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I. Recent trends and prospects

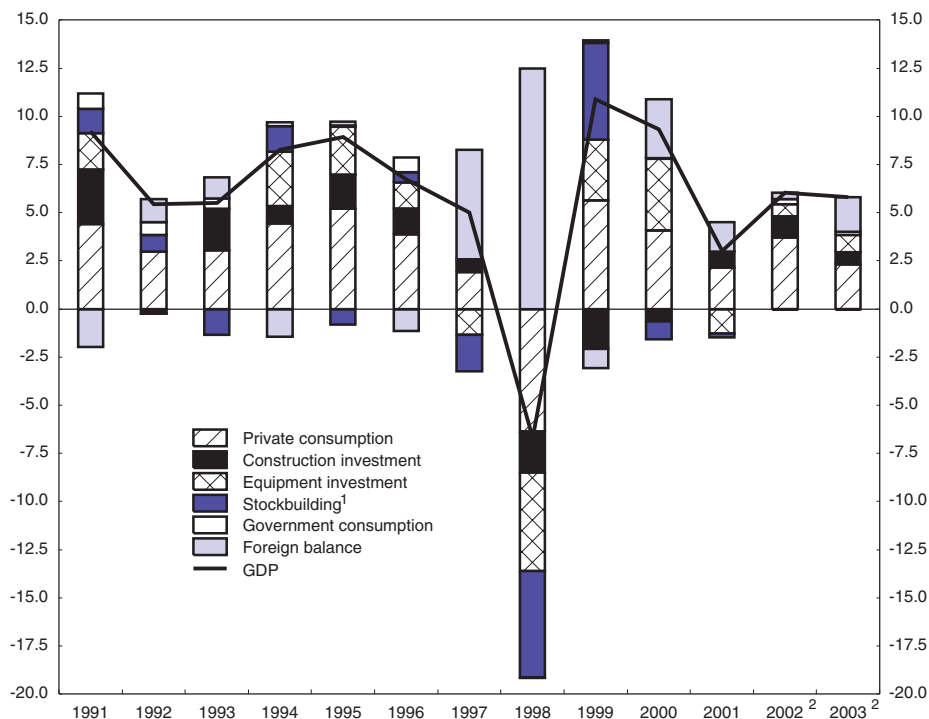
Economic growth decelerated from 9 per cent in 2000 to 3 per cent in 2001 in the context of a marked slowdown in the world economy (Figure 1). However, Korea's first downturn since the 1997 financial crisis was short-lived, thanks to robust private consumption and a rebound in construction investment, which led to a recovery beginning in the final quarter of 2001. The strong growth in these two components was driven by buoyant bank lending, reflecting success in overcoming credit-crunch conditions through a comprehensive financial-sector restructuring programme. In addition, supportive macroeconomic policies played an important role in Korea's early recovery (see Chapter II). Economic growth accelerated to 6 per cent (year-on-year) in the first three quarters of 2002, despite weak investment in machinery and equipment and exports in the early part of the year. However, by mid-2002, exports had also rebounded, led by the information and communications technology (ICT) sector.

Korea likely achieved economic growth of about 6 per cent in 2002 – the highest in the OECD area – despite considerable geopolitical uncertainty, a slump in world equity markets and a weakening of business confidence throughout the OECD area. The durability of the current expansion depends on an improvement in these external factors, as well as on dealing effectively with a number of domestic concerns. Perhaps most important is the surge in real estate prices since early 2001, which has created the possibility of a bubble that would pose risks of a future correction with an adverse impact on households and financial institutions. In addition, a double-digit increase in wages in the context of a fall in unemployment to below 3 per cent also risks increasing inflationary pressure. Finally, the large number of financially weak firms indicates that the corporate restructuring process is not complete and could pose a drag on the pace of economic activity.

A recovery led by private consumption

The upturn in private consumption beginning in 2001 limited the slowdown in the economy and provided the main impetus of the recovery that started in the final quarter of the year. As a share of GDP, private consumption reached the 60 per cent level in 2002 for the first time in twenty years. The rebound in

Figure 1. **Contributions to growth**
Percentage points



1. Including statistical discrepancy.

2. OECD projection.

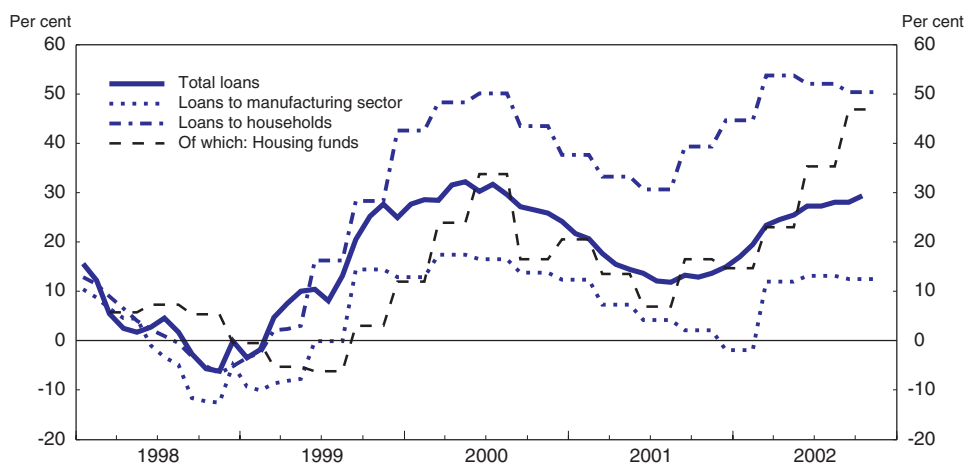
Source: Bank of Korea and OECD, *Economic Outlook 72*, December 2002.

private consumption started in the second quarter of 2001, a period when real wages were falling. However, major structural changes in the financial sector enabled households to overcome liquidity constraints. Historically, consumer credit has been relatively undeveloped in Korea, reflecting the emphasis on investment. Following the crisis, though, financial institutions have become increasingly aware of the risks of lending to chaebol-affiliated firms, which at the same time have focused on reducing their debt. This led to intense competition between banks to increase lending to the higher-profit and lower-risk household sector. Moreover, rising real estate prices (see below) raised the value of households' loan collateral, allowing them to borrow more money from banks. Consequently, the

share of households in total lending by financial institutions jumped from 24 per cent in 1998 to 34 per cent at the beginning of 2001, and continued to rise to 45 per cent in mid-2002. The preference for households was accompanied by a rise in total lending by banks, which had previously been limited by their balance-sheet problems. With the success of the restructuring programme in restoring the banks' financial health (see Chapter IV), the growth of total lending accelerated from 12 per cent (year-on-year) in mid-2001 to 28 per cent a year later (Figure 2). Bank lending to households grew more than 50 per cent during the first three quarters of 2002.

A second factor easing liquidity constraints was the expanded use of credit cards following the introduction of tax advantages in 2000 to encourage their use (see Chapter II). Indeed, the number of cards issued doubled between 1999 and 2001 and purchases using them quadrupled over the same period to a level equivalent to a third of private consumption (Table 1). The easing of monetary policy encouraged consumers to take advantage of the new credit opportunities. During 2001, the Bank of Korea cut the short-term policy interest rate by 125 basis points to a record low of 4 per cent, thus limiting the interest burden resulting from higher debt. One consequence of expanded household debt was a 27 per cent increase between 2000 and 2002 in the number of individuals defaulting on loans, boosting the total to 2.63 million (8 per cent of the working-age population).¹

Figure 2. **Growth of bank lending**¹
Year-on-year percentage changes



1. Loans and discounts of deposit money banks.
Source: Bank of Korea, *Monthly Bulletin*.

Table 1. **The use of credit cards**

	Trillion won		
	1999	2000	2001
Number issued (in millions)	39.0	42.8	89.3
Amount of sales using credit cards	42.5	79.9	175.7
Per cent of private consumption	8.8	15.3	32.2
Amount of cash loans from credit cards	48.3	145.3	267.7
Total amount of credit card use ¹	96.8	237.3	480.7

1. This is bigger than the sum of sales and cash loans because it includes other items.

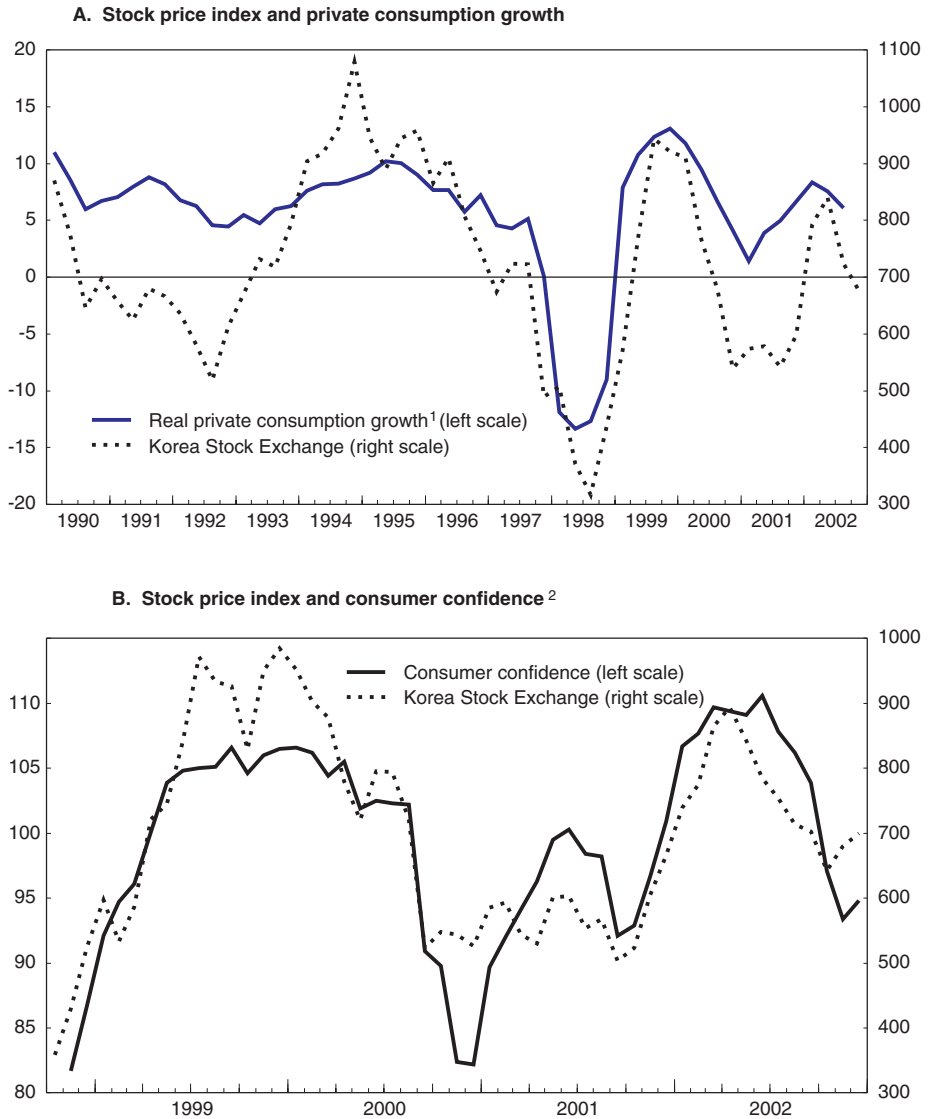
Source: Financial Supervisory Commission.

Positive wealth effects and improved consumer sentiment prompted increased household outlays in the new financial environment. Share prices in Korea have been correlated with the growth of private consumption (Figure 3), suggesting that wealth effects are significant. The stock market (KOSPI price index) rose 77 per cent between September 2001 and April 2002.² Share prices are also correlated with consumer confidence, which rose by 20 per cent between September 2001 and April 2002 (Panel B), suggesting that share prices also influence consumption by those who do not own equities.³ The surge in real estate prices (see below) has also had a positive wealth effect. The impact of equity and real estate prices has been accompanied by large increases in labour income once the recovery was underway. After rising less than 3 per cent in 2001, real earnings per hour posted a gain of 9 per cent in the first half of 2002 (see below). Another factor boosting consumption was the reform of the special consumption tax.⁴

With private consumption growing 7½ per cent in inflation-adjusted terms in the first three quarters of 2002, the decline in the household saving rate appears to have continued (Figure 4). While national accounts for the household sector are not available beyond 2000, the saving rate is estimated to have fallen around 10 per cent in 2002 for the first time since the 1970s. This may be part of the long-term downward trend from the peak of 25 per cent in 1991, which may reflect demographic trends and the introduction of a public pension system (Kim and Lim, 2002). The downward trend in the saving rate was briefly interrupted by the financial crisis, which prompted households to boost precautionary savings.

The wider use of consumer credit has led to a sharp rise in household debt during the past few years (Figure 5). Household debt as a share of disposable income grew steadily from 1980 onwards, facilitated by the development of financial markets. Then, following a decline in the wake of the crisis, the ratio jumped from 86 per cent in 1998 to around 110 per cent in 2001. Such a level would put Korea above the average in the major industrialised countries (Table 2). Moreover, the pace of the increase – 24 percentage points over three years – is

Figure 3. Share prices and private consumption

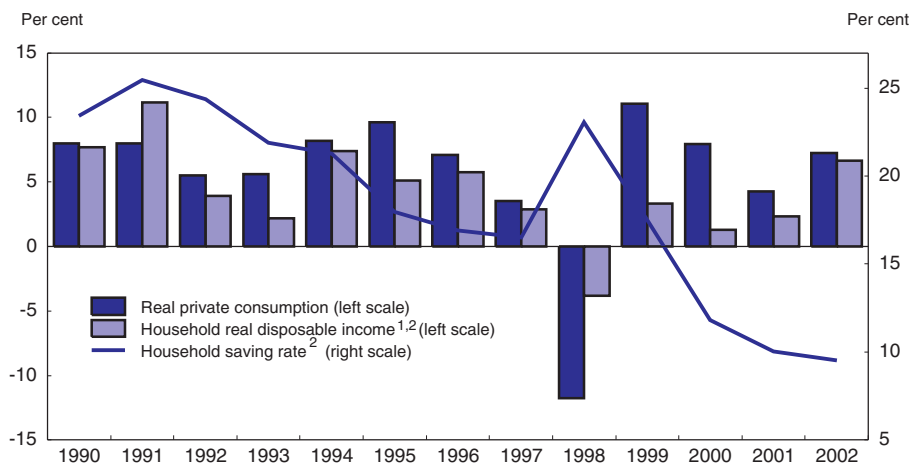


1. Year-on-year growth rate.

2. A score of 100 means that consumption is expected to be the same in six months as at present.

Source: Korea Stock Exchange, Bank of Korea and Korea National Statistical Office.

Figure 4. The household saving rate



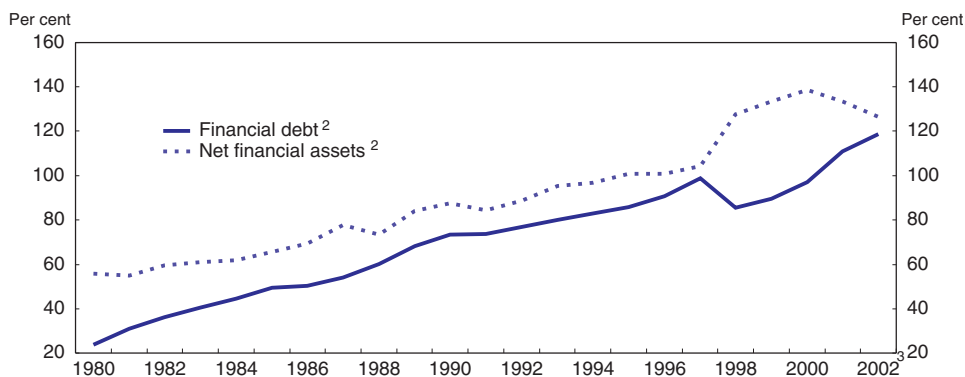
1. Deflated by the private consumption deflator.

2. OECD estimates for 2001 and 2002.

Source: Bank of Korea.

Figure 5. Household financial assets and liabilities

Per cent of disposable income¹



1. Based on OECD estimate of disposable income for 2001 and the first half of 2002 for the household and non-profit institutions serving households sector.

2. For the "Individual Sector" in the Bank of Korea's flow of funds data.

3. End of June 2002.

Source: Bank of Korea.

Table 2. **International comparison of household wealth and indebtedness**
Per cent of disposable income in 2001

	Financial assets	Liabilities	Net financial wealth
Canada	348.2	111.7	236.5
France	347.9	76.1	271.9
Germany	270.5	112.0	158.6
Italy	291.6	35.9	255.7
Japan	474.7	133.2	341.5
United Kingdom	412.3	118.9	293.3
United States	438.3	108.8	329.5
Average	369.1	99.5	269.6
Korea ¹	244.1	110.8	133.4

1. Disposable income is estimated by the OECD. See the notes to Figure 5.

Source: OECD and Bank of Korea.

probably not sustainable. In terms of the accumulation of financial assets by households, Korea is far behind the major OECD countries, so that the ratio of net financial assets to disposable income, at 133 per cent in 2001, is about half of the average of the G-7 countries. Net financial assets fell even in absolute terms in the first half of 2002 for the first time since the 1980s. These trends indicate that a large portion of the rise in financial debt is being used for consumption or the purchase of non-financial assets, particularly housing.

The recovery in construction investment and rising real estate prices

After declining by nearly a quarter in real terms after 1997, construction investment rebounded with growth of around 6 per cent in 2001 and the first half of 2002 (Table 3). The turnaround was primarily due to residential construction, which has recovered from a deep decline after the 1997 crisis. Indeed, the number of houses completed fell by half in 1998, while housing prices declined by 12 per cent (Figure 6). The resulting financial distress in the construction industry led to a large number of bankruptcies and a contraction of employment. To stabilise the housing sector, the government boosted financial support, revised tax laws and eased regulations. Financial support through the National Housing Fund was almost doubled from 10 trillion won in 1998 to 19 trillion won (3.5 per cent of GDP) in 2001, while its interest rates were cut. Acquisition, registration and capital gains taxes were lowered, and homes purchased before June 2003 were exempted from the capital gains tax. In addition, the "Excess Land Capital Gains Tax Act" and the "Land Ownership Limit Act", which were introduced to restrain the surge in land prices during the late 1980s, were abolished. Finally, the "parcelling"⁵ system to allocate new houses was reformed.

These measures, combined with the easing of monetary policy, significantly boosted demand for housing. The number of houses built rose by 22 per

Table 3. **Economic growth**
Percentage change from year earlier

	1991-97	1998	1999	2000	2001 ¹	2002 First half ¹	2002 Third quarter ¹
Private consumption	6.4	-11.7	11.0	7.9	4.2	8.0	6.1
Government consumption	3.7	-0.4	1.3	0.1	0.2	5.2	2.4
Gross fixed capital formation	5.3	-21.2	3.7	11.4	-1.7	6.0	0.9
Construction	4.7	-10.1	-10.3	-4.1	5.8	6.7	-3.8
Machinery and equipment	6.3	-38.8	36.3	35.3	-9.8	5.2	7.7
Final domestic demand	5.7	-14.0	7.6	8.2	2.0	7.1	4.1
Stockbuilding ²	-0.1	-5.5	5.4	-0.2	0.0	0.2	-0.1
Total domestic demand	5.4	-19.8	14.7	8.1	2.0	7.3	4.2
Exports	14.7	14.1	15.8	20.5	1.0	6.8	18.3
Imports	11.2	-22.1	28.8	20.0	-2.8	12.5	20.1
Foreign balance ²	0.5	12.5	-1.0	3.1	1.5	-0.7	2.5
Gross domestic product	6.4	-6.7	10.9	9.3	3.0	6.1	5.8

1. Preliminary.

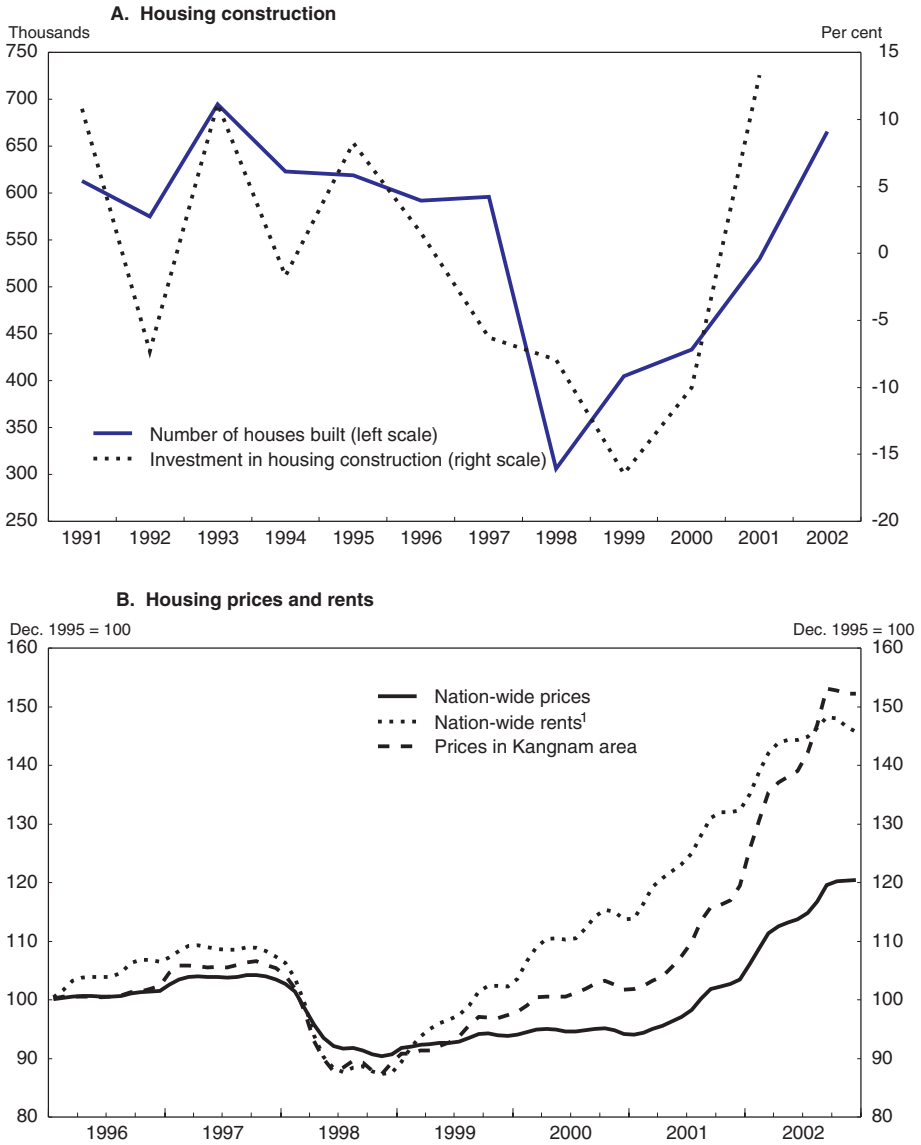
2. Contribution to growth.

Source: Bank of Korea.

cent in 2001, and by another 26 per cent in 2002 (Figure 6). The growth of housing investment accelerated to 13 per cent in 2001 and further to 28 per cent in the first half of 2002.⁶ However, these measures initially had a larger impact on demand than supply, perhaps reflecting the downsizing of the construction sector. Consequently, there has been a rebound in housing prices that goes well beyond a correction of the post-crisis decline. Since the beginning of 2001, housing prices and rents have risen by almost a third (Panel B). In contrast to the late 1980s, the recent episode has been concentrated in apartments, particularly in the capital region. The largest increases have been in the Kangnam area of Seoul, where apartment prices have risen 65 per cent since early 2001 compared to the nationwide average of 40 per cent.

To limit the sharp rise in real estate prices, the government has introduced numerous policy packages since December 2001 aimed primarily at preventing speculation and increasing the supply of housing (see Chapter IV). To exclude speculators, the authorities have launched investigations into the origin of funds invested in housing and conducted tax audits. Moreover, re-sale of parcelling rights has been restricted, and the limits on applying a second time for houses have been tightened. The government also announced a plan to build 5 million homes during the next ten years. However, given that more than half a million homes were completed in 2001 and 2002, this objective can be met without any acceleration of housing construction. The upward trend in real estate prices moderated in the final quarter of 2002, although this may reflect seasonal

Figure 6. **Developments in the real estate market**



1. Based on the chonseil system.

Source: Korea National Statistical Office, Bank of Korea and Kookmin Bank.

influences. Housing prices generally rise in the first and third quarters of the year – the periods when Korean families are most likely to move. Thus, the extent to which the government's measures are effective will be more apparent by the end of the first quarter of 2003.

Weak machinery and equipment investment and sluggish exports

The strength of private consumption and construction investment accounted for all of the growth in 2001 and 70 per cent in the first three quarters of 2002 (Figure 1). In contrast, the leading sectors in most previous expansions – exports and investment in machinery and equipment – were sluggish through the first half of 2002 (Table 3).

Investment in machinery and equipment

Investment in machinery and equipment has been weak since the downturn began in the final quarter of 2000. Such investment⁷ fell almost 10 per cent in 2001, reflecting the economic slowdown and weak profitability of the business sector (Table 4). Corporate earnings declined despite progress in improving their balance sheets. In the manufacturing sector, the debt to equity ratio has fallen by more than half since the crisis to less than 200 per cent. Moreover, the average interest rate has declined significantly since 1998. Consequently, the ratio of financial expenses to sales decreased to a record low of 4.2 per cent in 2001. However, this was more than offset by a reduction in operating profits, leaving the ordinary

Table 4. Performance indicators for the manufacturing sector

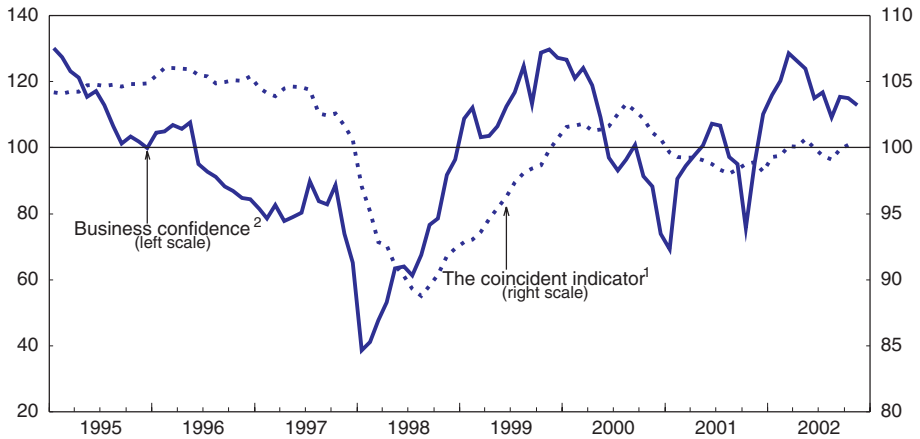
	Per cent					
	1997	1998	1999	2000	2001	2002 First half
Financial indicators						
Debt-equity ratio	396.3	303.0	214.7	210.6	182.2	135.6
Total borrowings-assets ratio	54.2	50.8	42.8	41.2	39.8	33.1
Current ratio ¹	91.8	89.8	92.0	83.2	97.9	107.9
Asset turnover ratio	0.90	0.82	0.82	0.96	0.98	1.01
Profitability indicators						
Operating profit-sales ratio	8.3	6.1	6.6	7.4	5.5	7.8
Labour cost-sales ratio	11.4	9.8	9.8	9.7	10.0	10.0
Ordinary profit-sales ratio	-0.3	-1.8	1.7	1.3	0.4	7.3
Financial expense-sales ratio	6.4	9.0	6.9	4.7	4.2	3.0
Average interest rate	10.6	13.5	11.5	10.5	9.4	8.2
Interest coverage ratio ²	1.29	0.68	0.96	1.57	1.33	2.57

1. The ratio of liquid assets to short-term liabilities.

2. The ratio of operating profits to interest expenses.

Source: Bank of Korea.

Figure 7. Business sentiment



1. Cyclical component.

2. Seasonally adjusted. A score of 100 means that production is expected to be the same as the previous month.

Source: Korea National Statistical Office and Federation of Korean Industries.

profit to sales ratio near zero. This pushed down the “interest coverage ratio”, which compares a firm’s operating profits to its debt service obligations on a flow basis, following two years of improvement. In addition to the decline in internal funds, opportunities for external finance in 2001 were limited by credit crunch conditions in the banking sector and the corporate bond market (see 2001 *Survey*).

Investment in machinery and equipment has rebounded with growth of 5 per cent in the first half of 2002, boosted by the economic recovery and the improvement in profitability. Indeed, operating profits rose to nearly 8 per cent of sales in that period, leaving firms flush with cash: the ratio of liquid assets to short-term liabilities has rebounded strongly since 2000 (Table 4). Nevertheless, the level of investment in machinery and equipment remains below that in 2000 and its prospects are uncertain. Firms are reluctant to invest their abundant funds given the current world economic outlook. Business sentiment has plummeted since its peak in April 2002 (Figure 7). In addition, the relatively low rate of capacity utilisation – 2 percentage points below the 78 per cent recorded in 2000 – is damping investment. Nevertheless, there has been a recovery in machinery orders, which increased 21 per cent year-on-year in the third quarter of 2002.

Another reason for weak business investment is the still large number of financially weak firms, as measured by the interest coverage ratio. In the manufacturing sector, the proportion of firms with a ratio below one increased from 32 per

cent during the first nine months of 2001 to 34 per cent during the same period of 2002 (Table 5). Moreover, the share with negative ratios rose from 18 to 23 per cent over that period. Among externally-audited enterprises, 2 364 – 28 per cent of the total – had ratios of less than one in 2001 (Panel B). Of these firms, 35 were in workout programmes and 25 were in court-mandated bankruptcy procedures. However, the remainder were not formally recognised as having serious financial problems. The combined debt of the companies with a ratio of below one amounted to 28 per cent of GDP. While a low ratio can reflect temporary liquidity

Table 5. **Financial distress in the corporate sector**

A. Interest coverage ratio¹ of manufacturing firms							
	Share of firms with a ratio of:						
	Below 0%	0 to 50%	50 to 100%	Total below 100%	100 to 150%	150 to 200%	Over 200%
2001 ²	17.7	6.3	8.3	32.3	9.9	6.6	48.3
2002 ²	22.8	5.1	6.4	34.3	6.9	5.3	49.1

B. Firms with interest coverage ratios¹ below one in 2001						
1. Number of firms						
Years below one	2001 only	2001-2000	2001-1999	2001-1998	Total in 2001	
Total number	1 265	649	228	222	2 364	
Per cent ³	15.0	7.7	2.7	2.6	28.0	
Normal firms	1 195	593	193	158	2 139	
In workout programmes	15	1	7	12	35	
In composition	5	3	1	1	10	
In reorganisation	4	6	1	4	15	
Other ⁴	46	46	26	47	165	

2. Total debt						
Years below one	2001 only	2001-2000	2001-1999	2001-1998	Total	
Total debt (trillion won)	73.3	41.0	24.7	15.2	154.3	
Per cent of GDP	13.5	7.5	4.5	2.8	28.3	
Normal firms	51.9	36.6	12.7	5.9	107.1	
In workout programmes	17.4	0.3	10.6	5.4	33.7	
In composition	1.9	0.2	0.0	0.9	3.0	
In reorganisation	0.2	1.3	0.2	0.6	2.2	
Other ⁴	2.1	2.6	1.1	2.5	8.3	

1. The ratio of operating profits to interest expenses.

2. For the January to September period.

3. Per cent of the 8 440 firms that are externally audited.

4. The other category includes companies, usually small in size, that defaulted on their loans but did not enter into any formal bankruptcy procedure.

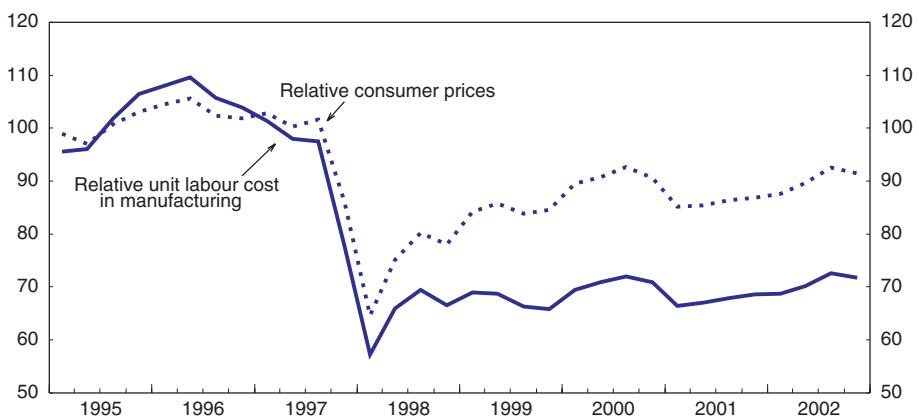
Source: Bank of Korea for Panel A. Won-Hyuk Lim (2002) for Panel B.

problems that do not threaten a firm's viability, 450 firms in 2001 had recorded an interest coverage ratio of below one for at least three consecutive years. Not surprisingly, having a low ratio over an extended period has been found to be a good predictor of company failure (Won-Hyuk Lim, 2001). The number of financially weak firms indicates that there is a significant amount of corporate restructuring still to come.

Exports and the external balance

The growth of Korea's exports of goods and services slowed to 1 per cent in volume terms in 2001, the smallest rise since the 1980s. But a gain in competitiveness in the latter part of 2000 (Figure 8) helped Korea to gain export market share in the face of stagnant world trade. Competitiveness gains, though, evaporated in the course of 2001, and by mid-2002, relative unit labour costs in the manufacturing sector had returned to their level of mid-2000. However, the pick-up in growth in export markets to around 4 per cent in 2002 fuelled a modest export recovery in the first half of the year (Table 3). A sharper upturn began in the third quarter of 2002, with exports up 18 per cent (year-on-year) in volume terms. The strong recovery was based on demand from China and Southeast Asia, offsetting sluggish shipments to the OECD area. In terms of product composition, the export rebound was driven by ICT products, such as portable phones (Box 1).

Figure 8. **Competitiveness indicators**¹
1995 = 100



1. Calculated *vis-à-vis* forty-one countries. A decline indicates a gain in competitiveness. OECD estimates for 2002.
Source: OECD.

Box 1. The information and communications technology sector

The volatile information and communications technology sector (ICT)* has been a key factor driving Korea's business cycle since the crisis. This sector accounted for a third of the rise in industrial output during the strong upturn recorded in 1999 and 2000. However, the plunge in ICT production between mid-2000 and mid-2001 was a major cause of the economic slowdown recorded in 2001 (Figure 9). The rebound in the ICT sector fuelled the economic recovery that began in the final quarter of 2001. Indeed, ICT production has been rising at a double-digit rate in volume terms since May 2002.

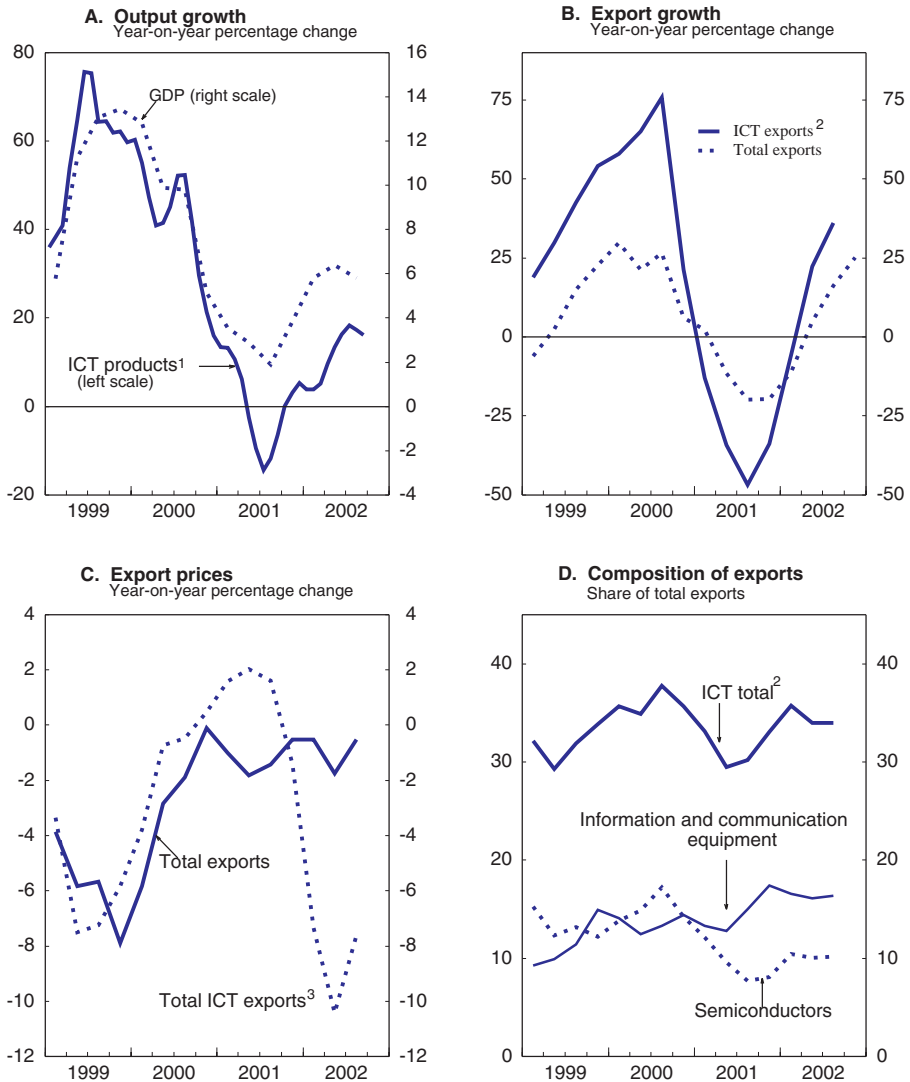
Developments in the ICT sector reflect the large fluctuations in external demand, resulting in even wider oscillations in export growth than in output (Panel B). The swings in exports are partly a result of volatile prices (Panel C). Indeed, the unit value of ICT exports fell sharply until mid-2002 before beginning a recovery. The rebound in ICT exports in 2002 has been driven by semiconductors and telecommunication products, both of which increased more than 30 per cent (year-on-year) in volume terms in the first eight months of the year (Table 6).

The ICT sector accounts for a third of total exports (Panel D), giving them approximately a 12 per cent share of GDP. The volatility of this sector raises uncertainty in projecting the future direction of the Korean economy, presenting challenges to policymakers. In sum, though, Korea's success on the manufacturing aspects of the ICT sector has been a positive development for economic growth. In the longer term, however, the key to sustaining high growth will be the diffusion of ICT in the business sector to raise productivity and reduce transaction costs. This will depend, in turn, on the availability of the necessary skills and the creation of an appropriate regulatory environment.

* Manufacturing industries in this sector include telecommunications, information (including computers) and broadcasting equipment, as well as electronic components including semiconductors.

Despite weak export growth prior to mid-2002 and a significant fall in the terms of trade, the current account balance has remained comfortably in surplus (Table 6). The decline in import volumes in 2001 resulted in a surplus of around 2 per cent of GDP. In 2002, Korea recorded its fifth consecutive current account surplus, although it narrowed to around 1 per cent of GDP as imports rebounded strongly. Moreover, the service deficit more than doubled, primarily owing to a sharp increase in overseas travel. This was partially offset by the falling deficit on investment income, reflecting the fact that Korea has become a net creditor country, with net external assets of \$52 billion (11 per cent of GDP) in November 2002 (Figure 10).

Figure 9. Developments in the information and communications technology sector



1. Defined as the categories of office and computing machinery, communication equipment (including radio and TV) and electric machinery and apparatus.

2. Defined as information and communication equipment, semiconductors and electric home appliances.

3. Weighted by 1999 dollar values of exports.

Source: Bank of Korea and Korea National Statistical Office.

Table 6. The balance of payments

	1998	1999	2000	2001	2002 ¹
A. Current account (US\$ billions)					
Merchandise trade					
Exports	132.1	145.2	175.9	151.4	157.0
Imports	90.5	116.8	159.1	138.0	142.8
Balance	41.6	28.4	16.9	13.4	14.2
Non-factor services					
Exports	25.6	26.5	30.5	29.6	28.1
Imports	24.5	27.2	33.4	33.1	35.4
Balance	1.0	-0.7	-2.9	-3.5	-7.3
Investment income					
Credit	2.7	3.2	6.4	7.0	5.8
Debit	8.3	8.4	8.8	7.9	6.5
Balance	-5.6	-5.2	-2.4	-0.9	-0.7
Transfers, net					
Public	-0.4	-0.3	-0.4	-0.2	-0.3
Private	3.8	2.2	1.1	-0.1	-1.0
Current account	40.4	24.5	12.2	8.6	5.5
As per cent of GDP	12.7	6.0	2.7	2.0	1.2
B. Trade volume (percentage change)					
	2000 share	1999	2000	2001	2002 Jan.-Aug. ²
Total exports	100.0	12.0	20.6	0.7	9.0
Light industry ³	17.6	-4.8	-1.2	-5.5	-1.4
Heavy industry ³	74.1	22.4	31.6	2.4	15.0
Passenger cars	6.4	14.4	14.0	-3.0	6.9
Electronic products	36.0	60.0	51.7	-0.1	24.9
- Semiconductors	12.4	28.5	83.2	18.6	31.4
- Telecommunications	16.3	77.9	61.0	10.2	32.9
Total imports	100.0	29.0	19.0	-2.3	11.8
Consumer goods	10.0	22.4	14.4	8.9	22.2
Industrial materials and fuels	49.2	23.6	6.2	-0.4	30.0
Capital goods	40.8	41.4	43.5	-8.2	12.4
C. Capital and financial account (US\$ billions)					
	1998	1999	2000	2001	2002 First half
Foreign direct investment	0.7	5.1	4.3	0.6	-0.7
Inward	5.4	9.3	9.3	3.2	0.8
Outward	4.7	4.2	5.0	2.6	1.5
Portfolio investment	-1.9	8.7	12.0	6.3	-5.3
Inward	-0.3	7.0	12.0	11.5	-3.4
Outward	1.6	-1.7	0.0	5.2	1.9
Other investment	-2.2	-11.4	-3.6	-10.0	7.0
Inward	-8.9	-8.8	-1.3	-17.4	6.0
Outward	-6.7	2.6	2.3	-7.4	-1.0
Capital account	0.2	-0.4	-0.6	-0.4	-0.3
Total	-3.2	2.0	12.1	-3.6	0.7
Per cent of GDP	-1.0	0.5	2.6	-0.9	0.3

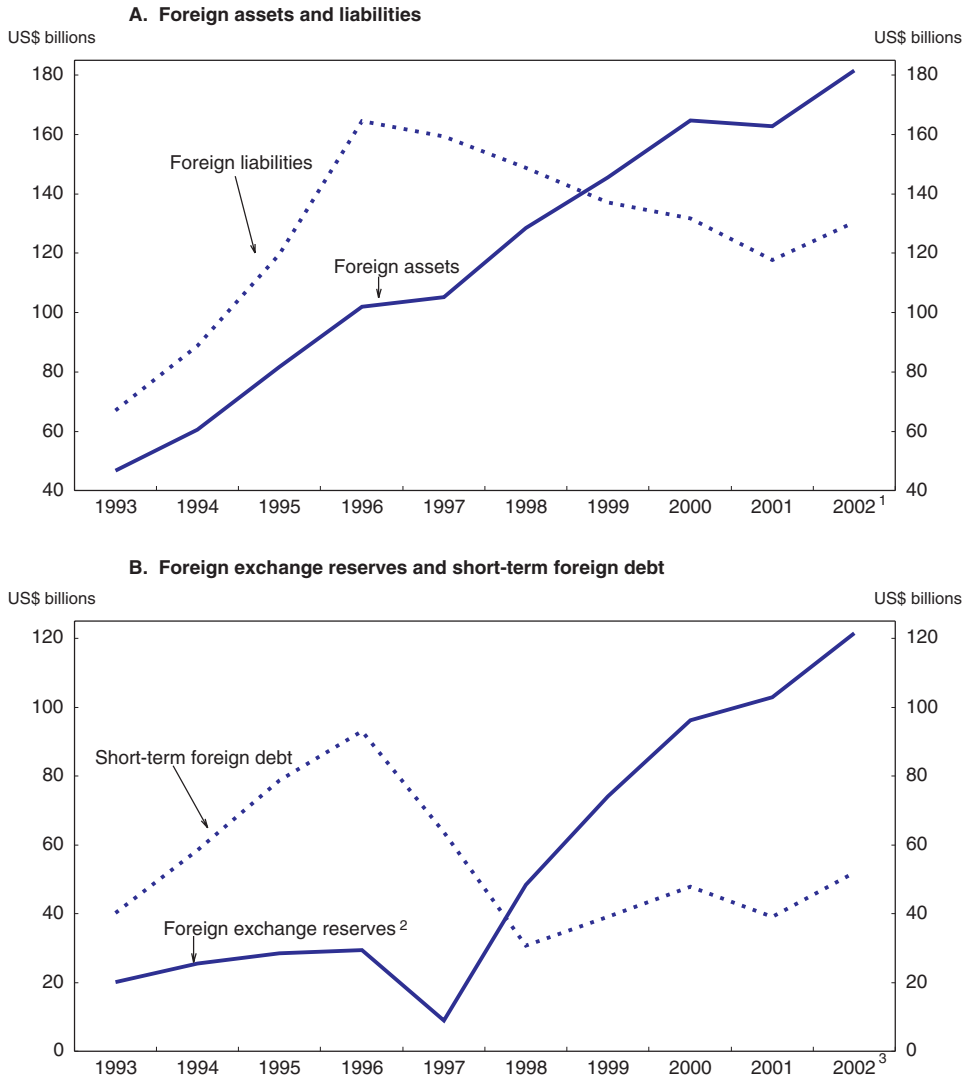
1. January to September at an annual rate.

2. Year-on-year growth rate.

3. Light industry includes textiles, apparel and rubber products. Heavy industry includes all other manufactured products, except food.

Source: Bank of Korea.

Figure 10. **Korea's net asset position and foreign exchange reserves**
US\$ billions at end-year



1. End-November.

2. Useable reserves only; *i.e.* excludes illiquid deposits at offshore Korean banks.

3. End-December for foreign exchange reserves and end-November for short-term foreign debt.

Source: Bank of Korea.

Korea experienced a deficit on the capital and financial account in 2001 for the first time since 1998 (Table 6), despite continued portfolio inflows that contributed to the rise in the stock market. This investment has raised the foreign share to 37 per cent of market capitalisation. However, there was a slowdown in foreign direct investment and a large negative figure in the category of “other investment”, which was caused by sizeable repayments of foreign loans by Korean banks and enterprises. Nevertheless, the deficit on the capital and financial account was less than half the current account surplus, leading to a further rise in Korea’s foreign exchange reserves. Useable reserves, which fell to under \$10 billion at the time of the crisis, reached \$121.4 billion at the end of 2002 (Figure 10, Panel B), the second highest in the OECD area. At present, they are more than double Korea’s short-term debt.

The labour market and inflation trends

Employment increased 3 per cent in the first half of 2002, despite continued declines in the number of workers in the manufacturing and agricultural sectors (Table 7). These were more than offset by strong gains in services and construction, reflecting the buoyant growth of private consumption and housing investment. The rebound in construction also boosted the number of daily workers by 11 per cent, contributing to a further decline in the proportion of employees who are regular workers (see Chapter IV). Rapid employment growth encouraged greater labour force participation, which recovered to its pre-crisis level of 62.2 per cent by the spring of 2002. Moreover, the employment to working-age population ratio also reached its 1997 level. Despite the upward trend in participation, the unemployment rate fell to below 3 per cent in mid-2002, its lowest level since the crisis (Figure 11). Wage growth accelerated from 5.6 per cent in 2001 to 10 per cent in the first half of 2002 (Panel B). Productivity also rebounded with the economic recovery in the first half of 2002. However, it failed to match the pick-up in real wages per hour – from 2.6 per cent in 2001 to 9 per cent in the first half of 2002 – suggesting sharp increases in unit labour costs.

The government’s commitment to introduce a five-day workweek creates more uncertainty about future wage developments. A reduction in working hours from 44 to 40 would imply a 10 per cent jump in hourly wages if labour compensation were to remain unchanged, as the unions demand, and the increase could be more than 14 per cent according to the Federation of Korean Industries (2002). After two years of discussion, the Tripartite Commission, consisting of labour, management and government, failed to reach an agreement. Nevertheless, the government introduced a bill in the National Assembly in the fall of 2002 to phase in the five-day workweek gradually between 2003 and 2010 beginning with the largest firms, while reducing the number of public holidays and making other adjustment to working time.⁸ The government plan would have limited the upward

Table 7. **Labour market developments**
Percentage changes from previous year

	Share in 2000	1991-97	1998	1999	2000	2001	2002 First half
A. Employment		2.0	-5.3	1.4	3.8	1.4	3.1
By sector							
Agriculture	10.9	-4.9	4.0	-5.3	-2.6	-4.2	-2.1
Construction	7.5	6.5	-21.3	-6.5	7.2	-0.4	11.6
Manufacturing and mining	20.2	-0.8	-13.0	2.8	5.9	-1.0	-0.7
Services	61.5	5.4	-1.6	3.4	4.0	3.4	4.2
By type of employment							
Self-employed	28.5	2.2	-3.4	1.1	2.7	2.8	3.5
Family workers	9.1	-1.2	6.8	-5.4	0.1	-3.3	-3.0
Employees	62.4	2.5	-7.8	2.7	5.0	1.5	3.8
Regular	29.7	2.1	-9.7	-6.3	3.3	4.0	1.4
Temporary	21.4	4.1	-4.4	4.6	7.8	2.0	3.8
Daily	11.3	0.5	-8.3	31.9	3.9	-5.9	11.0
B. Participation and unemployment							
Population 15 years and over		1.7	1.5	1.1	1.0	1.0	1.0
Labour force		2.1	-1.0	0.8	1.5	1.1	2.2
Total participation rate ¹		61.5	60.7	60.5	60.7	60.8	61.0
Men ¹		75.9	75.2	74.4	74.0	73.6	73.8
Women ¹		48.0	47.0	47.4	48.3	48.8	49.0
Employment to working-age population		63.0	59.5	59.7	61.6	62.1	63.3
Unemployment rate		2.4	6.8	6.3	4.1	3.7	3.3
C. Wages							
Total economy							
Earnings ²		11.0	-2.5	12.0	8.1	5.6	10.0
Hours worked		-0.4	-1.9	4.5	-0.9	-1.1	-1.8
Earnings per hour		11.5	-0.6	7.3	9.0	6.8	12.0
Real earnings per hour ³		4.3	-7.6	6.4	6.6	2.6	8.9
Unit labour costs ⁴		5.9	0.7	-5.6	-0.2	4.4	7.0
Manufacturing sector							
Earnings		11.8	-3.1	14.7	8.6	6.3	9.0
Unit labour costs		1.7	-10.1	-9.6	0.2	4.4	..

1. As per cent of population over the age of 15.

2. Firms in the non-agricultural sector employing more than ten workers. The Ministry of Labour began to survey firms with more than five workers in January 1999. This survey reported earning increases of 8.0 per cent in 2000, 5.1 per cent in 2001 and 9.7 per cent in the first half of 2002.

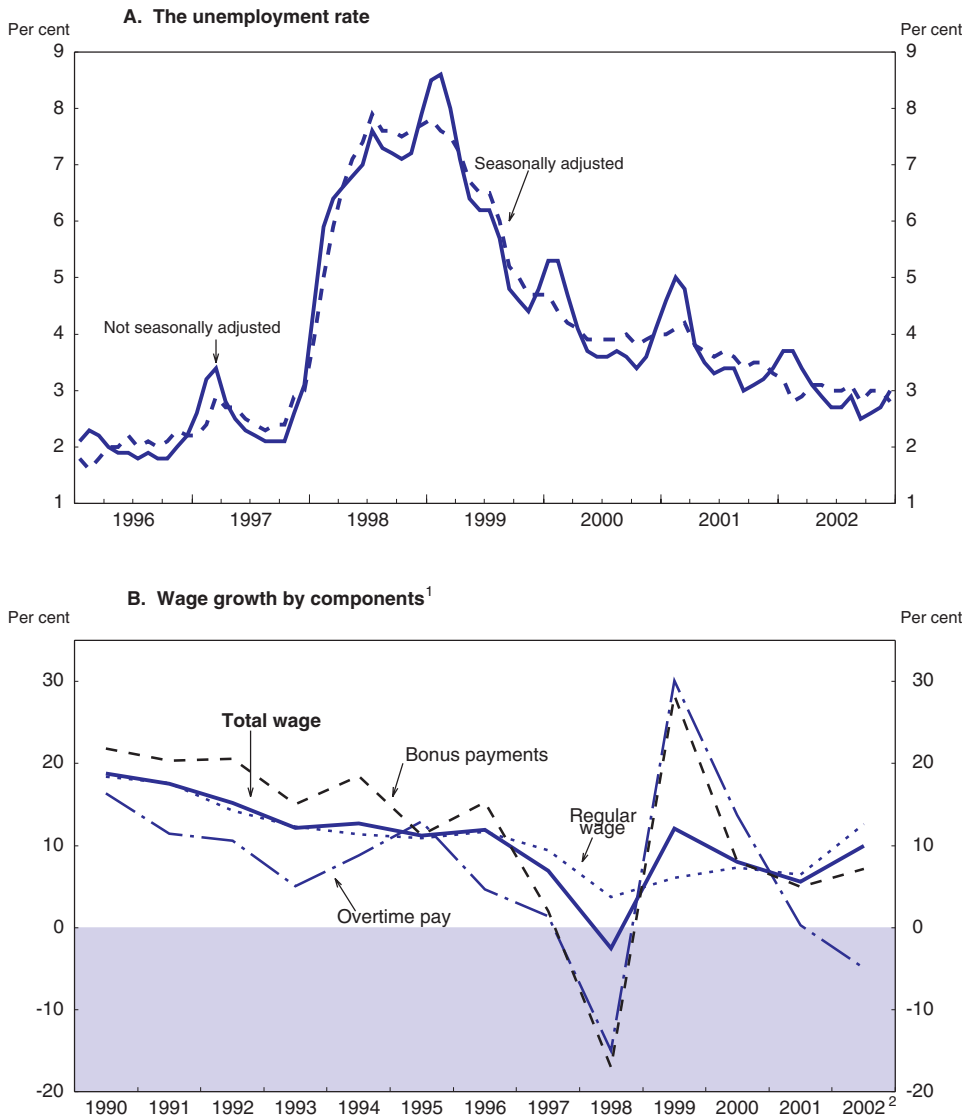
3. Deflated by the consumer price index.

4. OECD projection for the first half of 2002.

Source: Bank of Korea, Korea National Statistical Office and Ministry of Labour.

impact on wages to 2.7 per cent. Moreover, some companies, including financial institutions, have already introduced the five-day workweek as a result of collective bargaining. The National Assembly recently decided to shelve the proposed legislation, which is strongly opposed by both management and labour. Nevertheless, shorter working hours will be a major objective of workers in firm-level wage bargaining.

Figure 11. Labour market trends



1. Firms in the non-agricultural sector employing more than ten workers.

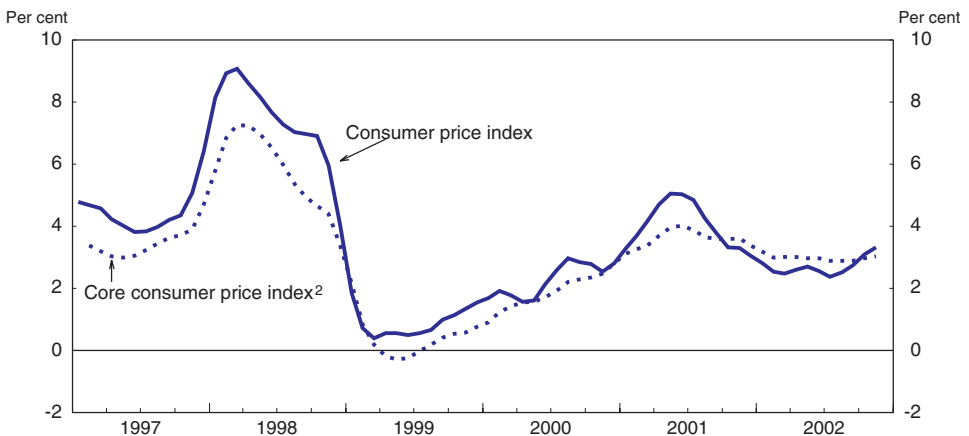
2. The first half of 2002.

Source: Ministry of Labour.

Core inflation is currently stable at around 3 per cent despite developments in the labour market (Figure 12). During 2001, inflation – both headline and core – had accelerated, reflecting the depreciation of the won by 8 per cent in trade-weighted terms and the lagged direct and indirect impacts of higher oil prices. Other factors included the pick-up in housing rents, higher food prices and a 7.5 per cent rise in public service charges.

Inflation has moderated and stabilised during the course of 2002. Core inflation increased 3 per cent (year-on-year) in 2002, with the headline measure slightly lower due to weaker oil prices. The exchange rate was again a factor, as the 6 per cent appreciation in trade-weighted terms between April and July damped inflation. Past experience suggests that an increase of this magnitude would reduce consumer price inflation by ½ percentage point, with most of the impact occurring within six months. A second factor stabilising inflation in 2002 has been a fall in public service charges, which have a 15 per cent share of the consumer price index, after two years of 7 per cent increases. This factor has also reduced inflation by about 0.2 percentage point, in contrast to 2001, when it boosted inflation by 1 percentage point. In sum, without the impact of an appreciating currency and falling public sector prices, inflation would have been significantly higher. However, the stabilising influence of these two factors has been diminishing

Figure 12. **Consumer price trends**
Year-on-year percentage changes¹



1. Three-month moving average.

2. Excludes energy and agricultural products (apart from grains).

Source: Korea National Statistical Office.

in the second half of 2002. Finally, the significant rise noted above in unit labour costs in 2001 and 2002 will add to inflationary pressure.

Another uncertainty about inflation prospects stems from rising housing prices. The real estate market influences consumer prices directly through changes in housing costs, which have a 13 per cent weight in the index. The *chonsei* system⁹ of house rental accounts for about 70 per cent of this category, with the less widely used system of monthly rent accounting for most of the remainder. If the consumer price index incorporated the 16 per cent rise in *chonsei* rents reported by Kookmin Bank in 2002 (Figure 6), this would have added 1½ percentage points to the rate of inflation. However, the increase in the *chonsei* rent reported in the price index was relatively small at 6 per cent.¹⁰ Nevertheless, it accounted for a quarter of the 2.7 per cent rise in the overall consumer price index in 2002.¹¹ Real estate prices also influence inflation through production costs, demand pressure and inflation expectations. With housing prices having increased by a third, there is pressure from workers for higher wages that would enable them to finance housing expenses. The rise in labour costs, in turn, would boost production costs and inflationary expectations. At the same time, increased wealth and stronger balance sheets tend to stimulate consumption and investment. The rapid real estate price increases in the latter part of the 1980s ended with a sharp acceleration of wages and inflation. However, following a number of measures taken by the government, real estate prices stabilised in the final quarter of 2002 in the context of some moderation in domestic demand.

Economic prospects

Outlook for 2003 and 2004

The strength of domestic demand, which expanded by an estimated 6¾ per cent in 2002, has led the economic recovery in Korea. However, the leading sectors – private consumption and construction investment – are likely to be less buoyant in 2003 and beyond. The strong growth of private consumption has been fuelled by an easy credit environment that has eased liquidity constraints, resulting in an estimated decline in the household saving rate to a single-digit level. The increased reliance on borrowing has sharply boosted financial liabilities relative to disposable income, resulting in a decline in households' net financial assets. In addition, the Financial Supervisory Service introduced regulatory changes in November 2002 that will tend to discourage the growth of lending to households.¹² Already in the third quarter of 2002, a substantial slowing of private consumption was recorded (Table 3) and this is likely to continue. As a result, private consumption growth is likely to lag somewhat behind economic growth in 2003 and 2004 rather than leading it as in 2001 and 2002, thus allowing some recovery in the saving rate and in the net financial wealth of households. Moreover,

the decline in share prices – 30 per cent since April 2002 – will have a negative wealth effect and weaken consumer sentiment. Indeed, household confidence has already fallen by 14 per cent from its peak in the first half of 2002 (Figure 3). The extent of the fall in share prices, despite the strong economic recovery, reflects the sensitivity of the Korean stock market to foreign investors. Moreover, the small role of domestic pension funds and other institutional investors in the stock market contributes to its volatility.

Construction investment is also unlikely to maintain its current high rate of growth. Indeed, there was a decline in the third quarter of 2002, when it fell nearly 4 per cent, perhaps reflecting the impact of the packages of measures introduced during the past year to calm the housing market. Consequently, construction investment is likely to moderate in 2003.

With the growth in the leading components of domestic demand moderating, sustaining the expansion through 2004 at its current pace is likely to depend on a rebound in export growth, which in turn would stimulate investment in machinery and equipment. The marked pick-up in exports in the third quarter of 2002 was a positive sign in this regard. This upturn should be sustained by the growth in Korea's export markets, which is projected to accelerate from 3¾ per cent in 2002 to around 9 per cent in 2003 and 2004.¹³ This would push export growth up to double-digit levels and have a positive impact on investment in machinery and equipment, while maintaining a current account surplus of about 1 per cent of GDP. If strong export demand does materialise, economic growth of between 5½ and 6 per cent is projected in 2003 and 2004 (Table 8). This outlook is based on the following assumptions, which were built into the OECD *Economic Outlook* of December 2002:

- The exchange rate stabilises at its November 2002 level of 1 219 won per dollar and 10 won per yen.¹⁴
- Oil prices rise from \$23.9 in 2002 to \$25.8 per barrel in 2003 before falling to \$24.8 in 2004.
- The short-term interest rate (91-day CD rate) rises from slightly under 5 per cent to 5¾ per cent by early 2004, while the long-term government bond yield rises from 6 per cent to 7¾ per cent.
- Fiscal policy aims at keeping the consolidated government budget – excluding the surplus on social security and the costs of financial restructuring – in balance.

Inflation is projected to pick up from its current pace of around 3 per cent to 3½ per cent in 2003, the top of the new medium-term target zone of 2.5 to 3.5 per cent, despite the expected moderation of domestic demand. One factor is rising unit labour costs, which increased 4½ per cent in 2001 and an estimated 7 per cent in the first half of 2002, in the context of an unemployment rate below

Table 8. **Short-term prospects**¹
Percentage change in constant 1995 prices

	Share of GDP in 2000 ³	2000	2001	2002	2003	2004
Demand and output						
Private consumption	57.3	7.9	4.2	7.3	4.5	4.2
Government consumption	10.2	0.1	0.2	3.5	2.0	2.0
Gross fixed capital formation	28.7	11.4	-1.9	6.5	5.9	6.9
Machinery and equipment	12.8	35.3	-9.8	5.5	7.9	6.3
Construction	15.8	-4.1	5.8	7.3	4.3	6.4
Final domestic demand	96.2	8.2	2.0	6.7	4.7	4.6
Stockbuilding ²	0.0	-0.2	0.0	0.0	0.0	0.0
Total domestic demand	96.2	8.1	2.0	6.8	4.7	4.7
Exports of goods and services	45.0	20.5	1.0	8.7	11.0	10.2
Imports of goods and services	42.2	20.0	-2.8	12.0	10.9	10.0
Foreign balance ²	2.8	3.1	1.5	0.3	1.8	1.8
GDP	100.0	9.3	3.0	6.1	5.8	5.7
Prices						
GDP deflator		-1.1	1.4	2.1	2.4	2.7
Private consumption deflator		2.2	4.0	2.8	3.6	3.4
Consumer price index		2.3	4.1	2.7	3.5	3.3
Labour market						
Employment growth		3.8	1.4	2.6	1.6	1.6
Participation rate ⁴		60.7	60.8	61.3	61.8	61.9
Average wage		5.1	5.5	9.0	7.3	7.5
Unemployment rate		4.1	3.7	2.9	2.8	2.7
Balance of payments						
Current account (US\$ billions)		12.2	8.6	5.0	5.4	7.4
As a percentage of GDP		2.7	2.0	1.1	1.0	1.3

1. These projections are identical to those presented in OECD, *Economic Outlook* 72 (December 2002).

2. Contribution to GDP growth.

3. The components shown below do not sum to 100 per cent due to a statistical discrepancy equivalent to 1.1 per cent of GDP.

4. Labour force as a share of population age 15 and over.

Source: OECD.

3 per cent. While employment gains are likely to moderate, given the anticipated cooling of the construction sector, the average annual unemployment rate is likely to remain slightly under 3 per cent through 2004. The higher projected price of oil in 2003 will also have some impact. In addition, two special factors, falling public service charges and the appreciation of the currency, which damped inflation in 2002, are not expected to continue in 2003. Finally, the run-up in real estate prices through the third quarter of 2002 has boosted production costs, demand pressures and inflationary expectations. Inflation could accelerate more than projected if the measures implemented to stabilise housing prices prove to be ineffective.

The most obvious risk to this projection, which is based on an expansion sustained by external demand, is a delayed recovery in the world economy. If export market growth fails to accelerate in 2003 as projected, the Korean economy is likely to slow significantly. On the other hand, some positive signs in the ICT sector suggest that a strong rebound in that market could lead to faster than expected growth. There are a number of uncertainties as well on the domestic side that could limit the pace and durability of the expansion. Perhaps most important is the sharp rise in real estate prices. If the tax and regulatory measures implemented by the government fail to slow the upward trend of housing prices, a monetary policy response, which would slow economic activity, may be necessary to meet the medium-term inflation target. The behaviour of households in the new financial environment is another uncertainty. While the projection is based on a modest recovery in the saving rate and a stabilisation of net financial assets relative to income, consumers may become more cautious in the uncertain period ahead and reduce consumption by more than anticipated. Finally, the fact that more than a quarter of major firms have interest coverage ratios below one suggests that further corporate restructuring is needed, which could have temporary adverse impacts on the labour market and on confidence. However, the strong financial position of the banks lessens the risks associated with such restructuring (see Chapter IV).

Medium-term growth perspective

Korea's economy has grown at an average rate of 7 per cent since 1998. It is doubtful, though, whether this pace can be sustained over the medium term. The rate of growth will depend on the size and quality of the labour force, the pace of capital accumulation and gains in total factor productivity, which are driven by such factors as technological progress and better resource allocation. Given the major structural changes that have taken place recently in Korea, it is particularly difficult to estimate the contributions to growth based on past experience.

Given the slower expansion of the working-age population, employment growth, which contributed more than 1 percentage point of growth in the 1990s, is likely to decelerate in the current decade, even assuming a rise in labour force participation rates (Table 9). However, the continued improvement in the average educational attainment of the labour force will continue to make an important contribution to growth. Capital accumulation is also likely to slow, as the recent decline in the saving rate reduces the still high share of investment in GDP. Based on the assumption that the wide-ranging reform programme to create a more market-oriented system should translate into greater productivity growth, the potential growth rate is estimated to be around 5¼ per cent over the period 2003 to 2007 (Hahn *et al.*, 2002). However, if economic reforms do not continue and total factor productivity growth maintains its pace of 1½ per cent per year

Table 9. Korea's potential growth rate

Period	Potential growth rate	Contribution			
		Employment ¹	Human capital	Physical capital	Total factor productivity
A. Quality of Korea's economic system is improved through structural reform and expanding international openness					
1991-1995	6.8	1.3	0.6	4.0	0.8
1996-2000	5.7	1.0	0.6	2.4	1.6
2003-2007	5.2	0.6	0.7	2.0	2.0
2008-2012	4.8	0.2	0.6	2.0	2.0
2003-2012	5.0	0.4	0.6	2.0	2.0
B. Quality of Korea's economic system and international openness remains at the current level					
1991-1995	6.8	1.3	0.6	4.0	0.8
1996-2000	5.7	1.0	0.6	2.4	1.6
2003-2007	4.6	0.6	0.7	1.9	1.5
2008-2012	4.2	0.2	0.6	1.9	1.5
2003-2012	4.4	0.4	0.6	1.9	1.5

1. Assumes that the labour force participation rate (15 to 65 years old) for men rises from 73.9 per cent in 2002 to 74.5 per cent in 2012, while increasing from 51.4 to 53.0 per cent for women over the same period.

Source: Chin Hee Hahn *et al.* (2002).

recorded in the second half of the 1990s, the potential growth rate would decline further to 4.6 per cent in the context of the slowdown in inputs of labour and capital. Of course, there is a wide range of uncertainty attached to such estimates. According to one researcher, Korea's potential growth rate in the 2000 to 2002 period was estimated at between 5.1 and 6.7 per cent using different methods (Choi, 2002). Although there is a wide margin of error attached to such estimates, it is clear that, given the likely slowdown in input growth, the future growth rate of the Korean economy will depend heavily on improvements in total factor productivity. Realising higher productivity growth will be facilitated by appropriate macroeconomic policies (see Chapter II), including measures to improve the public expenditure management system (see Chapter III). In addition, it is important to follow through on the structural reform programme introduced in the wake of the crisis, while taking steps to strengthen competition both domestically and from abroad (see Chapter IV). Finally, measures to improve the policy frameworks for education, R&D and venture businesses will tend to boost potential growth.

Notes

1. According to the Korea Federation of Banks, the problem is concentrated among credit cards, where the overdue ratio was 7.4 per cent. In contrast, the ratio for bank loans was only 1 per cent.
2. According to one estimate, a 10 per cent rise in share prices results in a 0.6 per cent increase in private consumption within three to six months (Kim and Moon, 2001).
3. A recent study (Shim, 2001) concludes that the close correlation between share prices and consumption since the crisis reflects the improved ability of share prices to signal the future income stream of consumers.
4. The rates on cars, air conditioners and jewellery were cut, while home electronic products were exempted. The rationale for this tax is to promote energy conservation and curb conspicuous consumption.
5. The Ministry of Construction and Transportation has developed the “parcelling” system to allocate newly constructed houses. When a housing project is announced, those who do not own homes are eligible to apply if they meet other conditions, such as having sufficient savings. The winners are decided by lottery. Following the crisis, this system was changed to boost the housing market. *First*, parcelling prices, which had been subject to price ceilings, were liberalised in 1999. *Second*, the parcelling right, which is priced below the market level of the finished dwelling, could be sold, thus allowing speculators to buy and re-sell those rights. *Third*, in 2000, those who have already purchased houses under this system were allowed to apply again. *Fourth*, the requirement to open special accounts at banks in order to be eligible was relaxed.
6. In contrast, non-residential construction has been subdued, falling in the first half of 2002, after a modest 3 per cent increase in 2001.
7. Investment in machinery and equipment accounts for about two-thirds of business investment, which is defined as total investment minus residential construction and government investment.
8. The deadline for implementing the new system depends on the size of firms. For example, firms with more than 1 000 employees would have to implement the new system by July 2003, but those with more than 20 workers would not have to comply until July 2007. Companies with less than 20 workers would have until the end of 2010.
9. In the *chonsei* system, the renter gives the owner a lump sum, typically equivalent to 60 to 70 per cent of the cost of the dwelling. The interest earned on this lump sum provides income to the owner for two years, at which point the lump sum is returned to the renter. The “rent” thus generated depends on the size of the lump sum and interest rates.

10. The price index has a relatively small weight for apartments, which have been at the heart of the recent price hikes. Indeed, the *chonsei* rent category in the price index gives a 28 per cent weight to apartments compared to 57 per cent in the Kookmin Bank index.
11. If the overall contribution of housing costs – including monthly rent and other charges – are included, it contributed 0.8 percentage point of inflation, or almost a third of the total.
12. The risk weight attached to loans to households has been increased, thus forcing banks to hold more reserves. For example, the loss reserves required for “normal” home mortgage loans is being increased from 0.75 per cent to 1 per cent. In addition, seven banks were singled out for over-evaluating the collateral of households seeking loans.
13. The calculation of export market growth is based on a weighted average of the growth of import volumes in Korea's markets. The weights are determined by the country's share of Korea's exports. Such a pick-up was projected in the OECD *Economic Outlook* (No. 72) released in December 2002.
14. OECD projections are made on the basis of unchanged exchange rates, except in the case of some high inflation countries.
15. Although the central bank has shifted to an interest-rate based policy, it still monitors the monetary aggregates, particularly M3, which is thought to be linked to inflation expectations.
16. The benefits of moving to a medium-term target in New Zealand is discussed in Drew, 2001.
17. Indeed, a 1992 World Bank study placed Korea second from the bottom of 72 countries ranked in terms of central-bank independence (Cukierman, Webb and Neyapti, 1992).
18. “Report on the Observance of Standards and Codes (ROSC): Republic of Korea, Fiscal Transparency” (Washington, DC: International Monetary Fund, 23 January 2001).
19. In 2001, lending to SMEs rose by 16 trillion (3 per cent of GDP), while lending to large firms declined. This trend continued in 2002, as SMEs received 37 trillion won of the 99 trillion won rise in lending, while large companies' share did not change. As of December 2002, SMEs had received 192 trillion won in loans from financial institutions, more than four-fifths of their total lending to businesses.
20. Under this system, the exchange rate was determined within a certain range of the weighted average of the foreign exchange rates of the previous day.
21. At the end of March 2002, Moody's upgraded Korea from Baa2 to A3. This was followed by Fitch and S&P, which upgraded Korea from BBB+ to A and A- grade in June and July, respectively.
22. There is no evidence of policy measures to maintain the parity of the won and the yen (Moon, 2002).
23. Under the GFS system used in Korea, the receipts generated from privatisation carried out for policy purposes are included in the item “net lending”, thus boosting the government surplus. Privatisation revenues have totalled 24.1 trillion won since 1998, of which 14.5 trillion won has flowed into the budget.
24. Moreover, privatisation receipts are not considered to be part of government revenue under the 1993 System of National Accounts.

25. The five social security funds are the National Pension Fund, Korea Teachers' Pension Fund, Industrial Workers' Accident Compensation Fund, Employment Insurance Fund and Merit Reward Fund. The National Pension Fund accounts for 90 per cent of the total.
26. It can be argued that the increased contributions to the NPS by the self-employed are to some extent voluntary. In 2000, 11.8 million persons – a little over half of the number of employed persons – contributed to the NPS. About a quarter of the employed – family workers, those covered by the public occupational schemes, those over 60 or under 18 years of age – are exempted from the NPS. This leaves another quarter of the employed – primarily the self-employed – that did not contribute. The decision of a growing number of self-employed to contribute reflects a decision to save for their retirement by qualifying for an NPS pension, which is partially determined by the individual's contributions.
27. Total outlays, including the supplementary budgets, were expected to be 147.2 trillion won, a 14 per cent rise from the 2000 outcome, which also had significant undershooting of spending. Relative to the 2000 initial budget, the initial budget for 2001 contained a 5.4 per cent increase in spending. The government introduced two supplementary budgets in 2001, including one after the 11 September attack in the United States that boosted spending by 1.6 trillion won.
28. The objective is to boost the price of diesel from 54 per cent of that of gasoline in 2001 to 75 per cent by 2006 and to raise the price of LPG from 34 to 60 per cent over the same period.
29. Since the social security surplus is projected at 3 per cent in both 2002 and 2003, the extent of consolidation is the same regardless of whether it is included.
30. Compared to the 2002 initial budget, the increase in spending in 2003 is only 1.4 per cent excluding the cost of financial sector restructuring.
31. If outlays using credit cards exceed 10 per cent of income, 20 per cent of that amount can be deducted from income tax. In addition, there is a lottery drawn from credit card receipts in order to promote their use.
32. The Call Centre handled an average of 4 417 cases per day in 2001.
33. Reductions of capital gains for business conversion, the relocation of a factory and the transfer of real estate during the process of restructuring were abolished. In addition, the reduction of the corporate income tax for business conversion was ended.
34. Previously, all firms with sales of less than 48 million won were allowed to pay the VAT based on sales. Under the new system, firms in certain industries, such as manufacturing, mining and real estate, are treated as regular taxpayers regardless of the amount of their sales.
35. For a much fuller description of retirement income policies and challenges, see the 2001 *OECD Economic Survey of Korea*.
36. Another 12 per cent of the elderly qualified for old-age allowance payments of about 3 per cent of the average wage.
37. This does not include the elderly that receive the military public pension or the old-age allowance.
38. In 1996, just over 25 per cent of the elderly had an income lower than half of median household income, compared to 10 per cent for the population as a whole (see Kwon, 1999).

39. While the replacement rate for a worker with average income is 60 per cent, this rises to 90 per cent for a worker earning half of the average income.
40. Roughly 5 million of the 21.1 million employed persons in 2000 were exempted from the NPS. This includes those covered by the public occupational pension schemes (1.1 million), family workers (1.9 million), those over the age of 60 (1.7 million) and those under 18 (0.2 million).
41. Those who have had exemptions are able to make contributions at a later date to cover those periods.
42. Public pension expenditure is projected to rise by 5 percentage points of GDP and the occupational pension schemes by 3 percentage points over the next three decades. Age-related healthcare spending is also likely to increase pressure on state budgets, while the potential costs of reunification are large but uncertain.
43. According to official estimates, the current scheme would require contributions of 19 per cent to achieve balance with a 60 per cent replacement rate.
44. Over the period 1998 to 2001, the rate of return on invested assets has been below the average market return, mainly as a result of considerable lending to the government. The average rate of return on investment over the period 1988 to 2001 was estimated at 9.87 per cent on average. This was achieved by returns of 9.32 per cent for public-sector deposits and 10.78 per cent in the financial sector. The obligatory deposit to the government was abolished in 2001. In 2002, 26 per cent of lending from the National Pension Fund was to the government and this is scheduled to be repaid by 2005.
45. Complete external funding is practised by only 8 per cent of companies, while 19 per cent fund only internally (Choi, 1999). Following the crisis, around a quarter of eligible workers reported they had not received this payment (Phang, 2001). As a result, the government introduced a Wage Guarantee Fund to partially compensate workers whose employers had defaulted.
46. The government reformed the pension taxation system in 2000 (see the 2001 OECD *Economic Survey of Korea*) to put it on a so-called EET basis. While the reforms moved from the taxation of contributions to the taxation of benefits, significant tax deductions are allowed.
47. Low inflation has been found to have the benefit of reducing real interest rates and encouraging investment, while damping the volatility of output growth. Moreover, low inflation levels tend to reduce the volatility of inflation, which imposes efficiency costs.
48. For an overview of public expenditure management issues in OECD countries, see Atkinson and Van den Noord (2001).
49. The establishment of the social safety net reflected a widening of basic priorities to include social welfare as well as economic growth. This led to the establishment of a national pension system in 1988, national health insurance in 1992 and unemployment insurance in 1995. The current low level of publicly funded social expenditures reflects the immaturity of the pension system, which has few beneficiaries at present.
50. In most OECD countries, public social expenditure is lower on a *net* (after tax) than on a *gross* (before tax) basis since governments tend to claw back more money through taxation of public transfer income than the value of the tax advantages awarded for social purposes. In contrast, net public social expenditure is estimated to be higher in Korea and the United States. In 1997, net public social expenditure in Korea was 4.6 per cent of GDP, whereas gross public social expenditure was 4.4 per cent of GDP (Adema, 2001).

51. When private spending on extra-curricular education – accounting for 5 per cent of total household income – is added, spending on education in Korea might be the highest in the world.
52. To assist the unemployed, the authorities expanded the unemployment insurance programme, created temporary public works jobs, provided more vocational training opportunities and established a “Temporary Livelihood Protection Programme”.
53. In most OECD countries, the establishment and expansion of programmes and provision of services in the social policy domain and increasing debt interest payments led to a persistent rise in general government expenditure until the 1980s. For a review of trends in public expenditure in OECD countries, see Tanzi and Schuknecht (2000) and Atkinson and Van den Noord (2001).
54. Quasi-taxes refer to a wide range of fees, charges and contributions that are not imposed by the tax laws. The amount of quasi-taxes is estimated at around 1 per cent of GDP (see Chapter II).
55. Revisions to the *Fund Management Act* in December 2001 require that the public funds be subject to parliamentary approval beginning in the 2003 budget. This reform also increased the coverage of public funds by transforming a number of “extra-budgetary” funds into public funds.
56. Until the 2002 budget, the total amount of government spending on a consolidated basis was unknown when the budget was passed.
57. Approval is only required from the Ministry of Planning and Budget.
58. Cash-based accounting provides little recognition of financial commitments because liabilities and receipts are accounted only in the year when they are realised.
59. Two major features of the new GFS standards set by the IMF are accrual-based accounting and harmonisation with the 1993 SNA system. The adoption of the new GFS standards will thus move the GFS-based government accounts closer to the SNA-based accounts (see Annex I).
60. During the 1970s and 1980s, the Economic Planning Board (EPB) assumed the central role in budget drafting and execution, as well as in preparing and implementing economic development plans. In the early 1990s, EPB and the Ministry of Finance were merged into the Ministry of Finance and Economy (MOFE), which exercised the same degree of centralising power in budgeting as EPB.
61. This explains why the initial budget announced each year by MPB until 2002 was limited to the general account and one special account, the Fiscal Financing Special Account. For the 2003 budget, the MPB used only the general account.
62. Between 1999 and 2002, 19 funds were abolished and 14 funds were merged into six funds. But during the same period, ten new funds were created.
63. For example, the 2003 budget guideline asked ministries to restrict their budget requests to one-digit growth from the 2002 budget. But the total budget requests amounted to an increase of 26 per cent.
64. This refers to the number of detailed appropriation accounts (*Se-Hang*) specified in the Budget and Accounts Act. In practice, however, the MPB negotiates with line ministries concerning over 6 000 appropriation accounts (*Se-Se-Hang*).
65. The Credit Guarantee Fund was also used to provide guarantees for low-income households setting up businesses after the financial crisis in 1997.

66. In addition, the bill would require the budget to include information on the costs of quasi-fiscal activities with a view to improving transparency. It would further provide details of contingent liabilities, including expected costs and likely beneficiaries.
67. The scope for the carry-over of unused operating costs was set at 5 per cent in 1999, in an effort to limit spending binges at the end of the year.
68. In Korea, the term “performance-oriented budgeting” refers to the practice of asking ministries or agencies participating in pilot projects to prepare and submit “performance plans” that specify strategies, objectives and indicators. The MPB, which is in charge of this project, may use this as an input for the following year’s budget for these ministries or agencies.
69. In practice, however, the flexibility and autonomy given to these agencies has been relatively limited, compared to the case in other countries that have adopted this system, such as the United Kingdom.
70. The number of these accounts increased from 18 in 1997 to 49 in 2001, boosting the amount of their outlays from 4.2 trillion won to 9.3 trillion won. In 2002, the size of these accounts fell to 4.3 trillion won.
71. One major improvement in strengthening *ex ante* evaluation has been the introduction of pre-feasibility studies for large construction projects (see Box 4).
72. The government reports that between 1998 and 2002, 76 areas of the government sector have been contracted out, in addition to 209 activities of public enterprises and government-funded entities.
73. One aspect has been the privatisation of state-owned enterprises (see Chapter II).
74. In addition, it permits all types of participation including Build-Operate-Transfer, Build-Transfer-Operate and Build-Operate-Own and requires feasibility studies on projects open to private-sector firms. The Private Infrastructure Investment Centre of Korea (PICKO) was established to support the new initiative.
75. The failure of the Millennium Dome in the United Kingdom is a good example in this regard (OECD, 2001b). In addition, local governments in Japan have created over 4 000 third-sector companies, many of which suffer from large deficits.
76. The funding sources for private schools include tuition fees, government subsidies to cover the shortage of remuneration and operating costs, and resources from school foundations. In practice, private schools rely heavily on government subsidies, while transfers from school foundations remain very limited due to their generally weak financial capacity.
77. The wider public sector includes all bodies that are part of local and national government and have been given some autonomy and/or independence from reporting ministries and/or are subject completely or partially to management and financial rules from vertically-integrated ministries. The governance problems of the wider public sector have been identified as systematic in OECD countries (OECD, 2002a).
78. This figure excludes education, which remains separate from the general budget of local governments in Korea. If education is included, this figure is increased to around 50 per cent.
79. Local borrowing is restricted to infrastructure projects, disaster relief and certain welfare enhancing projects. There are limits to the amount of debt and the shortfall allowed in tax revenues from the previous year. Local government debt was 17.8 trillion won (3.3 per cent of GDP) in 2001.

80. There is, however, a general distribution formula specified in the law.
81. The large number of central ministries – 19 in 1999 – involved in the grant system, together with the lack of inter-ministerial co-ordination, also hinders the efficiency of the system.
82. The average matching rate (paid by the central government) is around 60 per cent. The share of conditional grants is the highest for counties (Gun), where conditional grants comprise close to 30 per cent of total revenue. This puts a heavy burden on these poorer local governments.
83. Between 1991 and 1998, the central government devolved 2 008 out of 12 978 government functions to local levels. In 1998, the newly elected government set up the Presidential Commission on Promotion of Decentralisation, which devolved another 493 functions between 1999 and 2001.
84. The overlap in spending and financing responsibilities has also been identified as a problem in other OECD countries, for example, Switzerland, Italy, Germany and Greece.
85. The *Local Autonomy Act* assigns 87 functions to both upper-level and lower-level local governments. These overlapping functions represent 28 per cent of the upper-level local government functions and 25 per cent of lower-level local government functions (Hong, 1998).
86. For example, the regulation on lower-level governments' investment in education – requiring *ex ante* approval by the upper-level government – has been relaxed. The central government has also allowed lower-level local governments to assess flexible tax rates for the education tax, and will not include those funds in the definition of local income used in the calculation of local government transfers.
87. Reforms in the fourth area – the public sector – were analysed in the previous chapter.
88. Outside directors must account for a quarter of the board in listed companies and half of the board in listed companies with more than 2 trillion won in assets.
89. The study (Black, Jang and Kim, 2002) created an overall index of corporate governance practices in 540 companies based on: i) shareholder rights; ii) boards of directors; iii) outside directors; and iv) disclosure and transparency. The study found that an increase of 10 points in the index, which is scaled from 0 to 100, boosted a company's book value of common equity by 7 per cent.
90. Firms are required "to exhaust all means to avoid" dismissals and to notify workers' representatives at least sixty days before any workers are made redundant. During that period, management must have discussions with workers aimed at avoiding layoffs. Moreover, firms are required to establish fair and reasonable procedures for choosing the employees to be dismissed. These provisions resemble those in countries with high employment protection. Layoffs must be reported to the government if they pass certain thresholds.
91. In a survey in February 2002, 21.5 per cent of firms did not have plans to hire workers in 2002. More than half of these enterprises cited problems of excess manpower, primarily due to difficulties in reducing their existing workforce. See *Korea Business Review*, May 2002, p. 38.
92. There has been criticism that the new law has actually made it more, not less, difficult to reduce employment (Dae Il Kim, 2002). Sung-Hee Jwa, president of the Korea Economic Research Institute, which is associated with the Federation of Korean Industries, wrote, "The actual implementation of layoffs is still extremely difficult" (Jwa, 2001).

93. This figure includes those on fixed-term contracts, those without a fixed-term contract where employment is not expected to continue for involuntary reasons, temporary agency workers and on-call workers.
94. In a survey on the reasons for hiring non-regular workers (*Korea Business Review*, May 2002, p. 38), 32 per cent of employers cited the need to fill vacant positions for increased work volume. This response implies difficulty in laying off regular workers during periods of decreased work volume. Another 23 per cent of employers cited the increased number of simple and repetitive jobs as a result of computerisation and automation. Another 17 per cent of employers cited excessive welfare expenses for regular employees and 13 per cent noted the cost of laying off regular workers.
95. According to the Office of the Investment Ombudsman, nearly a quarter of the complaints from foreign businesses during the first half of 2002 concerned labour problems.
96. The government has sometimes intervened in labour disputes involving large companies, as these can have a severe impact on small firms that supply larger ones (Dae Il Kim, 2002).
97. About four-fifths was financed by the Employment Insurance System, which receives contributions from employers and employees, with the remainder from the general account of the budget.
98. According to the president of the Korea Labour Institute: "... diverse training programs that were loosely regulated and lacked appropriate monitoring and inspection led to moral hazard of some training institutions and trainees. Some unqualified training institutions took advantage of the training programs and provided time-killing courses in order to receive reimbursement from the government, thus limiting the(ir) effectiveness... Little consideration was given either to changing demands in the labour market or to the needs of potential participants. Training institutions tended to routinely provide the same training programs as were conducted in the past. As a result, some programs did not significantly aid in the reemployment of the trainees" (Lee *et al.*, 2001).
99. Almost a third of employees – daily workers, employees over 65, part-time workers and civil servants and teachers – are legally exempted from unemployment insurance, which was introduced in 1995.
100. For example, Federation of Korean Industries, "Business Support for Japan-Korea FTA", 8 January 2002.
101. One of Korea's priorities in the Doha Round is to clarify and strengthen rules related to anti-dumping, which account for 106 of the 128 measures imposed on Korean exports as of the end of 2002. In contrast, Korea has made relatively limited use of this instrument, with 11 anti-dumping duties in effect at present.
102. The twelve sectors are 1) business, 2) communications, 3) construction and related engineering, 4) distribution, 5) educational, 6) environmental, 7) financial, 8) health-related and social, 9) tourism and travel-related, 10) recreation, culture and sports, 11) transport, and 12) other.
103. In the terminology of WTO, Korea is largely open to Mode 3 – commercial presence – but less open to Mode 1 (cross-border supply).
104. FDI accounted for less than 10 per cent of capital inflows over the period 1962 to 1992. During the five years prior to the crisis, FDI inflows accounted for less than 1 per cent of total fixed capital formation.
105. Foreign investors are granted a complete exemption from the corporate income tax during the first seven years after achieving a profit and a 50 per cent reduction for the

- following three years. Moreover, they are exempted from the acquisition tax, property tax and aggregate land tax during the first five years after achieving profitability and a 50 per cent reduction for the following three years.
106. During 2001, 428 of the 430 complaints from foreign firms in Korea to the Ombudsman were resolved.
 107. According to a poll by Kookmin Bank, 23.6 per cent of those in their forties cited their children's education as the most important criteria, followed by transportation and the size and kind of house. For those in their thirties – a declining share of the population – the top criteria were transportation, size and kind of house and their children's education, in that order.
 108. This approach was adopted in the late 1980s with the construction of five new towns – Bundang, Ilsan, Jungdong, Pyungchon and Sanbon – with a total population of 1.2 million.
 109. Market prices are used for those with more than three houses or for “luxurious” homes. The latter criterion was strengthened by lowering the threshold for homes to qualify as luxurious.
 110. Standard building costs were set at 165 000 won per square meter in 2002. An adjustment of between 2 and 10 per cent is added to the tax base for apartments valued at more than 300 million won.
 111. These estimates were by Roh (1997) and Yoon *et. al* (1998). This is consistent with the government's September 2002 package in which examples of the effective tax rate in different regions of Seoul ranged from 0.052 to 0.2 per cent.
 112. In the example used in the September 2002 package, the rate was 0.052 per cent for an apartment in Seoul and 0.195 per cent in Yongin.
 113. Free education at middle school level, which had previously been available only in rural and remote areas, will be expanded nation-wide gradually between 2002 and 2004.
 114. The lottery was introduced for lower secondary schools in 1969 and for upper secondary schools in 1974.
 115. While “private schools” do exist, in practice they are subject to the same rules and regulations as public schools and also receive some public financing (Table 25).
 116. This figure, which is from the Urban Household Survey, is probably an underestimate, since payments to individual tutors are not likely to be fully incorporated.
 117. For example, the introduction of a merit-based pay for teachers in 2001 was effectively blocked by the teachers' union, which returned the merit-based portion of their salaries for distribution among all teachers (Sun-woong Kim and Ju-ho Lee, 2002).
 118. This suggests that central funding to private universities is between 18 to 25 per cent of total public spending on universities, despite the fact that they enrol 3.5 times as many students.
 119. SMEs may choose instead a tax credit equal to 15 per cent of R&D expenditures in each business year.
 120. In Korea, the definition of SMEs varies between sectors. In manufacturing, it includes firms with less than 300 employees and no more than 8 billion won in paid-in capital (the limit is 3 billion in mining, construction and transport). In the service sector, the maximum number of workers that an SME can have varies between 30 and 300 employees, depending on the industry, and between 2 and 30 billion won in

annual sales. Finally, in the primary sector, SMEs are defined as firms with a maximum of 50 to 200 workers and 5 to 20 billion won in annual sales.

121. This section draws on Baygan (2003), "Venture Capital Policy Review: Korea", *STI Working Papers*, 2003/02, OECD, Paris.
122. The importance of pension funds, though, is likely to increase following the 2001 decision to allow the National Pension Fund to invest in LPFs.
123. Since 1999, business angels have been allowed to deduct 20 per cent of their investments from their income tax. In addition, corporate and institutional investors in VCFs and LPFs are allowed to deduct 15 per cent of their investments from their consolidated income tax base. In addition, taxes are not levied on the capital gains of individuals investing in VCFs and LPFs. Finally, the VCFs and LPFs themselves receive preferential tax treatment.
124. All SMEs, including venture businesses, receive a 50 per cent reduction in income or corporate tax in the first six years once they generate a profit. Other tax preferences include a 50 per cent cut in property taxes during the first five years after establishment and exemption from local acquisition and registration taxes on assets acquired during the first two years.
125. This estimate was made in *Business Korea*, August 2001.
126. This resulted in an 18 per cent fall in the price of land to mobile service, providing a benefit to consumers estimated at 677 billion won.
127. MIC is considering a shift from the current approval system to a reserved notification system, under which price changes would be automatically approved if there were no opposition from the MIC within a certain time period after notification.
128. A third issue – sustainable retirement income – is discussed in Chapter II.
129. During the 1990s, car ownership quadrupled, and since the early 1980s it has risen almost twenty-fold.
130. Concentrations of particulate matter are also affected by yellow sand blown in from abroad. Such transboundary issues are beginning to be addressed on a regional basis. Solving this particular problem would require major reforestation in China.
131. Following the introduction of monitoring stations in the mid-1990s, the number of ozone warnings issued increased from 24 in 1997 to 52 in 2000.
132. This is an estimate from a special study using 1999 data on the social cost of air pollution conducted by the Korea Environment Institute on behalf of the Ministry of the Environment. The bulk of the social costs of air pollution are due to increased mortality, with the loss of a life being valued at around \$500 000.
133. Emission limits are set in national laws, but may vary depending on the local environment. See OECD (1999a) for a description of the permitting system.
134. Voluntary agreements, in which enterprises are exempt from inspection if they agree to set more stringent emission targets and undertake measures to achieve these targets, were introduced in September 2002. Although the aims are laudable, in the current situation where monitoring is weak, such a system may undermine efforts to achieve lower emission levels.
135. Dioxin emissions, particularly in fly ash, have been a concern (Cho *et al*, 1999, Soo, 2001). The government's intention to ratify the Stockholm convention on persistent organic pollutants (POPs) will require a national strategy to improve monitoring and reduce emissions of POPs, including dioxin.

136. Under this scheme, tradable permits for limited amounts of emissions of particulate matter, nitrogen oxides and volatile organic compounds will be allocated to both major point-source emitters and companies that operate a large number of vehicles. The first step in this process will be to establish an accurate measurement system for point-source emitters.
137. In 1998, the transportation sector produced 84 per cent of air pollution in Seoul, up from 55 per cent in 1991. The topographical features of the city complicate addressing ozone problems.
138. Diesel engine vehicles, principally buses and trucks, contribute more than half of the pollution. Owners of such vehicles pay an annual fee (averaging about \$60) based on emissions, the age of the vehicle and area.
139. At present, the sulphur content standard for petrol is 130 parts per million (ppm) and for diesel fuel 430 ppm (IEA, 2002). Proposed EU standards are to reduce the sulphur content of fuels to 50 ppm from 2005 and to 10 ppm from 2011.
140. Current standards in Korea are equivalent to EURO III and US LEV standards and cover a similar range of pollutants – carbon monoxide, oxides of nitrogen, particles and VOCs. Requirements for diesel vehicles are weaker, however (Jeon, 2002). Standards for diesel vehicles will comply with EURO III standards in 2003, with the exception of passenger cars, where regulations are similar to US LEV (Jeong, 2001).
141. The United States Environmental Protection Agency has undertaken such studies.
142. CNG buses are exempt from acquisition taxes and the tax on CNG is lower than that on diesel (M.K. Lee, 2001).
143. The cost efficiency of using advanced filters and CNG were evaluated for California in Sierra Research (2000).
144. The Transportation Research Board (2002) reports that generalised road pricing would be one of the most cost-effective means of reducing congestion and emissions.
145. Unlike other OECD countries, waste is classified into only two broad categories – municipal and industrial. Industrial waste consists of general waste and special (hazardous) waste. During the 1990s, there were changes in the methodology for measuring both municipal and industrial waste, which may overstate the reduction in both types of waste. However, subsequent trends appear robust to these changes.
146. Other measures that also contributed to the decline in municipal waste included prohibiting the use of solid fuels for heating in some urban areas and restricting the use of disposable packaging.
147. Public opposition to new landfills has been intense and has also restricted the operation of existing landfills by limiting the types of waste and by attempting to block waste from other areas. Due to bad odours, food waste was banned from the Kimpo landfill in Seoul and the ban is to be generalised by 2005.
148. Emissions of dioxin from incinerators, mainly smaller and older facilities, have been a periodic concern. Replacing these incinerators could help alleviate the problem. Dioxin emissions from incineration of municipal waste in small low-technology incinerators, without air pollution control systems, are 7 000 times greater than high-technology incinerators with sophisticated air pollution control systems. For hazardous waste, the difference is nearly 50 000 times (UNEP, 2001).
149. In Seoul, residents receive 7 per cent of the fee for locally generated waste and 10 per cent of fees from waste from other districts.

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BASIC STATISTICS OF KOREA

THE LAND

Area (thousand sq. km)	100	Major cities, 2001 (million inhabitants):	
Agricultural area (thousand sq. km)	14	Seoul	10.3
Forests (thousand sq. km)	65	Pusan	3.8
		Inch'on	2.6
		Taegu	2.5

THE PEOPLE

Population, 2001 (million)	48.3	Civilian labour force, 2001 (million)	22.4
Per sq. km, 2001	485	Civilian employment	21.7
Annual rate of change of population, 2001	0.7	Agriculture, forestry and fishing	1.8
		Industry	4.2
		Construction	1.8
		Services	13.9

PRODUCTION

GDP, 2001 (trillion won)	545.0	Origin of GDP, 2001 (per cent of total):	
GDP per head (US\$)	8 900	Agriculture, forestry and fishing	4.4
Gross fixed investment, 2001 (trillion won)	147.5	Industry	33.4
Per cent of GDP	27.1	Construction	8.2
Per head (US\$)	2 420	Services	54.0

THE GOVERNMENT

Public consumption, 2001 (per cent of GDP)	10.4	Composition of the National Assembly: February 2003	<u>Number of seats</u>
Central government revenue, 2001, consolidated basis (per cent of GDP)	26.4	The Grand National Party	151
Central government budget balance, 2001, consolidated basis (per cent of GDP)	1.3	The Millennium Democratic Party	103
		Other	18
			<hr style="border: none; border-top: 1px solid black;"/> 272

FOREIGN TRADE

Commodity exports, 2001, f.o.b. (per cent of GDP)	35.6	Commodity imports, 2001, c.i.f. (per cent of GDP)	32.7
Main exports (per cent of total exports):		Main imports (per cent of total imports):	
Light industry products	17.5	Consumer goods	11.8
Heavy industry products	74.1	Industrial materials and fuels	51.0
Electronic products	31.5	Crude petroleum	15.1
Cars	7.6	Capital goods	37.2

THE CURRENCY

Monetary unit: Won		Currency unit per US\$, average of daily figures:	
		2000	1 131
		2001	1 291
		2002	1 251

Note: An international comparison of certain basic statistics is given in an annex table.

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