider attention.

²³ “*Provocation*” representing the Chinese point of view while the Koizumi view would be one of personal freedom of religion.

²⁴ In contrast to the latest visit to the shrine the German Chancellor, Gerhard Schroeder, as have his predecessors, repeatedly acknowledged the Germany guilt in WW II and at the nearly the same date participated in the commemoration of the Warsaw up-rising that claimed some 100 000 victims.

²⁵ The latest on the sidelines of the APEC meeting in Santiago in November 2004. The Yasukuni issue was as the main subject brought up from the Chinese side, with gas explorations as the main Japanese issue.

²⁶ “*Oil-equivalent*” is a measure used to compare or sum-up different sources. The energy content, e.g. in coal, is recalculated to the corresponding volume of oil that would supply the same amount of energy.

²⁷ 1 million bbl/day equals approximately 141 000 tons (one barrel is equal to 159 litres); setting world consumption at about 11.5 mt/day, or at 4.2 bn tons per year.

²⁸ There are eleven OPEC (Organisation of Petroleum Exporting Countries) members: Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates and Venezuela.

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Chapter 2

²⁹ At the end of 2004, Russia had a population of 143 million on a surface of 17 000 000 km².

³⁰ “*The Duma*” is the lower house in the Russian Parliament; “*The Federation Council*” being the upper.

³¹ The following values refer to each country’s domestic currency, if nothing else is being stated. The GDP for 2004 was first given as 6.9%, but within weeks adjusted to 7.1%.

³² The latest available statistics related to most factors of the economy can be found at the information page of the Ministry of Finance (Minfin, 2005-01-25).

³³ “*Federal State Statistic Service*” is the renamed former statistics unit called “*Goskomstat*”

³⁴ In a 2004 survey 60% of business leaders set “*Bueroucrats and state regulations*” as the main hindrance to the development of small and medium sized companies (Expert, 2004-06-06).

³⁶ In September 2004 the average per capita subsistence minimum in Russia was 2 400 (USD 85)

³⁷ “*They are inviting Russia into the club as an important partner in the energy dialogue, that is, as an aide on raw-materials questions.*” Sergei Rogov – Director, Institute of the U.S.A. and Canada (Vedomosti 2004-06-08).

³⁸ The use of Yukos-kind of tax breaks has continued during 2004 when steel and metal companies have been said to have used companies in Chukotka to save billions (Bloomberg, 2004-09-21).

³⁹ Benefits that could include; free health care, free public transport, subsidised vacations and housing.

⁴⁰ The first figure includes also e.g. bank loans, while the second is only long term “*real*” investments.

⁴¹ In the worst years of capital flight in the mid 1990’s the level was estimated to have reached USD 80 bn.

⁴² Among the “*unknown*” on this listing, with assets valued at USD 350 millions, mostly in real estate in and around Moscow, are Yelena Baturina – the wife of Moscow’s Mayor, Yury Luzhkov.

⁴³ It must be remembered though that the background data used are far from perfect as much of the ownership is, on purpose, very difficult to trace through complicated company cross ownership structures and offshore trusts, often placed in distant tax-heavens. Leaving little chance of scrutiny.

⁴⁴ A situation that is often said to resemble the curbing of US “*robber barons*” in the late 19th century.

⁴⁵ During the crises, the CBR, e.g., reduced the reserve requirements by 50% for the sector to free capital.

⁴⁶ Sberbank alone holds 60% of all private deposits. Vneshtorgbank later acquired a struggling Gota Bank.

⁴⁷ The WB definition is: “*an income just adequate to cover essentials*” – it topped at 42% in 1998.

⁴⁸ The ten new members included in 2004 were; Cyprus, Malta, Slovakia, Czech Republic, Slovakia, Hungary, Poland, Lithuania, Latvia, and Estonia.

⁴⁹ The Russian export tariff has been in operation since 1999, but with world steel supply having outstripped demand up until mid-2003, the tariff have had little effect prior to that.

⁵⁰ Nikolaev, 30 in 2004, spent 3 ½ year in prison for beating a Krai legislator and threatening to kill another.

⁵¹ In the year since September 2003 there has also been a fall in value of the US Dollar of about 10%.

⁵² If the huge shuttle trade in the years around 1998 had been included, it would probably have meant that the import figure should have been 20 -25% larger.

⁵³ It can be expected that the values exported are considerably higher than what is stated, as exporters have a tendency to underestimate, which is supported by import values from Russia in Asian countries.

⁵⁴ Trade-related conflicts that include Russian products currently counts in the hundreds, e.g., just anti dumping actions against Russian products are by mid-2004 well over 100 (MOEDT, 2004-06-15).

⁵⁵ China also demanded this, for one week, and then the demand was withdrawn again (MT, 2004-07-25).

⁵⁶ As for agriculture, Russia, is currently relatively free from agriculture subsidies, and wants to count the level from 1989 as its base for the negotiations on the reduction of subsidies. WTO regulations allows some limited restrictions for agricultural products in the form of subsidies and import quotas.

⁵⁷ A pirate CD with any major artists has so far sold for around USD 2, just off the high streets, in Russia.

⁵⁸ Asian Pacific Economic Cooperation, set up in November 1989, includes Russia among its 21 members.

⁵⁹ The zone where the conflict was staged can be found where the two rivers Amur and Ussuri meet.

⁶⁰ E.g. Gazprom, Transneft, United Electric System, Rosneft (merging with Gazprom), Irkutskenergo

⁶¹ The shares in Gazprom rose by about 15% in only the day of announcement (Kommersant, 2004-09-14)

⁶² When using international accounting standards, the oil companies do this in their annual reports.

⁶³ On June 1 2004, a day when oil prices jumped USD 4 after militants had killed 22 people in an attack in Saudi Arabia, Texas oil in New York sold for USD 42.5, and Ural Brent at USD 36.8 (MT, 2004-06-02).

⁶⁴ Worldscale is a % of a nominal, yearly recalculated, rate on set routes for a fixed ship size. Shipping prices are then negotiated as a percentage of the base rate for the leg: e.g. Persian Gulf -> Singapore.

⁶⁵ 80 mt x 20 years x 7.1 (bbl/ton) -> total transported volume will reach 11.2 bn bbl -> USD 1.6/bbl

⁶⁶ The latest strong earthquake, measuring 6 on the Richter scale, hit Sakhalin on June 1, 2004.

⁶⁷ BP bought a 50% stake in the then third largest Russian oil company, TNK, for USD 7 bn in 2003.

⁶⁸ With the former CEO of Rosneft as a large shareholder in many of the subsidiaries of the company, the merger is said to have run into difficulties over compensation claims (Kommersant, 2004-10-05)

⁶⁹ Transit fees for oil and gas in the Ukraine fund 15% of the state budget. At the end of H1 2004 Belarus, Moldova, and the Ukraine owed Gazprom over USD 3 bn in unpaid gas bills (Bofit, 2004-34).

⁷⁰ Mosenergo, which is about to be restructured, has seen considerable speculation during the fall of 2004, with Gazprom having become a 25% owner, at the same time owning 10% in the UES (MT, 2004-11-05)

⁷¹ Although it is technically possible to also produce heat, all plants produce only electricity

⁷² In April 2004 the previous ministry, Minatom, was stripped of its status as ministry. Instead it became the Federal Atomic Agency under the Ministry of Industry and Energy, but this will not change the status of the former ministry's international agreements.

⁷³ What probably is the most misplaced Soviet reactor can be found in Jerevan, Armenia, site to the large 1989 earthquake, but put back into use in 1995 and still supplying 40% of national electricity.

⁷⁴ Seversk and Zheleznogorsk could be better known under their under-cover names when they were secret Soviet cities: Tomsk-7 and Krasnoyarsk-26.

⁷⁵ Not a unique situation as e.g. the four reactors in Murmansk Oblast, at the Kola Nuclear Power Plant, two are of Chernobyl type, with the plant producing 60-70% of the electric energy in the region.

⁷⁶ The Soviet-designed reactors built in DDR have all been closed.

⁷⁷ The description "*Chernobyl type*" has been given to the RBMK reactor after the fatal accident that occurred in April 1986. This kind of reactor has no safety containment and use fire dangerous graphite.

⁷⁸ EPR – European Pressurised Reactor designed by German-French Siemens-Areva in the 1980's.

⁷⁹ During later years any visitor travelling on local Russian bus has been able to see for himself that at least 50% of passengers present different kinds of permissions to the conductor and do not pay any fee.

⁸⁰ Any visitor in Russia cannot have avoided noticing the high willingness among Russian drivers to take unnecessary risks, which adds considerably to the raising fatality statistics.

⁸¹ To be compared to the ownership in the US is at around 700 per 1 000 inhabitants.

⁸² The following 4 – 7 on the list of foreign producers are all from NEA: Daewoo 35 000 (+90%), Mitsubishi 30 000 (+70%), Nissan 28 000 (+210%), Kia Motors 19 000 (+40%).

⁸³ Only during the first six months of 2004, Sovcomflot alone took delivery of three new ships, and has placed orders for seven new ships by October 2004. The company already has an average age of its near 4 million dwt fleet of a near world record low, for that large a fleet, of 8.2 years, with 9 new ships on order.

⁸⁴ The port in Vostochny changed hand for UAD 150 million as late as in January 2005 from its former steel based, Severstaltrans, owners to its new coal based owners.

⁸⁵ "*flat-*" products here are sheets; "*long-*" products refers to wire in different forms.

⁸⁶ The approximate raw material consumption for one ton of steel is in the range of 1,5 – 2 ton of ore, 1,5 tons of coal, six tons of water and additional minerals/additives depending on the quality produced.

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Chapter 3

⁸⁷ In 2003 Japan had a population of 128 million on a surface of 378 000 km².

⁸⁸ The Japanese accounting (fiscal) year starts on April 1 – in contrast to the normal fiscal year 1/1 – 31/12 and often leads to confusion as published statistics often do not refer to calendar years.

⁸⁹ CA - gives not only the import and export values of goods and services, but also the capital account of the balance of payment, which includes data about short and long-term capital flows (Over time it should largely balance – problems related to deficits are much more frequent than the NEA surplus problems).

⁹⁰ The Governor of Bank of Japan, Toshihiko Fukui, has endorsed such actions as consistent with the central bank's efforts to drag the Japanese economy out of deflation, including the issue of a record level of short-term debt financing bills to pay for the market operations (JT, 2004-03-11).

⁹¹ From mid October to the end of November the Yen appreciated by over 7% against the US dollar.

⁹² Government bonds make up nearly 90%, with per capita dept. corresponds to about USD 50 000.

⁹³ The standard analogy handsets of the 1980's and digital handsets of the 1990's are labelled first and second generation respectively; the third generation could also handle Web-pages in the phone. Currently 3G phones used in the three nations use different transmission standards.

⁹⁴ "New Deal" was originally the Roosevelt economic policy adopted in 1932 to curb the US depression.

⁹⁵ Authors extrapolation based on METI trade figures for 2003 and H1 2004.

⁹⁶ Also known as "voluntary restraint agreement" – VRAs

⁹⁷ Cases against Japan at the WTO have been opened at a rate of about two cases per year. Most have been settled bilaterally, while the outcome of two rulings have been against Japan.

⁹⁸ The shrine can be virtually visited, anonymously, by anyone at www.yasukuni.or.jp/english/

⁹⁹ The Japanese Constitution Article 20 reads: "Freedom of religion is guaranteed to all. No religious organization shall receive any privileges from the State, nor exercise any political authority" 20:3 reads: "The State and its organs shall refrain from religious education or any other religious activity"

¹⁰⁰ The Korean comfort woman, also called "sex slaves" were women that had to serve the Japanese army during WWII, while the Nanjing Massacre, refers to alleged mass killings and rape in Nanjing Dec. 1937 to Jan. 1938 after Japanese forces captured the city.

¹⁰¹ Lee, 81, was President for 12 years and born under the Japanese rule of Taiwan. When asked about the mainland's opposition to his visit he stated: "Taiwan is not part of Chinese territory" (Kyodo, 2004-12-28)

¹⁰² The record summer of 2004 gave the Tokyo area 68 days with above 30 degrees and 89 in Osaka.

¹⁰³ A derailment, but with no passengers hurt, by a Shinkansen train did happen at the Nigata earthquake in October 2004 when the train happened to be at the 6.8 epicentre on the Richter scale.

¹⁰⁴ “*creative bookkeeping*” – to make adjustments to in the accounting to improve results – not always have to be illegal, more often in the dubious sector of accounting principles.

¹⁰⁵ Figure includes only cars with engines > 660 cc.

¹⁰⁶ The given information must be seen as indicative as the different companies use different basis to include or exclude subsidiaries when it comes to plants and employees. Some are also big producers of other products like trucks, buses, motorcycles, outboard motors and equipment.

¹⁰⁷ The 54 km Seikan Tunnel; 24 km is under water, with its lowest point at 240 meter under the sea level. Needed 16 years for completion, until 1988; is one of the worlds major engineering achievements.

¹⁰⁸ Several of the larger companies have joined forces in alliances like this one, comparable to those among air carriers. Here it is NYK together with Hapag-Lloyd of Germany; Malaysia International Shipping; OOCL of Hong Kong and P& O Nedlloyd of the United Kingdom/Netherlands; the MOL group includes APL of the United States and Hyundai Merchant Marine (HMM). Grand Alliance has the largest capacity of the two at 3.5 million TEU in the beginning of 2004 and TNWA 2.8 million TEU.

¹⁰⁹ Among subsidiaries of the main companies there are a large number of co-operation agreements and cross ownership, e.g. for development projects and non-core activities.

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Chapter 4

¹¹⁰ In early 2005, China had a population of 1 300 million on a surface of 9 600 000 km².

¹¹¹ Most often known as Yuan, the Chinese currency has Renminbi as its unit of measurement – a pair that resembles that of the UK pair of Pound and Sterling.

¹¹² Contractual value of FDIs in 2004 reached USD 153 bn, up 33%, from a total of over 43 000 approved projects, but investments of USD 61 bn were realised.

¹¹³ “*non-performing*” here refers to loans where no interest is being paid and where it is unlikely that the lender will be able to fulfil his commitment or even parts of it.

¹¹⁴ The Yuan is officially not a convertible currency, but still in circulation in neighbouring economies.

¹¹⁵ “*float*” indicates that the value of the currency is set by the market without state influence.

¹¹⁶ “*pegged*” value is practically the opposite to a float – a fixed value in relation to another currency.

¹¹⁷ With more than half of the zones having been set up informally, competing with the official ones.

¹¹⁸ In the late 1960’s the average stood at above five children per woman to have fallen to 1.5 in 2003.

¹¹⁹ “*In China, shortages of water are an unavoidable issue challenging national security*” (Wang Shechung, Minister of Water Resources, quoted in CD, 2004-04-12).

¹²⁰ Originating in its inner northern parts, China has seen an increasing number of sand storms in later years, with the storm in March 2004 covered 2 million km² (approx. 5 times Japan) (CD-2004-03-30)

¹²¹ Already in 1952 Mao Zedong is said to have suggested “*the north should borrow some water from the south*”. In 1992 President Jang Zemin gave priority to the project as a part of the national development strategy. The only comparable projects in the world could be the Russian projects, from the late 1970s, to divert a part of the flow in the river Ob south, towards Central Asia and the Aral Sea; abandoned in 1986.

¹²² The Harbin division of Bank of China saw its manager disappear in January 2005, but not alone, as also customers’ deposits to a value of USD 115 million had vanished (CD, 2005-01-24).

¹²³ March-June 2003 some 5 000 on the Chinese mainland were infected, of which 350 died.

¹²⁴ During much of H1 HK was hit by SARS resulted in low productivity during the period.

¹²⁵ Relations are improving in many fields and in late 2004, the first cruise ship ever sailed from the mainland with tourists to Taiwan (CD, 2004-12-10). For the Lunar New Year, during the first days of February 2005, special negotiations made it possible to run charter flight across the strait – first since 1949.

¹²⁶ The “*One-China*” policy is based on the outcome of negotiations between the mainland and Taiwan in Hong Kong in 1992, when the parties agreed on this principle; but with different interpretations.

¹²⁷ An increase by USD 10/ bbl in oil prices represents an increase in imports by app. USD 8 bn.

¹²⁸ A volume that corresponds to about 30% of that of Japan or 70% of that of Africa (WTO, 2004-08-28)

¹²⁹ It includes calculations of GDP, currency exchange rate, the trade method and the trade competence of the nation that could be done by slightly different methods in different countries.

¹³⁰ EU 25 is the largest export destination, US largest single nation. Japan is the largest source for imports. Largest countries in order of importance for total trade in 2003 were: US, Japan, Hong Kong, Korea, Taiwan, Germany, Malaysia, Singapore and Russia; with Japan overtaking the US during 2004.

¹³¹ Not true for textiles though, where the EU promised increased mushroom(!) quotas to compensate for problems during the transition time until the end of the multi-fibre agreement in the beginning of 2005.

¹³² ASEM was formed in 1996, with the aim of promoting co-operation between the regions. ASEM 36 includes EU 25, the EU Commission, China, Japan, Korea and seven ASEAN countries.

¹³³ In the case of Chinese exports, the first anti-dumping cases appeared in 1979 when the EU launched an investigation into the export pricing of Chinese saccharin.

¹³⁴ The high profile German Maglev technique used for the Shanghai airport railway is said to have been subject to infringement as well as GM, with a full car model, are just two examples (CW, 2004-12-12).

¹³⁵ By September 2004, the ten APEC countries, New Zealand, Kyrgyzstan and South Africa have granted market economy status to China (CW, 2004-09-08).

¹³⁶ The production volume of China's textile industry continues on its growth trend and was up by 15% during H1 2004, despite state measures to curb the growth in industry.

¹³⁷ The US president, in early November 2004, rejected a request from a group of congressmen to bring up a case at the WTO concerning the Chinese currency policy (Whitehouse, 2004-11-14)

¹³⁸ Filed in April of 2004, it gives the US government 45 days to accept the petition, then 60 days to hold hearings on the matter followed by a year to decide what actions to be taken. None of this happened.

¹³⁹ Some odd examples of the miscalculations are given: as e.g. the use of airfreight to ports for the products, when the actual distance from the factory to the port was just over 2 kilometres.

¹⁴⁰ It could be discussed if Taiwan should be counted as a country – if not so, then three sea borders.

¹⁴¹ The latest meetings between a Chinese President and Koizumi have been at the sidelines of the G 8 meetings in May and October 2003, the APEC meeting in November 2004 and the International Socialist Union meeting in Djakarta in March 2005.

¹⁴² A ruling in favour of the plaintiff was given by a Fukuoka court on 2004-03-26, while a court in Sapporo had rejected a similar claim on 2004-03-23.

¹⁴³ The islands were seized by Japan in 1895, when Japan defeated the Qing Dynasty forces. Then put under US control after World War II, until returned to Japan in 1972.

¹⁴⁴ Additional discussions on relations to other neighbouring countries can be found in the chapters on Russia, Japan, Korea and North Korea.

¹⁴⁵ This was a continuation of previous programs: "*Interim Provisions Concerning Certain Questions on the Multipurpose Utilization of Resources*" in 1985, and the "*Opinions on Making Further Multipurpose Utilization of Resources*" and "*Catalogue of Resources for Multipurpose Utilization*" in 1996.

¹⁴⁶ This could include, e.g., to make use of and not just burn off gas findings at oil wells.

¹⁴⁷ The US reserve normally corresponds to 50 – 70 days consumption while the Japanese reserve has at times seen its volume correspond to near 150 days of consumption.

¹⁴⁸ The two companies are both ranked among the 20 largest in the world in their line of business.

¹⁴⁹ Other oil fields are located in Shengli, in Central China and Jilin, Dagang. New fields and fields under development are all in Jianghan, Xinjiang, Tarim, Tulufan, Hami, Changqing and Qinghai.

¹⁵⁰ Until late 2003 oil companies on the local market oil had to pay a 17% VAT on oil and oil products, but received a 13% reduction if the oil was exported. Since late 2003 this rebate has been largely abolished, but remains at 11% for gasoline.

¹⁵¹ "*Resource*" - is the total existing content of e.g. iron in an iron ore finding. "*Reserve*" - is the quantity that is worth to mine at the current price and with existing mining techniques and equipment.

¹⁵² After Japan concluded its largest foreign oil deal ever in Iran in early 2004, despite of US protests, the position of Iran has, perhaps, been somewhat improved.

¹⁵³ Yukos at the time paid USD160 in transport tariffs and export duties per ton of the 650 000 tons exported to China; 400 000 to CNPC and 250 000 to Sinopec (Yukos spokesman Puchkov quoted by V.).

¹⁵⁴ The most important regions of current gas production are in Sichuan, Shaanxi, Gansu and Ningxia and the basins of Tarim and Jungar. The main fields of oil production in the future will probably be located in the outskirts, in the northwest, the northeast or offshore to the east.

¹⁵⁵ A figure that includes pipeline related costs only. If total costs for construction, exploration at the gas fields, excavation at the fields, distribution networks were included in the 10th 5-year plan 2001–05.

¹⁵⁶ Best: Haikou (HP), Zhuhai and Zhanjinag (GP), Guiling and Beihai (GZAR).

¹⁵⁷ China Hua-nong, China Da-tang, China Hua-dian, China National Power, and China Power Investment; two grid companies State Grid Corporation of China, China Southern Power Grid Co. Ltd.

¹⁵⁸ In tear of roads from one truck is approximately set to correspond to over 5 000 cars, and with overload, resulting in increased axis pressure, the tear on the road is considerably higher.

¹⁵⁹ The new line from Sichuan to Lhasa is under construction and will pass at over 5 000 above sea level (highest in the world for a railway). It is due to open in late 2006.

¹⁶⁰ In 2000, the German government abandoned a plan to build the first long distance magnetic suspension “*show-case*” train link on the 292 km separating Hamburg and Berlin.

¹⁶¹ In 2001, China had 460 towns and 70 000 villages practically inaccessible by road.

¹⁶² In 2003 VW sold near 700 000 cars in China, first of all Santana and Jetta models, a rise of 36%, but still saw its market share shrink to 31% from having held a 54% share as recently as in 2000.

¹⁶³ A general rule is to start the prospecting for new handling capacity after 70% has been reached.

¹⁶⁴ Baosteel - the largest steel producer; Sinopec – the largest oil refiner; Haier – largest household manufacturer/exporter; Huaneng – the nations largest energy producer.

¹⁶⁵ To compensate for copper shortages, China spent more than USD 3 bn on imports in 2003, which was before prices shot-up.

¹⁶⁶ The metal content of ores and different grades of refinement and storage levels often makes it confusing to compare statistics in the mining / metal sectors in-between years, consumer, countries and producers.

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Chapter 5

¹⁶⁷ Korea in 2003 had a population of 48.3 million, on a surface of 99 000 km².

¹⁶⁸ As this kind of statistics is based on current value of the USD, currency fluctuations in between years can often become the most significant change, ahead of what is a “*real*” GDP increase.

¹⁶⁹ Bank of Korea has, in 2003, in accordance with UN recommendations, changed the base year for GDP and GDI calculations from 1995 to 2000, and the calculations from the

UN agreement SNA 68 to SNA 93. The latter changed results in more economic activities that are included, e.g., activities like broker-age services by financial institutions, previously left aside. This partly explains why the Korean per capita GDI grew as much as 10% for the year, to USD 12 650, despite negative tendencies in the economy.

¹⁷⁰ Initiated by Prof. Man-woo at the Korea University – partially in line with these demands the president has both set-up and led debates and panels, and has initiated discussions with labour unions.

¹⁷¹ For both indexes a figure under hundred indicates that more respondents are negative than positive.

¹⁷² A “*non-convergence trap*”- can affect a developing country that remains highly dependent on imported technologies from other advanced economies and that as a result of this, at least in theory, will experience a gradual slowdown in its economic growth.

¹⁷³ The Hanjin Group Chairman, Cho Yang-ho owned the largest stake at 2.92%

¹⁷⁴ Samsung Group is Korea's largest conglomerate and the world's largest producer of memory chips for computers and the world's number three producer of mobile phones (Samsung, 2004-07-07)

¹⁷⁵ Among the top 10, the percentage of foreign holding is very unequal, with the retail Doosan Group, appearing to be the least popular as foreign owners holds a merger 1.6% of the shares. As a result of foreign ownership outbound payments for royalties and patent rights have soured in recent years, reaching about USD 4 – 5 bn/year – three times of the similar incomes (BOK, 2004-05-02).

¹⁷⁶ Transfer pricing refers to the setting of (unfairly high / low) product prices in between subsidiaries of multinational companies to, e.g., lessen the tax burden in one or the other of their countries of operation

¹⁷⁷ The index measures the “*degree of economic freedom*” in a country by assessing the size of government, legal structure and property rights, access to sound money, freedom of exchange with foreigners as well as regulations related to credit, labour and business.

¹⁷⁸ A trade conflict with Japan has surfaced as Matsushita has accused LG of patent infringements and has, through a court case, been able to stop all import of LDC screens from Korea (JT, 2004-11-13). Two weeks later the same ban on imports and sales of Matsushita (Panasonic) LDC's was introduced in Korea.

¹⁷⁹ Again, this shows the difficulty of making predictions about the development, although the scale of the error here could be seen as near unprecedented.

¹⁸⁰ The share over plus 65 standing at 8.7% at the end of 2003, which is a relatively low, but it is increasing more rapidly than for comparable countries. At the same time, the average birth rate by Korean women is among the lowest in the world at 1.2 children.

¹⁸¹ Refers to when a persons disposable income, after tax, is being lower than minimum living costs

¹⁸² When the value is under 100, it indicates that the export products are losing in value relative to the imports of the country.

¹⁸³ The Korean price index for the 30 most important imported raw materials, The Koima Index, reached its highest level ever in March 2004 of 137, up by over 30 index points in 12 months (Koima 2004-05-02).

¹⁸⁴ At the end of 2004, Samsung was the world's third largest manufacturer with LG at number four.

¹⁸⁵ Requested building permits are often used as a good indicator of near future economic expectations, and permits were given for 6.7 million m², a drop of over 40 % compared Q1 2003 (Federation of Korean Industries 2004-04-15).

¹⁸⁶ For H1 2004 the Korean share had increased to 3.1% with the other shares unchanged.

¹⁸⁷ Samsung Electronics alone, the largest producer, generated over 10% of Korea's exports in 2003.

¹⁸⁸ In the aftermath of the panic from the earthquake, it was rumoured that Koreans in the area were looting and committing arson, which led to that 100s, or perhaps 1 000s, of Koreans were killed in riots.

¹⁸⁹ Condensed version of the original text.

¹⁹⁰ The spelling Pusan is perhaps the most frequent in English, but in "*Korean-English*" it is only Busan.

¹⁹¹ The five Korean vehicle producers are (approximate production in million units, 2003): Hyundai (1.8), KIA (0.7), Daewoo (0.3), Ssayong (0.2) and Renault Samsung (0.1).

¹⁹² KIA Motors, previously a independent manufacturer, was acquired by Hyundai Motors in 1998

¹⁹³ The first Korean cars reached the European market in 1977 (Hyundai, 2004-07-15).

¹⁹⁴ A VLCC has a early 2005 order value of USD 70 million and a large LNG carries USD 200 millions.

¹⁹⁵ Although these ships are in the 120 000 dwt range and 350 meters long, the worlds largest remains the Norwegian tanker Jahre Viking at 565 000 dwt and 485 meters (loading 650 000 m³ or 4.1 million barrels).

¹⁹⁶ Finex technology enables a production of molten iron directly from using iron ore fines and non-coking coal rather than processing through sintering and coke-making.

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Chapter 6

¹⁹⁷ In 2003 North Korea had a population of 22.8 million on a surface of 122 000 km². DPRK is organised into two major cities, Pyongyang and Nasun, and nine provinces, with Korean as the only language in this ethnically homogeneous and largely atheist country.

Sources¹:

(“ * “ in front of an address indicates that there should be NO www)

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www.aeroflot.ru/eng/company.asp (Moscow)
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www.aflcio.org (Washington D.C.)
- Airbus – Airbus Industries (world’s second largest airplane manufacturer)
www.airbus.com (Toulouse, France)
- Airports – Airports Council International (international airport organization)
www.airports.org/ (Geneva, Switzerland)
- ANRE - Agency for Natural Resources and Energy
www.enecho.meti.go.jp/english/ (Japanese Ministry; Tokyo)
- Antonov – Antonov ASTC (leading FSU, now Ukraine, producer of aircrafts)
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- ADB - Asian Development Bank (regional member countries investment bank)
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- Asian Migrants (labor rights support organization)
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- Automotive News – (One of the world’s leading car industry weeklies)
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- autointell - Automotive Intelligence News (web based auto-industry news source)
www.autointell-news.com (no base given)

¹ Links below refers to the English language site, if there is one and if the information has been found on the English pages. If not, then to the original language page. When linking up to pages it is mostly possible to only write the address given until the first slash “/”, which will be enough to connect. Then go on via the icon indicating English (sometimes not very logically placed though, but mostly in the upper right of the pages).

AvtoVAZ – OAO Avtovaz (leading Russian automaker)
www.vaz.ru/english.html (a very poor English version) (Togliatti)
www.vaz.ru (Russian version is much better)

Bakerinstitute – Rice University (James A. Baker III Institute for Energy Policy)
www.bakerinstitute.org (Houston)

Baltic Exchange – (global market place for shipbrokers, owners and charterers)
www.balticexchange.com (London)

Base21 - Building A Solidarity Electronically 21 (- century)
www.base21.org/base21hot/migrant.html (Seoul)

Bellona – (environmental NGO)
www.bellona.no/en/index.html (Oslo, Norway)

Berlitz – Berlitz International Inc. (worlds leading foreign language school)
www.berlitz.co.jp/?ISO=en (Princeton)

Bloomberg – Global (financial analysis and communication company)
www.bloomberg.ru/ (New York/Moscow)

Baosteel – (Shanghai Baosteel Group; the largest steel manufacturer in China)
baosteel.com/english_n/indexe_n.html (Shanghai)

Bofit – Bank of Finland’s Institute for Economies in Transition (weekly newsletter)
www.bof.fi/bofit/ (Helsinki, Finland)

Bofit –CR – Bank of Finland’s Institute for Economies in Transition (China review)
www.bof.fi/bofit/ (Helsinki, Finland)

Bofit DP – Bank of Finland’s Institute for Economies in Transition (discussion paper)
www.bof.fi/bofit/ (Helsinki, Finland)

BOK - Bank of Korea (national bank - with statistics service function)
www.bok.or.kr/index.jsp (Seoul)

BOJ - Bank of Japan (national bank)
www.boj.or.jp/en/ (Tokyo)

BP - (formerly named British Petroleum; one of the leading oil companies)
www.bp.com/home.do (London)

Brunswick UBS (private investment advisors)
www.bubsw.com (Moscow)

Busan – Port of Busan (Korea’s largest port, worlds no. six container port)
www.portbusan.or.kr/english/ (Busan)

Business Week Magazine (located in Washington)
www.businessweek.com/magazine/toc/04_20/B3883magazine.htm

CAAM - China Association of Automobile Manufacturers (producer association)
www.auto-ccpit.org/english/index.htm (Beijing)

CAEA - China Atomic Energy Authority (domestic state atomic energy authority)
www.caea.gov.cn/ecea/index.asp (Beijing)

CANSI – China Association of Shipbuilding Industry (producer association)
www.cansi.org.cn:8080/cansi/en/all.htm (Beijing)

CAS - Chinese Academy of Science
english.cas.ac.cn/Eng2003/page/home.asp (Beijing)

CATIC – China National Aero-technology Import and Exp. Corp. (aviation holding)
web.catic.com.cn/Eindex.asp (Beijing)

Cato - Cato Institute (libertarian research NGO)
www.cato.org (Washington, D.C.)

CBR -	Central Bank of Russia (national bank) www.cbr.ru/eng/main.asp	(Moscow)
CBRC -	China Banking Regulatory Commission www.cbrc.gov.cn/english/index.htm	(Beijing)
CBW -	China Business Weekly (Business weekly from the China Daily publishing) www.chinadaily.com.cn/english/	(Beijing)
CBPP -	Center of Budget and Policy Priority (NGO with focus on the US budget) www.cbpp.org	(Washington D.C.)
CEC-CEDA -	China Enterprise Confederation / China Enterprise Directors Association www.cec-ceda.org.cn/english_version/	(Beijing)
CEFIR -	Centre for Economic and Financial Research (foreign supported think-tank) www.cefir.org/papers.html	(Moscow)
CCC -	China Chamber of Commerce for Import and Export of Textiles www.ccct.org.cn/	(Beijing)
China Avia. -	China Civil Aviation Administration (national civil aviation authority) www.caac.gov.cn/	(Beijing)
CD -	China Daily (English language daily newspaper) www.chinadaily.com.cn/english/home/index.html	(Beijing)
China Economic Net (news agency with, mostly for southern China and economic news)	*en.ce.cn/main/index.shtml	(Guangzhou)
China Radio International - (state radio broadcasting in 24 languages)	en.chinabroadcast.cn/	(Beijing)
China Southern - China Southern Airways (Chinas largest air carrier)	www.cs-air.com/en/	(Guangzhu)
China Youth - China Youth Daily (official party youth organization daily)	www.chinayouthdaily.com/	(Beijing)
China.org - Official state information page for China	www.china.org.cn	(Beijing)
Chinaesteeel - China Iron & Steel Association (member organization for 119 producers)	www.chinaesteeel.com/mmi_en/	(Beijing)
Chubu - Chubu Electric Power Ltd., Co. (major Japanese energy company)	ww.chuden.co.jp/english/	(Nagoya)
CI - Chosun Ilbo - (English version of a large Korean daily newspaper)	english.chosun.com/business/	(Seoul)
Citigroup - (major US banking group)	www.citigroup.com/citigroup/homepage	(New York)
CNNIC - China Internet Network Information Community	www.cnnic.net.cn/en/index/	(Beijing)
Clarksons - Clarkson's (shipping research provider)	www.clarksons.co.uk/index.html	(London)
CNFTI - China National Textile Industry Council (producer organization)	www.cnfti.org.cn/ecnfti.htm	(Beijing)
CNOOC - China National Offshore Oil Corp.	www.cnooc.com.cn/english/default.asp	(Beijing)
Coalinfo - China Coal Information Network (domestic industry information agency)	ns.coalinfo.net.cn/eng.htm	(Beijing)

Coaltrans – Coaltrans International (leading business magazine for coal)
www.coaltransinternational.com/ (UK., Leatherhead)

COI - China Oceanic Information Network (state institute)
www.coi.gov.cn (Beijing)

Commondream – (progressive NGO, for a brighter future vision for America)
www.commondreams.org/headlines04/0810-02.htm (Portland)

Cordis – Community Research & Development Information System (EU’s system)
www.cordis.lu/fp6-euratom/library.htm (Brussels)

COSCO – China Ocean Shipping Company
www.cosco.com.cn/en/index.jsp (Beijing)

Cotton – National Cotton Council of America (producer and user member org.)
www.cotton.org/ (Memphis)

Council of Economic Advisors (government advisory organization)
www.whitehouse.gov/cea/ (Washington, D.C.)

CRI - China Radio International-English (official newswire)
www.crienglish.com/news/ (Beijing)

CSCL - China Shipping Container Lines (major state shipping line)
www.cscl.com.cn/ (Shanghai)

CSD - China Statistical Data (sub-page on the National Official page “China.org”),
www.china.org.cn/e-company/index.htm (Beijing)

CSI - Council of Service Industries (US network for the promotion of service ind.)
www.uscsi.org/ (Washington)

CSIC - China Shipbuilding Industrial Corporation (leading Chinese shipbuilder)
www.csic.com.cn/Csic/en/eindex.asp (Beijing)

CSSC - China State Shipbuilding Company (China's second largest shipbuilder)
www.cssc.net.cn/english/index.php (Beijing)

Customs-Ru – Russian Federal Customs Bureau (state customs office)
www.customs.ru (Moscow)

CV – China View (daily newspaper based on Xinhuanet)
www.chinaview.cn/ (Beijing)

Daewoo – Daewoo Shipbuilding & Marine Engineering Co., Ltd (Korean shipbuilder)
www.dsme.co.kr/ (Busan)

DG-Tren – EU Directorate-General for Energy and Transport (EU ministry)
europa.eu.int/comm/dgs/energy_transport/index_en.html (Brussels)

Daihatsu – Daihatsu (one of the smaller Japanese car producers)
www.daihatsu.com/ (Tokyo)

Dow Jones – Dow Jones & Company (business and financial news)
www.dowjones.com/ (New York)

DRC – Development Research Centre (- under the Chinese State Council)
www.drc.gov.cn/e/index.htm/ (Beijing)

Duma – Russian Parliament (information page of the national Duma)
www.duma.gov.ru/ (Moscow)

East Line – East Line Airlines (Russia’s number two freight airline)
www.eastline-airlines.ru/en/about/ (Moscow)

EBRD - European Bank for Reconstruction and Dev. (bank for EE and FSU countries)
www.ebrd.org alternatively; www.ebrd.ru (London)

EBSCO – EBSCO Publishing (Leading full text journal and database publisher)
www.epnet.com/ (partly free and partly pay-site) (Ipswich, MA, USA)

ECCJ - Energy Conservation Center of Japan (NGO promoting energy saving)
www.eccj.or.jp/index_e.html (Tokyo)

ECMT – European Conference of Ministers of Transport (intergovernment. European org.)
www1.oecd.org/cem/ (Brussels)

ECRIN – Institute of Economic Research, FE Branch of the Russian Acad. of Science
www.ecrin.ru/ (Khabarovsk, Russia)

EIA – Energy Information Agency (US government agency)
www.eia.doe.gov/ (Washington, D.C.)

EIU - The Economist Intelligent Unit (partly free and partly pay-site)
www.eiu.com (London)

Ekspert – (Russian weekly business magazine)
www.expert.ru/ (St. Petersburg)

Elections – 2004 Legislative Council Election (official homepage of the HK election)
www.elections.gov.hk/elections/legco2004/ (Hong Kong)

ESA-UN – Economic and Social Affairs of the United Nation
*esa.un.org (New York)

European Union - (25 member European countries organization)
*europa.eu.int/ (Brussels)

Euromoney - (monthly investors magazine)
www.euromoney.com (London)

EU-Ru – Delegation of the European Commission in Russia
www.eur.ru/en/index.htm (Moscow)

AsiaEuro – Asia Europe Meeting (EU organization for relations towards Asia)
www.eu.int/comm/external_relations/ asem/intro/index.htm (Brussels)

Eurostat – Statistical Office of the European Union
*europa.eu.int/comm/index_en.htm (choose “statistics” – direct link very complicated) (Brussels)

Evrasholding – (Russia’s largest iron and steel producer)
www.evraznet.ru/ (Moscow)

FA - Frankfurter Allgemeine (one of the leading German daily newspapers,
www.faz.net/s/homepage.html (Frankfurt)

Fearnleys – (leading shipping magazine, statistics and consultant company)
www.fearnleys.com/fearnleys/fearnley_consultants.htm (Oslo, Norway)

FEBRAS – Far Eastern Branch of the Russian Academy of Science
www.febras.ru/index_.html (Russian version **better**) (Novosibirsk)

FKI - Federation of Korean Industries (member organization of industry)
www.fki.or.kr/en/ (Seoul)

FMPRC – Foreign Ministry of the People’s Republic of China (national ministry)
www.fmprc.gov.cn (Beijing)

Forbes - Forbes Magazine (international business leader’s weekly magazine)
www.forbes.com (New York/Moscow)

Fortum – Fortum (Nordic energy [gas, oil and electricity] supplier)
www.fortum.com (Espoo, Finland)

Fortune - (weekly US business magazine)
www.fortune.com/fortune (New York)

Fraser Institute; Freetheworld (liberal research institute in economics)
www.freetheworld.com/2003/EFW2003Dataset.xls(Vancouver BC, Canada)

FSA - Financial Service Agency (Japanese state watch-dog in the financial sector)
www.fsa.go.jp/ (Tokyo)

FSC - Korea Financial Supervisory Committee (national financial regulator)
www.fsc.go.kr/eng/about/index.asp (Seoul)

FSSS - Federal Service of State Statistics (national statistic's authority)
www.gks.ru/eng/ (Moscow)

FTA - Korea Fair Trade Commission (responsible for enforcing competition)
www.ftc.go.kr/eng/index.html (Seoul)

Gazeta – Gazeta.RU (Russian newlist with an English section)
www.gazeta.ru/english/ (Russian version is best) (Moscow)

Gazprom – OAO Gazprom (worlds leading gas company)
www.gazprom.com/ (Moscow)
www.gazprom.ru (Russian version more updated)

Globalwoman – (World network for women in business and public administration)
www.globewomen.com (New York)

GNPJVC - Guangdong Nuclear Power Joint Venture Co. Ltd. (nuclear power operator)
www.gnpjvc.com/ (in Chinese only) (Guangzhou)

Groppelong – Groppe, Long and Littell (Oil and gas analyst and forecasters)
www.groppelong.com (Huston)

Guardian – The Guardian (major English daily)
www.guardian.co.uk (London)

Gunagzhou – Guangzhou New Baiyun Airport (airport in the Guangdong Province)
www.newsgd.com/specials/airportguide/ (Guangzhou)

Guangdong – Guangdong Travel Agency (south China travel news)
newsgd.com/travel/travelagency/ (Guangzhou)

Hakuhodo Inc. (Japanese advertising agency)
www.hakuhodo.co.jp/english/ (Tokyo)

Hanjin – Hanjin Shipping Co., Ltd. (Korea's largest shipping company)
www.hanjin.com/home/main.jsp (Seoul)

HK, Chamber of Commerce (local business chamber)
www.chamber.org.hk/business_world_h.asp (Hong Kong)

HK, Census and Statistics Department (statistic's department of the government)
www.info.gov.hk/censtatd/eng/hkstat (Hong Kong)

HK-esd – (Gov, & Department and Related Organisation's Services - with good links)
www.esd.gov.hk/gov_dept_index/eng/default.asp (Hong Kong)

HK, Gov - Government Electronic Service Delivery (service page of administration)
www.esd.gov.hk/home/eng/default.asp (Hong Kong)

HK, Port – Hong Kong Port Development Agency (state port organisation)
www.pdc.gov.hk/eng (Hong Kong)

HK, Public Administrative Association (central org. for public administration services)
www.hkpaa.org.hk/index.shtml (Hong Kong)

HK, Special Administrative Region (central administration of the region)
www.info.gov.hk/eindex.htm (Hong Kong)

KNNIC – Hong Kong Nuclear Investment Co. Ltd. (owner of nuclear power in China)
www.hknuclear.com/nflash/eng/html/shome.htm (Hong Kong)

HLWM – Ministry of Health, Labor and Welfare (Japanese ministry)
www.mhlw.go.jp/english/ (Tokyo)

Honda - Honda Motor Co., Ltd. (one of the larger automotive manufacturers in Japan)
*world.honda.com/automobile/ (Tokyo)

Hyundai – Hyundai Motors International (leading car and commercial vehicle producer)
*worldwide.hyundai-motor.com/intro/index.html (Seoul)

Hyundai HI – Hyundai Heavy Industries (Korea and world's largest shipbuilder)
english.hhi.co.kr/ (Ulsan)

HMM – Hyundai Merchant Marine (One of Korea's largest shipping companies)
http://eng.hmm21.com/hmm/jsp/eng/index.jsp (Seoul)

IEA – International Energy Agency (member org. for energy consumers)
www.iea.org/ (Paris)

IEA 2003 - International Energy Agency; Information Center (Paris)
*library.iea.org/dbtw-wpd/Textbase/nppdf/free/2003/key2003.pdf

IAEA – International Atomic Energy Agency (member organization)
www.iaea.org/ (Vienna, Austria)

ic-Newcastle – (information and job page for Newcastle upon Trent, UK)
*icnewcastle.icnetwork.co.uk/ (Newcastle, UK)

ICAO - International Civil Aviation Organization (world organization of civil airports)
www.icao.org (Montreal)

IHI - IHI Marine United (major shipbuilding group in Japan)
www.ihimarine.com/ship-e/index.htm (Tokyo)

IIE - Institute for International Economics' (independent research institute)
www.iie.com/ Washington, D.C.)

ILO – International Labor Organization (UN worker's organization)
www.ilo.org/ (New York)

IISI - International Iron & Steel Institute (non-profit research member organization)
www.worldsteel.org/ix.php (Brussels)

Imabari – Imabari Shipbuilding Group (major Japanese shipbuilder)
www.imazoko.co.jp/English (Imabari, on Shikoku)

IMD - International Institute for Management Development
www01.imd.ch/wcy/ (Geneva/Lausanne)

IMF – International Monetary Fund (members organization)
www.imf.org/ (Washington, D.C.)

Institutional Investor (monthly investor's magazine)
www.institutionalinvestor.com/ (New York)

Investhk – Invest in Hong Kong Agency (state trade and investment promotion agency)
www.investhk.gov.hk/ (Hong Kong)

ITU - International Telecommunication Union (members organization)
www.itu.int/home/index.html (Geneva)

Izvestiya – Izvestiya (one of the leading Russian newspapers)
www.izvestiya.ru/ (Moscow)

JADA – Japan Automobile Dealers Association (retailer member organization)
www.jada.or.jp (Tokyo)

JAERI - Japan Atomic Energy Research Institute (semi-state / industry institute)
www.jaeri.go.jp/english/index.cgi (Tokyo)

Japan Automobile - Japan Automobile Manufacturers Ass. (producer member ass.)
www.japanauto.com/ (Tokyo)

Japan Customs – (state customs authority)
www.customs.go.jp/index_e.htm (Tokyo)

Japanrail – Japan Railways Group (Holding company for the six major operators)
www.japanrail.com/ (Tokyo)

Japex - Japan Petroleum Exploration Co., Ltd. (international and offshore explorer)
www.japex.co.jp/en/ (Tokyo)

JAT - Japan Airport Terminal Co., (Japanese airport terminal operator)
www.tokyo-airport-bldg.co.jp/index.html (Tokyo)

JCCI - Japan Chamber of Commerce and Industry (member organization)
www.jcci.or.jp/home-e.html (Tokyo)

JDA - Japan Defense Agency and Self Defense Forces (Japanese army)
www.jda.go.jp/e/index_.htm (Tokyo)

JETRO - Japan External Trade Organization (state agency)
www.jetro.go.jp/ (Tokyo)

JFE - JFE Steel Corporation (Japan's second largest steel producer)
www.jfe-steel.co.jp/en/ (Tokyo)

JHPC - Japan Highway Public Corporation (state administrator of highways)
www.jhnet.go.jp/english (Tokyo)

JISF - Japan Iron and Steel Federation (member org. for iron & steel industry)
www.jisf.or.jp/sij/ (Tokyo)

JNF - Japan Nuclear Fuel Ltd. (the Japanese nuclear operators common fuel comp.)
www.jnfl.co.jp/english/ (Aomori, Japan)

Joblink- Joblink (Korean internet employment agency)
www.joblink.co.kr (Seoul)

jrfreight – Japan Railway Freight Company (freight handling on Japan's railway)
www.jrfreight.co.jp/english/index.html (Tokyo)

JRTR - Japan Railway Transport Review (tech. English railway journal issued by JR)
www.jrtr.com (Tokyo)

JT - Japan Times (Japan's leading English daily newspaper)
www.japantimes.co.jp/ (Tokyo)

IWPR – Institute of War and Peace Reporting (mailing list covering Central Asia)
www.iwpr.org (London)

K-Line - Kawasaki Kisen Kaisha, Ltd. (Japan's third largest shipping company)
www.kline.com/ (Koby/Tokyo)

Karelia – Local Government of the Republic of Karelia (Russian Federation subjects,
www.gov.karelia.ru/index_e.html (Petrozavodsk, Russia)

KADA – Korea Civil Aviation Development Association (Aviation industry promotion)
www.airtransport.or.kr/english/index.html (Seoul)

KCIC – Korean Chamber of Industry and Commerce
*hp.korcham.net/eng/index.asp?cciid=B001 (Seoul)

KCNA – Korean Central News Agency of PDRK (Democratic Peoples Repub. of Korea)
www.kcna.co.jp/index-e.htm (Pyongyang)

KDB - Korea Development Bank (Korea's representative bank)
www.kdb.co.kr (Seoul)

- KDI - Korea Development Institute (research institute connected to the BOK)
www.kdi.re.kr/kdi_eng/main.jsp (Seoul)
- KEF - Korea Employers Federation (members organization)
www.eng.kef.or.kr/ (Seoul)
- KEIA - Korea Economic Institute (Government org. promoting contacts with the US)
www.keia.com (Washington D. C.)
- KEMCO - Korean Energy Management Corporation (state agency for energy efficiency)
www.kemco.or.kr/english/ (Seoul)
- KEPCO - Korean Electric Power Corporation (state controlled electric holding company)
www.kepco.co.kr/kepco_plaza/en/index.html (Seoul)
- KH - Korea Herald (leading English daily)
www.koreaherald.co.kr/ (Seoul)
- KHNP - Korea Hydro & Nuclear Power Company (Korea's largest electric producer)
www.khnp.co.kr/eng/khnp_eng.html (Seoul)
- KIA - KIA Motors (Korean car producer, since 1998 a subsidiary of Hyundai)
www.kiamotors.com/ (Seoul)
- KIEP - Korean Institute for International Economic Policy (government funded inst.)
www.kiep.go.kr/main.nsf/emain.htm (Seoul)
- KIET - Korean Institute for International Economy and Trade
www.kiet.re.kr/e_main.html (Seoul)
- Kingdee - Kingdee International Software Group (software and event organizer,
*global.kingdee.com/en/index.htm (Hong Kong)
- KIS-Moody's - Korea Investors Service (Korean arm of Moody's; partly password)
www.kisrating.com/english/english_index.asp (Seoul)
- KNSO - Korea National Statistical Office (state agency)
www.nso.go.kr/eng/ (Seoul)
- KNOC - Korea National Oil Company (state oil company)
www.knoc.co.kr/eng/index.htm (Seoul)
- KNTO - Korea National Tourist Organization (state tourist organization)
www.knto.or.kr/eng/english0.jsp (Seoul)
- KOGAS - Korean Gas Corporation (national gas company)
www.kogas.or.kr/ENG/ (Seoul)
- KOIMA - Korea Importers Association (member organization for importers)
www.koima.or.kr (Seoul)
- Kommersant - (Leading Russian daily with an English internet version)
www.kommersant.com/ (Moscow)
- Korea International Trade Organization (state agency)
www.kita.org/ (Seoul)
- Korea Importers Association (members importers organization)
www.aftak.or.kr/ (Seoul)
- Korea Recruit - Korean employment agency
www.recruit.co.kr (Seoul)
- Korea Line - Korea Line (Korea Line Corp., Korea's third largest shipping line)
www.korealines.co.kr/index.html (Seoul)
- Korea.net - (Korea.net is the official state information page of Korea)
www.korea.net/news/issues/goguryeo.asp. (Seoul)

Korean Air – Cargo (Korea’s air carrier)
*cargo.koreanair.com/ (Seoul)

Korean AMA – Korean Automobile Manufacturers Association (membership org.)
www.kama.or.kr/eng/K_eng_main.jsp (Seoul)

Korean FSS – Financial Supervisory Service (state watch-dog for the financial sector)
*english.fss.or.kr/en/laws/com/lawcomm_1.jsp (Seoul)

Korean MOL – Korean Ministry of Labor (ministry)
www.molab.go.kr:8787/English/link/link_dlo.html (Seoul)

Korean Railway - (state railway operator)
www.korail.go.kr/ROOT/main-top.top?lang=eng (Seoul)

KSE - Korean Stock Exchange (nations share trade exchange)
www.kse.or.kr/webeng/ (Seoul)

KOSA - Korea Iron and Steel Association (members organization)
www.kosa.or.kr/new/eng/guide/guide_01.html/ (Seoul)

KOSHIPA – KOrea SHIPbuilders Association (association for the nine major shipyards)
www.koshipa.or.kr/index.jsp (Seoul)

KOTRA - Korea Trade - Investment Promotion Agency (non-profit government agency)
www.kotra.or.kr/eng/ (Seoul)

Kremlin – Official Web Site of the Russian President
www.kremlin.ru/eng/articles/archive.shtml (Moscow)

KS - Kobe Steel Group (Japan’s number four steel producer)
www.kobelco.co.jp/index_e_wi.htm (Kobe/Tokyo)

KSE - Korean Stock Exchange (Korean stock market for shares, Seoul)
www.kse.or.kr/webeng/ (Seoul)

KT - Korean Times (English version of one of the leading Korean dailies)
*times.hankooki.com/ (Seoul)

Kyodo – Kyodo News (Japans biggest news agency)
*home.kyodo.co.jp/ (Tokyo)

LBL - Lawrence Berkeley National Laboratory (independent laboratory)
www.lbl.gov/ (Berkeley, US)

Lenovo – Lenovo Group (largest lap-top manufacturer in China)
www.lenovogrp.com/ (Beijing)

LG - ERI – LG Economic Research Institute (company financed research institute)
www.english.lgeri.co.kr/ (Seoul)

LG - Philips LCD (one of the largest private companies in Korea)
www.lgphilips-lcd.com/en/index.html (Seoul)

Lloyds – Lloyds Register of Shipping Group (shipping consultants)
www.lr.org/code/home.htm (London)

Lloyds List – Lloyds List (Words oldest shipping daily)
www.lloydslist.com (London)

LUKoil – OAO LUKoil (Russia’s biggest oil company)
www.lukoil.com (Moscow)

Maritimeindustries - Society of Maritime Industries (membership org. of suppliers)
www.maritimeindustries.org (London)

ME - Korean Ministry of Environment Republic of Korea (Korean ministry)
*eng.me.go.kr/user/index.html (Seoul)

- MES - Mitsui Engineering & Shipbuilding Co. Ltd. (major Japanese shipbuilder,
www.mes.co.jp/english/index.html (Tokyo)
- Metal Bulletin (one of the world's leading metal trade magazines)
www.metalbulletin.com (pay-site; with a free-trial offer) (London)
- METI - Ministry of Economy, Trade and Industry (Japanese ministry)
www.meti.go.jp/english/ (Tokyo)
- MEXT- Ministry of Education, Culture, Sports, Science and Tech. (Japanese ministry)
www.mext.go.jp/english/ (Tokyo)
- MHI - Mitsubishi Heavy Industries (major Japanese shipbuilder)
www.mhi.co.jp/ship/english/ (Yokohama/Tokyo)
- MHLW - Ministry of Health Labour and Welfare (Japanese ministry)
www.mhlw.go.jp/english/ (Tokyo)
- Minatom – Ministry of Atomic Energy (Currently under The Min. of Trade and Energy)
www.minatom.ru/ (alternatively via: www.economy.gov.ru) (Moscow)
- Minfin – Ministry of Finance (Russian ministry)
www.minfin.ru/sdds/nsdp.htm (Moscow)
- Ministerio de Economía y Energía (Ministry of Economy and Energy of Chile)
www.economia.cl/ (Santiago, Chile)
- Ministry of Information Industry (Chinese ministry)
www.mii.gov.cn/mii/index.html/ (Beijing)
- Mintrans – Ministry of Transport of the Russian Federation
www.mintrans.ru (Moscow)
- Mitsubishi – Mitsubishi Motors (leading Japanese car producer)
www.mitsubishi-motors.com/ (Tokyo)
- Mitsui - Mitsui & Co., Ltd. (one of the major Japanese trading houses)
www.mitsui.co.jp/tkabz/english/ (Tokyo)
- MMK - Magnitogorsk Iron & Steel Works (Russia's largest steel producer)
www.mmk.ru/eng/index.wbp (Magnitogorsk, Russia)
- MOCIE - Korean Ministry of Commerce, Industry and Energy
www.mocie.go.kr/english/home/default.asp/ (Seoul)
- MOE - Korean Ministry of Education and Human Resource Development (ministry)
www.moe.go.kr/en/intro/research.html (Seoul)
- MOEDT- Ministry of Economy, Development and Trade (Russian Ministry)
www.economy.gov.ru/ (Moscow)
- MOEA – Ministry of Economic Affairs Republic of China (Taiwanese ministry)
www.moea.gov.tw/ (Taipei)
- MOF - Ministry of Finance Japan (Japanese ministry)
www.mof.go.jp/english/ (Tokyo)
- MOFA – Ministry of Foreign Affairs of the People's Republic of China (ministry)
www.fmprc.gov.cn/eng/ (a home page in six languages) (Beijing)
- MOFCOM – Ministry of Commerce of the People's Republic of China (ministry)
english.mofcom.gov.cn/ (Beijing)
- MOFE - Korean Ministry of Finance and Economy (ministry)
*english.mofe.go.kr/main.php (Seoul)
- MOCT – Korean Ministry of Construction & Transportation (ministry)
www.moct.go.kr/english/ (Seoul)

MOIAC – Ministry of Internal Affairs and Communication (Japanese ministry)
www.soumu.go.jp/english/ (Tokyo)

MOL - Mitsui O.S.K. Line (Japan's largest shipping company)
www.mol.com (Tokyo)

MOMAF – Ministry of Maritime Affairs & Fisheries (Korean ministry, Seoul)
www.momaf.go.kr/eng/ (Seoul)

Morgan Stanley – (investment bank and economic advisor)
www.morganstanley.com/ search word: China (Hong Kong)

MOST - Ministry of Science & Technology (Korean ministry)
www.most.go.kr/most/english/index.jsp (Seoul)

MOST-CH - Ministry of Science & Technology (Chinese ministry)
www.most.gov.cn/English/ (Beijing)

MPS - Ministry of Public Security (Chinese ministry for, e.g., police and fire-fighters)
www.mps.gov.cn/ (in Chinese only) (Beijing)

MT – Moscow Times (Russia's leading English language daily, Moscow)
www.moscowtimes.ru (Moscow)

Muzi News – (magazine and newslines, with large achievements)
*dailynews.muzi.com/cc/english (Hong Kong)

Narita Airport – Narita International Airport Corp. (operating company of the airport,
www.narita-airport.or.jp/naa_e/ (Narita, Japan)

NBS - National Bureau of Statistics of China (state statistics service)
www.stats.gov.cn/english/ (Beijing)

NDRC - National Development and Reform Commission (state agency)
www.chinacp.com/eng/cporg/cporg_ndrc.html/ (Beijing)

NEDO - New Industrial and Technology Development Organisation (semi-state org.)
www.nedo.go.jp/english/index.html (Tokyo)

NERI - National Economic Research Institute (non-government institute, Beijing)
*neri.homeway.com.cn/lbi-html/reform/jj_e.htm (Beijing)

Nestro – Russian Foreign Economic Association Zarubezhneft (Moscow)
www.nestro.ru/www/nestroweb.nsf/main_eng

New York Times (archive access requires free registration - leading American daily)
www.nytimes.com (New York)

NIER - National Institute of Environmental Research (Korean state research inst.)
www.nier.go.kr/nierdepart/e_nier/ (Seoul)

Nihon Keizai – Leading Japanese daily issuing an English version)
www.nni.nikkei.co.jp/ (Tokyo)

Nikkei Net (nations stock exchange)
www.nikkei.co.jp/ (Tokyo)

Nippon Keidanren (Japan Business Federation- member's organization)
www.keidanren.or.jp/ (Tokyo)

NIRA – National Institute for Research Achievements (state agency)
www.nira.go.jp/index.html/ (Tokyo)

Nissan – Nissan Motor Co., Ltd. (major Japanese producer of cars)
www.nissan.co.jp/EN/ (Yokohama/Tokyo)

NLMK – Novolipetsk Metalurgical Kombinat (Russia's number four steel producer)
www.nlmk.ru/eng/news/ (Novolipetsk, Russia)

Norilsk – Norilsk Nickel (Russia’s / world’s leading nickel and rare mineral producer)
www.nornik.ru/en/ (Norilsk/Moscow)

Novoship – (Russia’s second biggest shipping company)
www.novoship.ru/ (Novorossiysk, Russia)

NS - Nippon Steel Corporation (Japan’s biggest steelmaker)
www0.nsc.co.jp/shinnihon_english/index.html (Tokyo)

NSO - Korea National Statistical Office (Korean state statistics service)
www.nso.go.kr/eng/ (Seoul)

NTS - Korean National Tax Service (state tax service)
www.nts.go.kr/eng/default.html (Seoul)

NYK - Nippon Yusen Kaisha Line (generally called NYK Line)
www2.nykline.com/home/index.html (Tokyo)

PBC - Peoples Bank of China (national bank)
www.pbc.gov.cn/english/ (Beijing)

PetroChina – Petro China Company Limited (state owned oil company)
www.petrochina.com.cn/english/ (Beijing)

PetroleumNews – (leading oil and gas magazine)
www.petroleumnews.com/ (pay-site with free trial period) (Haines, Alaska)

PFC - PFC Energy (strategic advisors in global energy)
www.pfcenergy.com/ (Washington, D.C.)

Port of Qingdao (port operator in Qingdao, Shandong Province)
www.qdport.com/ (Qingdao, China)

PMOJ - Prime Minister of Japan and His Cabinet (the governments information page)
www.kantei.go.jp/foreign/index-e.html (Tokyo)

POSCO – (Korea’s largest steel maker, HQ and main production facility in Pohang)
www.posco.co.kr/en/index.jsp (Pohang, Korea)

Pravda – Pravda.ru (leading Russian daily with newslines)
english.pravda.ru/ (Moscow)

President – President of the Russian Federation (homepage of the Russian president)
president.kremlin.ru/eng/ (Moscow)

Prime-TASS (news agency with on-line business news from Russia)
www.prime-tass.com/ (Moscow)

publicdebt – US Bureau of Public Debt (department of the US Treasury)
www.publicdebt.treas.gov/ (Washington D.C.)

Pulkovo – Pulkovo Aviation Enterprise (third most important airline in Russia)
*eng.pulkovo.ru/main/ (St. Petersburg)

Raiffeisenbank – (Austrian investment banks Russian office)
www.raiffeisen.ru/rBank/welcome (Moscow)

RIA - RIA Novosti (state news information agency)
*en.rian.ru/rian/index.cfm (Moscow)

RIETI - Japan’s Research Institute of Economy, Trade and Industry (state institute,
www.rieti.go.jp/en/index.html (Tokyo)

RFE - Radio Free Europe/Radio Liberty (daily e-mail news update)
search.rferl.org/ (Prague, Czech Republic)

RJ – Russian Journal (leading English daily Russian business journal)
www.russiajournal.com/index.shtml (Moscow)

Rotterdam – Port of Rotterdam (world’s largest port in cargo turnover)
www.portofrotterdam.nl (Rotterdam)

RRR - Russian Regional Report (Monthly e-report, Swiss Federal Inst. of Technology)
www.isn.ethz.ch/ (Zurich, Switzerland)

RTRI - Railway Technical Research Institute (institute of the Japanese railways)
www.rtri.or.jp/rtri/rtri_E.html (Tokyo)

Federal Institute of Technology
www.isn.ethz.ch/infoservice/secwatch/rrr/ (Zurich, Switzerland)

RosBusinessConsulting – Russian Business Consulting (news-list with mainly eco. news)
www.rbcnews.com/ (Moscow)

Rosneft – (fully state-owned Russian oil company – but under merger with Gazprom)
www.rosneft.ru/english/ (Moscow)

RSF – Reporters Sans Frontières - Reporters Without Borders (world network)
www.rsf.org (London)

Ru-Gov – Homepage of the Russian Government (information page)
www.gov.ru (Moscow)

RUSAL – Russian Aluminum (Russia’s largest aluminum producer)
www.rusal.com (Moscow)

Russian Railways – JSC Russian Railways (Russian state railway company)
www.eng.rzd.ru/ (www.rzd.ru - version *much* better) (Moscow)

SAC - Standardization Administration of China (state standardization committee)
<http://www.sac.gov.cn/english/home.asp> (Beijing)

SAFE - State Administration of Foreign Exchange (Chinese state control of exchange)
www.safe.gov.cn (Beijing)

SAIC - Shanghai Automotive Industry Corp. (China’s second largest car manufact.)
www.saicgroup.com/saic01/fore/english/ (Shanghai)

Samsung – Samsung Group (largest conglomerate)
www.samsung.com (Seoul)

Samsung ERI – Samsung Economic Research Institute (company research institute)
www.koreaeconomy.org/ (Seoul)

Sakhalin1 – (Homepage of the four member company Sakhalin-1 consortium)
www.sakhalin1.com/en/index.htm (Yuzno-Sakhalinsk, Russia)

Sakhalinenerg - (Production company on Sakhalin island Sakhalin-2 consortium)
www.sakhalinenergy.com/ (Yuzno-Sakhalinsk, Russia)

SB - Statistical Bureau – Ministry of Public Mgmt, Home Affairs, Posts and Tele
www.stat.go.jp/english/index.htm (Tokyo)

Science Magazine (published by the American Ass. for the Advancement of Science)
www.sciencemag.org/content/ (Stanford, US)

Secretaria de Economia (Secretaria de Economia de Mexico/ Department of Economy)
www.economia.gob.mx/ (Mexico City)

Seoul Times – (English language newspaper and bulletin)
*theseoultimes.com/ (Seoul)

SEPA – State Environmental Protection Agency (Chinese state environm. prot. agency)
www.zhb.gov.cn/english/ (Beijing)

SERC - State Electricity Regulatory Commission
www.serc.gov.cn/ (Beijing)

Severstal – Severstal Joint-Stock Company (Russia’s third largest steel producer)
www.severstal.ru/english/default.htm (Cherepovets, Russia)

SGCC - State Grid Corporation of China (the major electric grid company)
www.sgcc.com.cn/english/default.htm (Beijing)

Shenzen – Shenzhen Stock Exchange (second largest stock exchange in China)
www.szse.cn/main/en/default.aspx (Shenzhen)

Shenzhenair – Shenzhen Airlines (largely domestic Chinese airline)
www3.shenzhenair.com/index2.sh (Shenzhen)

Shipgaz – Scandinavian Shipping Gazette (paid e-mail service, partly for free)
www.shipgaz.com/english/ (Goteborg, Sweden)

Shiptimes – Shipping Times (shipping part of The Business Times)
business-times.asia1.com.sg/shippingtimes (Singapore)

Sibera - Siberia Airlines (Russia’s second biggest airline)
*english.s7.ru/company/about.shtml (Novosibirsk)

SIKA - Swedish Institute for transport and Communications Analysis
www.sika-institute.se/english_fr.html (Stockholm, Sweden)

Sinopec Corp. (state-owned oil company)
www.english.sinopec.com/ (Beijing)

SKB – Svensk Karnbranslesakerhet (Swedish National Board for Spent Nuclear Fuel)
www.skb.se/english (Stockholm, Sweden)

SMI - Sumitomo Metal Industries, Ltd. (Japan’s third largest steel producer)
www.sumitomometals.co.jp/e/ (Osaka/Tokyo)

Sovcomflot – (Russia’s biggest shipping company)
www.sovcomflot.com (Moscow)

Standard & Poor’s (one of the world’s leading credit rating institutes)
www2.standardandpoors.com/ (Searchword: “Korea”) (New York)

SSE - Shanghai Stock Exchange (non-profit stock exchange under state ownership,
www.sse.com.cn/sseportal/en_us/ps/home.shtml (Shanghai)

SUAL - Siberian Ural Aluminium (Russia’s second largest aluminium producer,
www.sual.com/ (Moscow)

SUEK - Siberian Coal & Energy Co., (top-three Russian coalmining holding company)
www.suek.ru/section.phtml?id=7#switch_to_english (Novosibirsk)

Suzuki – Suzuki Motor Ltd. (major Japanese car and motorcycle producer)
www.globalsuzuki.com/index.html (Takatsuka/Tokyo)

T&E - European Federation for Trp. and Environment (NGO for environmental trp.)
www.t-e.nu/ (Brussels)

TDC - Hong Kong Trade and Development Council (state trade promotion agency)
www.tdctrade.com (Hong Kong)

Technology Management and Economics – Chalmers University of Technology
www.mot.chalmers.se (Goteborg, Sweden)

The Slovak Spectator (leading daily Slovak newspaper)
www.slovakspectator.sk/clanok-15479.html (Bratislava, Slovakia)

Three Gorges – (world’s largest hydro-power project in the upper reaches of the Yangtze River, China) www.chinaview.cn/ (linked from “Major Projects”)

Tianjin Port – Tianjin Port Company (the third largest port in China)
www.ptacn.com/ (Chinese page *much* better) (Tianjin)

TNK-BP – (former Tyumen Oil and British Petroleum JV)
www.tnk-bp.com/ (Moscow)

Tohoku – Tohoku Electric Power Co., Inc (Japanese leading electricity producer)
www.tohoku-epco.co.jp/index-e.htm (Sendai, Japan)

Toyota – Toyota Motor Corporation (Japan’s leading automotive manufacturer,
www.toyota.jp/en/index.html (Toyota/Tokyo)

Transneft - Transneft Open Joint Stock Oil Transporting Company (pipeline operator)
www.transneft.ru/Default.asp?LANG=EN (Moscow)

Transparency – Transparency International (International NGO combating corruption)
www.transparency.org (Berlin)

TSE - Tokoyo Stock Exchange (stock corporation that provides the market place)
www.tse.or.jp/english/ (Tokyo)

Tupolev – PSC <Tupolev> (Russia’s largest civil aircraft manufacturer)
www.tupolev.ru/English/ (Moscow)

TV-Tsentr – (Russian news agency/TV-channel)
www.tvcenter.ru/ (Moscow)

UES - United Energy System (Russia’s leading producer of electricity)
www.rao-ees.ru/en/ (Moscow)

UN-PP - (UN Population Prospect database)
*esa.un.org/unpp/ (New York)

UN-SNA - (Un agency for co-ordination of national accounting standards)
www1.oecd.org/std/escap98/sna20.pdf/ (New York)

UN-Stat - (United Nations Statistics Division)
*unstats.un.org/unsd/default.htm (New York)

UNCTAD – United Nations Council for Trade and Development
www.unctad.org/ (page rich in free statistics) (Geneva)

UNCTAD2 – United Nations Council for Trade and Development (Geneva)
www.unctad.org/ (Commodity Price Bulletin Database) (Geneva)

UNDP – United Nation’s Development Program
*hdr.undp.org (New York)

UNESCAP – UN Economic and Social Commission for Asia and the Pacific
www.unescap.org/ (Bangkok)

UNESCO – United Nations Edu., Scientific and Cultural Org. (World Heritage List)
*whc.unesco.org/ (Paris)

UNFCCC – United Nations Framework Convention of Climatic Change
*unfccc.int/ (New York)

Unification – Ministry of Unification (South Korean ministry)
www.unikorea.go.kr (Seoul)

Universal – Universal Shipbuilding Group (major shipbuilder in Japan)
www.u-zosen.co.jp/html_e/index.html (Kawasaki/Tokyo)

University of HK (university of Hong Kong)
www.hku.hk/ppaweb/ (Hong Kong)

UFJ Institute (research institute of private Japanese bank)
www.ufji.co.jp/eng/ (Tokyo)

US CB – US Census Bureau, Foreign Trade Statistics (national census bureau)
www.census.gov/foreign-trade/www/ (Washington, D.C.)

US CFR – Council of Foreign Relations (state advisory council)
www.cfr.org/index.php (Washington, D.C.)

US Dept. Agri., - United States Department of Agriculture (Sub. Dept. for trade policies)
www.fas.usda.gov/trade.html (Washington, D.C.)

US Dept. of Labour - United States Department of Labour (US ministry,
www.usdl.gov?? (Washington, D.C.)

USTR - Office of the United States Trade Representative (president’s advisers office)
www.ustr.gov/ (Washington D.C.)

Vedomosti – (leading Russian daily)
www.vedomosti.ru/ (Moscow)

Vladnews – Vladivostok Novosti (local Russian daily with English page)
www.vladnews.ru/ (Vladivostok)

Volga-Dnepr – Volga-Dnepr Group (world’s leading large-air-cargo company)
www.vdg.com.ru/english/ (Ulyanovsk/Moscow)

Water Diversion – (The world’s largest diversion project from Yangtze to the Yellow River, China) www.chinaview.cn/ (linked from “Major Projects”)

WB - Ch – The World Bank’s China office
www.worldbank.org.ru/ alternatively www.worldbank.org (Beijing)

WB - Ru – The World Bank’s Russia office
www.worldbank.org.ru/ alternatively www.worldbank.org (Moscow)

Werner Int. – Werner International Ltd., (private legal advisors)
www.wernerinfotex.com/ (New York)

WebJapan – Gateway for Japanese Information (*very good* state official statistics page)
*web-japan.org/ (Tokyo)

WFP – World Food Program (UN agency)
www.wfp.org/index.htm (Rome, Italy)

whitehouse – The White House, President George W. Bush (presidential adm.)
www.whitehouse.gov (Washington D.C.)

WHO – UN World Health Organization (UN org. for world health)
www.who.int (Geneva)

Willkie Farr & Gallagher (private legal advisors)
www.willkie.com/News (New York)

World Economic Forum (independent organization: “committed to improving the status of the world”) www.weforum.org (Geneva)

WSD - World Steel Dynamics (leading analysts of the world steel market)
www.worldsteeldynamics.com/index.html (New Jersey)

VCIOM – All Russia Center for the Study of Public Opinion (also called VTsIOM)
www.wciom.ru/?new_lang=2 (Russian page **much** better) (Moscow)

WWF - World Wildlife Life Foundation (international NGO for wildlife protection)
www.wwf.ru/eng/ (Moscow)

Xinhuanet (state agency, “New China News Agency”)
news3.xinhuanet.com/English (Beijing)

Yonhap – Yonhap News (Korean news agency)
*english.yna.co.kr/ (Seoul)

Zenginkyo – Japanese Banker’s Association (one of the Japanese bankers associations)
www.zenginkyo.or.jp/en/ (Tokyo)