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## Recent Economic Developments

### Production, Consumption and Investment

The Korean economy, propelled by strong domestic demand and exports, achieved real GDP growth of 10.4% on year by the third quarter of 2000. However, due to a deteriorating overseas trade environment, declining consumer sentiment coupled with the effects of domestic corporate and financial restructuring, the real economy, including production, consumption and investment, shrank significantly in the fourth quarter.

The production growth rate, which had maintained its upward trend based on a strong export drive as well as domestic spending, has been in decline since September as both overseas and domestic demand cooled. As a result, the average operation ratio dropped to 75.8% in November.

Domestic wholesale and retail sales, having recorded 13.8% growth in the first half of last year, eased back to 7.6% growth in the third quarter and fell further to a level of 4.0% in October and November. Shipments for domestic consumption have remained very sluggish since September.

Facility investment indicators such as domestic machinery orders and facility investment estimates, which previously enjoyed higher growth, slackened after September. In the case of construction investment, construction turnover has continued its negative growth and leading indicators like construction permits and orders for new construction declined precipitously.

## Production, consumption and investment

Unit: year-on-year change (%)

	1998	1999				2000					
	Year	1/4	2/4	3/4	4/4	Year	1/4	2/4	3/4	Oct.	Nov.
GDP	-6.7	5.4	10.8	12.8	13.0	10.7	12.8	9.6	9.2		
Production	-6.6	14.5	25.5	29.7	29.6	25.0	23.8	18.6	20.1	11.7	6.3
Average operating ratio (%)	68.0	70.8	76.0	79.6	79.8	76.6	79.6	79.3	80.4	76.5	75.8
Wholesale & retail sales	-12.7	6.9	11.6	17.6	15.7	13.0	14.4	12.4	7.6	5.0	3.2
Shipment of domestic consumer goods	-21.0	14.7	18.5	26.0	24.6	-21.0	17.7	13.5	-1.8	-0.1	1.2
Domestic machinery orders	-30.5	16.7	38.7	22.6	19.8	22.6	18.2	8.3	17.1	0.5	18.3
Facility investment estimates	-37.7	12.0	48.1	54.2	61.9	43.5	57.3	34.2	28.9	20.5	-1.3
Permitted area for construction	-55.0	-45.8	22.4	76.6	173.4	42.3	90.6	35.6	33.4	-7.5	-23.1
Construction turnover	-	-1.0	3.8	3.7	-1.8	1.2	-6.4	-2.4	-3.1	-0.7	-3.3

Sources: The Bank of Korea, National Statistical Office

## Employment

Affected by adjustments due to the overall downturn of the economy, the unemployment rate, which had improved steadily throughout the year, also took a negative turn in November.

## Employment

Unit: year-on-year change (%)

	1999	2000						
	Year	1/4	2/4	3/4	Aug.	Sep.	Oct.	Nov.
Economically active population (%)	60.5	59.5	61.3	61.3	61.0	61.4	61.6	61.1
Unemployed persons (1,000 persons)	1,353	1,092	840	809	818	804	760	797
Unemployment rate (%)	6.3	5.3	3.7	3.6	3.7	3.6	3.4	3.6
Seasonally-adjusted unemployment rate	6.3	4.4	3.9	3.9	4.1	4.0	3.9	4.1

Sources: National Statistical Office

## Exports, Imports and Balance of Payments

Despite a slowdown in the export growth rate, the lower import growth trend accelerated during the fourth quarter. The full-year trade surplus amounted to US\$ 12.1 billion, powering a trade surplus of US\$ 4 billion.

## Exports, Imports and Balance of Payments

Unit:US\$ 100 million, year-on-year change (%)

		1999				2000					
		1stH.	3/4	4/4	Year	1stH.	3/4	Oct.	Nov.	Dec.	Year
Customs clearance basis	Trade balance	199.1	53.3	69.4	239.3	41.1	40.0	12.1	8.5	19.6	121.3
	Exports	660.0	350.9	426.0	1,436.9	827.3	444.0	153.1	150.2	151.7	1,726.2
	Change	-1.7	15.1	22.7	8.6	25.4	26.5	14.7	5.8	1.4	20.1
	Imports	472.0	297.6	356.7	1,197.5	786.3	403.9	141.0	141.7	132.1	1,604.9
	Change	15.1	38.7	44.9	28.4	44.7	35.7	24.1	20.8	5.0	34.0
Current account		122.0	66.0	56.8	244.8	41.1	34.5	10.5	10.5	-	96.7 <sup>1)</sup>
Capital account		-2.9	-37.4	60.7	20.4	135.3	3.7	-6.9	-20.0	-	112.0 <sup>1)</sup>

Note: 1) Jan.-Nov. Cumulative figures

Sources: Ministry of Commerce, Industry &amp; Energy, The Bank of Korea

Compared with the bullish run in 1999, export growth cooled in 2000 as the export unit price declined. This decline was also partly due to a weaker euro and currency instability in Southeast Asian markets. The growth rate fell from 13.8% in October to 5.8% in November, and dropped further to 1.4% in December.

Import growth in the fourth quarter slowed markedly, also due to sluggish facility investments, declining consumption and the overall deterioration of the economic climate. Import growth declined from 24.8% in October to 20.8% in November and sagged to 5.0% in December.

Thanks to the achievement of a trade surplus, the current account balance remained in positive territory. However, the capital account slid to a deficit beginning in September due to net outflows of foreign stock investment funds and redemption of foreign debt.

## Prices

Prices, which saw relatively rapid growth after June, stabilized in October. During the third quarter, consumer prices grew 3.2% year-on-year, but leveled off at 2.9% in the fourth quarter. At the same time, producer prices that had risen 2.7% in the third quarter, grew by a mere 1.6% in the fourth quarter.

The price stability evident in the fourth quarter was due to the economic slowdown and easing of demand-side pressures. Furthermore, supply-side factors, including the easing of oil prices and a good harvest of agriculture, livestock and fishery products, contributed to the result in the final quarter of the year.

## Prices

Unit: year-on-year change (%)

	1999	2000				
	Year	1/4	2/4	3/4	4/4	Year
Consumer price index	0.8	1.5	1.4	3.2	2.9	2.3
Agriculture-livestock-fisheries	7.3	3.7	0.6	4.3	-0.8	1.9
Industrial products	0.5	1.7	0.7	1.9	2.0	1.6
Public services	2.2	3.8	5.2	8.9	10.5	7.1
Individual services	-1.0	0.9	2.3	2.4	2.5	2.0
Producer price index	-2.1	2.2	1.9	2.7	1.6	2.1

Sources: National Statistical Office, The Bank of Korea

## Interest Rates and Foreign Exchange

Long-term corporate interest rates, including the government bond yield rate, have dropped substantially due to the forecast of an economic slowdown and the ongoing preference for safe assets.

### Interest Rate

Unit: Annual rate (%)

	1999	2000									
	Dec.	Apr.	May.	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.5	
Call (next day)	4.71	5.11	5.09	5.20	5.11	5.11	5.02	5.37	5.31	5.29	
CP (91 days)	7.47	7.51	7.60	7.61	7.52	7.24	7.24	7.24	7.26	7.26	
Government bonds(3-year maturity)	9.22	8.92	8.87	8.31	8.07	7.79	8.07	7.64	7.16	6.82	
Corporate bonds(3-year maturity)	9.85	9.94	9.89	9.37	9.17	8.98	9.04	8.59	8.35	8.12	
B-A (%P)	4.51	3.81	3.78	3.11	2.96	2.68	3.05	2.27	1.85	1.53	
C-A (%P)	5.14	4.83	4.80	4.17	4.06	3.87	4.02	3.22	3.04	2.83	

Note: End of period

Sources: The Bank of Korea

However, the trend toward more conservative asset management contributed to a widening gap in interest rates by credit grade. The gap between A+ grade and BBB-grade increased two-fold in the March-December period.

### Corporate Bond Interest Rate Gap by Credit Grade

Unit: (%)

2000.3.30	6.30	7.31	8.31	9.30	10.30	11.30	12.5
1.75	1.93	2.23	2.20	2.20	3.03	3.38	3.48

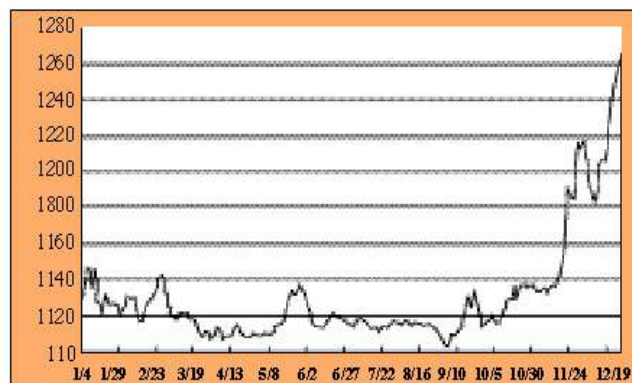
Note: Interest rate gap between A+ and BBB-

Sources: The Bank of Korea

The foreign exchange rate has depreciated sharply since the end of August, ending the year at the 1,260 won level against the U.S. dollar. Factors that weighed heavily on the currency's decline included: unabated oil prices, enterprises' difficulties in obtaining

capital, delay in the disposition of Daewoo Motor and Hanbo Steel, the depreciation of Southeast Asian currencies, and foreign exchange speculation.

Won-Dollar Exchange Rate



Note: Based on the end of period  
Source: Bank of Korea

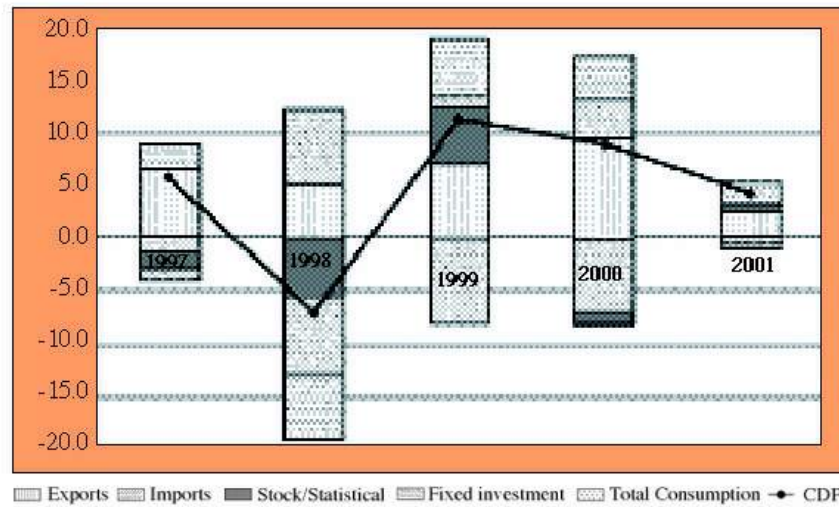
## Economic Outlook for 2001

### Economic Growth

The factors that will contribute to the nation's economic growth in 2001 are seen likely to be different from those that underpinned growth in 1999 and 2000. As shown in table below, economic growth in 1999 was led by domestic consumption and inventory. Last year, it was spearheaded by consumption and investment. However, this year the contribution of domestic demand will have a diminished effect on growth while net exports will rise in importance.

Economic growth in the first half will slow substantially, then begin to recover gradually in the second half. GDP is expected to grow 3.7% in the first half of this year and by 5.2% in the second six months.

Final-Demand Contribution by Sector



The braking of economic growth in the first half of 2001 will be due to continued falling production, consumption and investment trends that emerged in the fourth quarter of 2000. The contribution of consumption to economic growth is expected to dwindle to half that of last year. Increasing unemployment and uncertainty about expected income will result in deteriorated household spending and diminished purchasing power.

The consumption growth rate for the entire year is projected at 4.0%, lower than the expected GDP growth rate. Overall, consumption will shrink significantly in the first half, but begin to perk up in the second half.

Facility investment, which increased 40% in 2000, is expected to drop by 1.0% in 2001 due to the uncertain economic outlook and instability in the capital market. Meanwhile, construction investment, having suffered continuous contraction, is not expected to show any meaningful sign of recovery this year.

Meanwhile, inventory investment, which inched down last year, is expected to bounce back this year and contribute more positively to the economic growth of 2001.

The U.S. and European economies, major trading partners for Korea, are not expected to worsen sharply this year. Therefore the foundation for the nation's exports will not be weakened for the time being. Of further note, the Japanese economy, while still sluggish, is showing signs of a gradual recovery, boding well for Korean exports.

High oil prices, the most volatile factor for the economy in 2000, have begun to stabilize, reducing the downside risk in terms of economic outlook. Stable oil prices not

only affect the domestic current account balance but also reduce the risk of a precipitous global economic downturn.

The biggest concern this year will be the anticipated decline of domestic demand. In particular, if restructuring in the corporate and financial sectors does not proceed smoothly, a more significant credit crunch will likely occur. This scenario, if it lingers, will push investment and consumption below projections.

We hasten to note that, even if restructuring is successfully completed, the positive effects are unlikely to show up by the second half of this year. As a result, it is difficult to predict the timing of the resurgence of the economy.

### **Prices**

Consumer prices in 2000 grew 2.3% year-on-year. However, higher oil prices, wages and public utility rates are expected to push inflation to 3.0% this year.

Moreover, the pressure of the won's depreciation, which began in the fourth quarter of 2000, is likely to boost prices of import goods. On the other hand, the decline in total demand along with reduced domestic consumption will likely relieve pressure on price increases.

Considering the two factors cited above, the latter is likely to prevail in keeping the inflation rate at 3.0% in 2001.

## 2001 Korea Economic Outlook

Unit: year-on-year change (%)

	1999	2000					2001				
	Year	1/4	2/4	3/4	4/4	Year	1/4	2/4	3/4	4/4	Year
GDP	10.7	12.7	9.6	9.2	5.7	9.1	3.5	3.9	4.5	5.9	4.5
(Manufacturing)	21.8	22.8	16.8	18.1	10.2	16.6	4.4	5.1	5.5	7.3	5.6
Total consumption	8.6	9.7	7.8	4.9	4.5	6.6	2.5	2.9	3.6	4.6	3.5
private consumption	10.4	11.1	9.0	5.8	5.3	7.7	2.9	3.3	4.2	5.3	4.0
Fixed capital formation	5.1	23.0	13.2	12.0	7.7	13.4	-5.1	-2.3	-0.8	2.1	-1.4
Facility investment	38.3	63.6	41.3	32.0	21.4	37.9	-6.5	-1.5	0.5	2.6	-1.2
Construction investment	-10.4	-7.0	-4.7	-3.5	-2.4	-4.2	-3.2	-2.9	-2.1	1.7	-1.5
Total exports	15.7	26.1	23.1	23.6	10.5	20.4	2.6	2.6	4.0	8.6	4.5
Total imports	28.9	32.1	19.8	23.4	10.7	20.8	-3.0	1.5	2.0	4.0	1.2
Producer price	-2.1	2.1	1.9	2.7	1.6	2.1	2.3	2.5	2.1	2.1	2.2
Consumer price	0.8	1.5	1.4	3.1	2.9	2.3	3.2	3.0	3.0	2.9	3.0
Current account	244.8	13.7	26.5	34.5	22.3	97.1	10.3	18.9	33.9	28.4	91.4
Trade account	283.7	25.0	46.7	54.6	41.5	167.9	27.0	43.7	52.4	55.2	178.3
Exports	1451.6	415.1	440.8	454.4	462.3	1772.6	417.1	450.6	468.9	494.3	1830.9
Change (%)	9.9	31.9	23.8	24.7	11.0	22.1	0.5	2.2	3.2	6.9	3.3
Imports	1167.9	390.1	394.1	399.7	420.8	1604.6	390.0	406.9	416.6	439.1	1652.6
Change (%)	29.1	57.9	42.2	35.5	20.7	37.4	0.0	3.3	4.2	4.4	3.0
Service incomes & transfer	-38.9	-11.3	-20.2	-20.1	-19.2	-70.8	-16.8	-24.9	-18.5	-26.8	-86.9
Won\$(end of period)	1138	1106	1108	1115	1265	1265	1220	1200	1180	1170	1170
Yen\$(end of period)	102.2	105.9	105.2	108.2	114	114	112	110	108	106	106
3-yr corporate bond (Avg, %)	8.9	10.1	9.9	9.0	8.6	9.4	8.7	8.7	9.1	9.3	8.9

### Balance of Payments

By the end of 2001, the current account surplus is expected to remain at a similar level to that of 2000.

The export growth rate in 2001 is expected to fall to 3.0%, but the import growth rate is expected to slow even further. As a result, the commodity trade balance for 2001 is projected at US\$18 billion.



## **Interest Rates and Foreign Exchange**

Long-term interest rates are expected to climb gradually during 2001. However, the rise is unlikely to be significant overall.

Conservative capital management in the banking sector, the maturation of debentures of large corporations and an increase in enterprise operating funds will combine to push up interest rates.

In contrast, with the government's strong desire for stable interest rates, a lower demand for capital for corporate investment coupled with a relatively stable global interest rate trend, suggests that interest rate expansion will not be significant in 2001. The annual average value of the Korean won against the U.S. dollar is expected to rise slightly.

The pressure on depreciation is likely to continue due to lingering uncertainties involving both domestic and overseas factors including corporate and financial sector restructuring and Asian currency instabilities. One additional negative factor is the projected reduction in the capital account surplus.

Overall, the won's sharp depreciation has certain limits considering the possibility of direct or indirect government intervention in the market if the won's rapid depreciation is perceived as a potential trigger for the outflow of foreign invested funds. Moreover, the likelihood of foreign capital inflow with the increase of foreign direct investment will likely cushion a plunge in won value. In particular, Korea's foreign exchange reserves, amounting to more than US\$95 billion, constitute a powerful base to prevent a sharp decline in won value.

# Policy Issues

## Clarification of Macroeconomic Policy Goals

With the dangerous spread of uncertainty in nearly all economic sectors, there is a need to set clear mid-term policy objectives to ensure short-term policies remain consistent. There are two alternatives.

The primary objective of the first alternative would be to prevent long-term stagnation of the economy. Here policy measures should be focused on strengthening the structural weaknesses of the Korean economy. In such a case, a temporary economic decline should be tolerated without intervention.

The objective of the second alternative would be a swift return to higher growth. In this instance, it would be necessary to implement more aggressive policies to shorten the period of economic decline.

If the second policy alternative is selected, considerable attention should be focused on corporate and financial restructuring along with meaningful reinforcement of the social safety net. This policy would be essentially controlled by the timing and direction of government budget outlays to lay the foundation for an increase in domestic demand. Simultaneously, continuous restructuring should be pursued to improve the overall soundness of the economic structure.

## Restoration of Confidence in Government Policy

Recent financial difficulties and uncertainty throughout the entire economy stem largely from a loss of confidence in government policies. In the course of pursuing restructuring of the corporate and financial sectors, the government has resorted to ad hoc and arbitrary measures that have resulted in inconsistent policies and a loss of market confidence.

To restore confidence in the reliability of the government and the Korean economy, national policies should be firmly based on market economy principles.

## Re-evaluation of the Method of Restructuring

Restructuring should not be carried out using a single approach irrespective of the enterprise or institution involved. Thus far, restructuring policies have tended to focus on such broad goals as reducing debt-to-equity ratios of all major enterprises to below 200% or having all banks adhere to a BIS rate of 8%. This approach ignores individual

circumstances and, in fact, could do more harm than good to individual enterprises or banks based on the unique situation of each.

Such a uniform policy approach is not consistent with market economy principles and should be re-evaluated.

### **Stability of Financial Markets and Foreign Exchange**

In light of the continuing financial crunch, measures which impede real economic activity should be settled swiftly. This means establishing price-oriented instead of quantity-oriented countermeasures.

The establishment of a government-led corporate bond fund could contribute to the restoration of the corporate bond market. A more important task for the government would be to foster a market environment under which interest rates of corporate bonds would be determined in a flexible manner under market forces.

The recent depreciation of the Korean won, relatively more pronounced than other Asian countries, is not so serious. However, it should be noted that a foreign exchange rate rally itself poses an uncertain factor. Accordingly, it is desirable to prevent Korea from becoming a target for FX speculation pressures by tolerating won-dollar depreciation within limits roughly adjacent to levels of other Asian currencies.

## **Supplement:**

### **Introduction of Selected KERI Publication in 2000**

#### **The Role of Foreign Sources in the Korean Economic Growth**

by Seung-Rok Park

In this study we decomposed GDP growth into labor input, domestic capital formation, imported foreign capital formation, and TFP growth. TFP growth is again divided into scale economies, capital utilization, human capital, domestic R&D effort, and imported foreign technology. To measure the contribution rate of each factor, we specified a transcendental logarithmic cost function which has these factors as its basic premise and estimated the cost elasticity of each factor. The contribution rate of each factor was computed from these elasticity and growth rate of each factor. According to this study, TFP growth was not an important factor in the economic growth of Korea while capital formation did play an important part in the growth process. Moreover, a large portion of TFP growth comes from scale economies and the capital utilization rate. As one third of capital formation is also composed of imported foreign capital goods that contain foreign technology, foreign sources in the TFP are also regarded as a crucial factor. This fact, for the most part, is responsible for the current prevalence of assembly production in Korean manufacturing sector. The assembly production system was an asset to economic development during the early stages of industrialization, but it became a liability when Korea leaped to join the ranks of the developed world. This illustrates very clearly the present weakness in Korea's export competitiveness in the world market.

#### **Asset Securitization in Korea**

by Kunsok Pang and Doo-Yull Choi

This paper studies the various methods of asset securitization, which depend on the diverse characteristics of underlying assets. We begin by investigating the structure and different roles of the participants in asset securitization by employing the general framework of structured finance. Next, a description of the introduction process and Korea's current asset securitization situation are presented, as well as suggestions regarding the direction of its institutional development. Finally, we probe into the different characteristics of underlying assets and show the various ways of asset securitization based upon their characteristics. The underlying assets covered in this study are mortgages, credit card loans, home equity loans, commercial mortgages, auto loans, collateralized loans and bond obligations, and non-performing loans.

#### **The Effectiveness of Capital Requirement On Korean Commercial Banks**

by Insill Yi

This paper reviews the various theories and empirical evidence related to the effectiveness of capital regulations on Korean commercial banks. The effectiveness of capital regulations on banks has been the subject of several careful studies that cover an extended periods. There is a body of research that incorporates option pricing, state preference, mean variance and agency theoretic models. This body of research is theoretical and shows contradictory conclusions about whether the risk-taking behavior of banks is effectively constrained by either private incentives or regulatory requirements. Furthermore, there is virtually no research done on how Korean commercial banks behave with respect to observed changes in capital and risk.

Recently, many scholars have tried to ascertain empirical evidence with respect to the impact of the 1988 Basle Accord. It is generally accepted that the adoption of fixed minimum capital requirements led some banks to maintain higher capital ratios than would otherwise have been the case.

This study also investigates the empirical relationship between changes in risk and capital in Korean commercial banks. The results of the study offer evidence on regulatory effectiveness and the role of implicit deposit insurance by Korean financial regulatory authorities in influencing bank capital and risk decisions. The quarterly data obtained from commercial banks' balance sheets is used to analyze the relationship between changes in risk and capital over the period from 1990 to 1998. A simultaneous equation estimation, adopting the Schrieves and Dahl(1992)'s model, is used to analyze the adjustments to bank capital and risk levels.

A positive association between changes in risk and capital is identified. The existence of such a relationship in Korean commercial banks with capital ratios in excess of regulatory minimum levels suggests that Korean bank managers' private incentives may work to constrain total risk exposure.

### **Limit to Industrial Policy and Role of Competition Policy**

by In Kwon Lee

Chronic excess capacity or over-investment has been a key issue whenever Korea goes through an economic crisis. The Korean government has repeatedly interfered with market mechanisms to dissolve structural excess capacity since it started full-scale restructuring in the early 1980s.

Based on the statistical analysis of a panel data composed of 26 firms financial information over the sample period of 1988-1998, this paper rigorously examines whether chronic excess capacity has existed or not and which factors determine the scale of excess capacity.

The statistical analysis of this study leads to the conclusion that it is not feasible to attain the policy goal of successfully restructuring industries using government intervention as a tool for resource allocation given the government's inability to ex-ante

control a variety of strategic behavioral patterns on the part of competing firms in an oligopolistic industry.

### **Corporate Bankruptcy Systems in Korea**

by Jung-Hwan Seo

Since the onset of economic crisis in late 1997, an enormous number of firms have collapsed in Korea. Corporate bankruptcy is a process of efficient resource allocation in an economy. There are various corporate bankruptcy processes, both in court and out of court, in Korea. However, the current corporate bankruptcy systems in Korea have pitfalls that could aggravate the inefficiency of resource allocation. To improve those systems, it is necessary to present a theoretical background and, upon this, to clarify the relationships among the various systems. In this study, we clarify the relationship between the corporate bankruptcy systems as well as examine the problems of each corporate bankruptcy process.

### **Testing for Rational Bubbles in the Korean Stock Market: Theory and Empirical Evidence**

by Ky H. Yuhn

As Korean stock prices have recently experienced extreme gyrations, there has been heated debate surrounding the presence of bubbles in Korean stock prices. Unfortunately, the literature on bubbles in the Korean stock market is scarce at best. The purpose of this study is to establish theoretical foundations for rational bubbles and to provide empirical evidence on the presence of rational bubbles in the Korean stock market.

In this study we formulate an information error model which allows one to derive bubble measures in a straightforward manner. This study provides a new method of testing for bubbles by specifying bubble measures as the Weibull distribution. This study is the first attempt to apply the Weibull distribution to the test of rational bubbles.

We have also conducted two different cointegration tests : One is concerned with the Granger (1987) theorem, and the other is concerned with the Diba-Grossman (1987) and Yuhn (1996, 1997) theorems. Granger theorem states that if the stock market is efficient, the prices of two assets cannot be cointegrated (= linear cointegration). On the other hand, both the Diba-Grossman and Yuhn theorems postulate that stock prices are cointegrated with market fundamentals in a nonlinear fashion if there is no bubble premium in stock prices (nonlinear cointegration). We have accepted the null hypothesis of no linear cointegration between stock prices and economic variables, but rejected the null hypothesis of no nonlinear cointegration between stock prices and market fundamentals. These results appear to corroborate our findings based on the hazard model.

## **The Comparative Study of the Social Corporatism and its Lessons for Korea**

by Sung-Soo Choi

The Tripartite Commission in Korea is a social agreement building body which was born from social corporatism. Corporatism can be defined as a socio-political system organized on the basis of functional groups rather than individualism or one man-one vote and there has been a world-wide concern about social corporatism over the past 40 years, especially in industrialized countries.

This study provides a comparative discussion of the different types of social corporatism in industrialized countries. It examines the varieties of origins, development, and recent changes within social corporatism in Sweden, England, Germany, and the Netherlands. It also gives the Korean Tripartite Commission some policy suggestions, based on the experiences of the four countries.

## **Internal Capital Markets and the Bankruptcy Risks of Korean Business Groups**

by Joo-Ha Nam and Jae-Bum Hong

This paper empirically examines whether internal capital markets increase the bankruptcy risks of Korean business groups. Using cross-debt guarantees as a measure of internal capital markets and the financial statements of 64 Korean business groups, we find that there is no significant relationship between internal capital markets and the bankruptcy risks of business groups. However, the internal capital markets may have an indirect effect on the bankruptcy risks of business groups via the increase in debt-equity ratios.

Empirical results imply that business groups in Korea share their financial resources extensively through debt guarantees rather than through internal business transactions. Furthermore, there is no evidence that the internal capital market of Korean business groups supplements the inefficient external capital market found in developing countries caused by government intervention.

An important limitation of the paper is that we do not explicitly resolve econometric problems; for example, the contemporaneous relationship between debt guarantees and debt-equity ratios. In order to investigate this relationship, a more strict empirical test, e.g. instrument variable should be used. Debt guarantees can also be used to extend the empirical test of internal capital market efficiency, since Shin and Stultz(1998) only focused on the internal cash flow in their study of the same topic.

## **Earning Inequality in Korea After the Financial Crisis**

by Sung-Joon Park

Using raw data of the 'Family income and expenditure survey', we find that the

earning distribution worsened in Korea after the financial crisis; the gap between ninetieth and tenth percentile grew larger after the crisis. Such a phenomenon is apparent within narrowly defined education and labor market experience variables. We found that the increase in earning inequality came from the rapidly increasing return to the components of skill other than the schooling and experience, which is caused by the increasing demand of skill after the crisis. Therefore, we can interpret the growing demand for skill as an important factor leading the increase in the earning inequality after the crisis. Further, we think that the reason for the increasing demand for skill after the crisis can be attributed to changes within technology, organizational and personnel practice, globalization, and the labor market. One policy implication to be derived from this : To narrow the inequality we must invest in industrial demand-oriented education technology.

### **Anti-Corruption and Government Procurement: Theory and Experimental Evidence**

by Kyungdong Hahn

This paper reviews current issues dealing with anti-corruption and transparency in government procurement, and examines theoretical works focused on collusion and corruption such as McAfee and McMillan (1992), Marshall et al. (1994), Rose-Ackerman (1975, 1978), Shleifer and Vishy (1993), Laffont and Tirole (1993), Bliss di Tella (1997), Laffont and N'Guessan (1999). Furthermore, based on Sajo et al. (1996), some experiments are designed, and communication among bidders (the "dango" effect) and market institutions are tested.

When "dango" is not allowed, winning prices are very close to competitive prices and winning prices tend to decrease as periods proceed. When "dango" is allowed, subjects easily formed very robust cartels and found winning bids close to the maximum price prepared by the experimenters. No significant effects, however, are observed regarding the market institutions with or without a corruptible agent who can communicate with bidders.

### **Investment Behavior of Korean Manufacturing Firms**

by Byoungki Lee

This paper aims to empirically analyse the investment behavior and impact of corporate ownership and banking relationships on corporate investment using a dynamic panel data (DPD) estimation method applied to an unbalanced panel data consisting of 401 Korean manufacturing firms during the period 1984 to 1997. The focus of our research is to determine whether investment spending has been constrained by the availability of internal finance and, if so, we intend to empirically verify the extent to which different types of firms were affected by this financial constraint. We are particularly interested



to see whether investment spending of firms that are affiliated to a chaebol or other large firms were affected differently by financial constraints by comparing such firms with independent firms as well as with smaller firms. Important empirical points and the main estimated results are as follows :

First, during the past three decades, the average annual growth rate of physical capital in Korean manufacturing firms has been more rapid as compared to other developed countries.

Second, internal funds were not the main source of finance for Korean firms.

Third, we investigate the influence of banking relationships on corporate investment. Our results show that firms which have maintained a stable main bank relationship have high sensitivity of cash flow to corporate investment. These results contrast with our hypothesis that a stable main bank relationship should reduce financial constraints through decreasing asymmetric information problems.

Fourth, we analyse the relationship between the type of ownership and corporate investment. We find that the impact on cash flow on corporate investment was larger on firms with below 15% large shareholder ownership than on firms with above 15% large shareholder ownership. This implies that firms with relatively lower large shareholder ownership invested proportionately more using free cash flow.

Fifth, we estimate the investment model by firm size. This result showing the large sensitivity of cash flow in large firms points to the strong dependency on free cash flow of the chaebol as well as large firms.

Sixth, the basic prediction of the information-theoretic approach is that information problems are likely to be the least for older, mature firms and relatively more critical for new and younger firms. We find that the mature firms are more dependent on internal finance than younger firms. This is again consistent with the predictions of the managerial approach and counter to the information-theoretic approach.

## **Korean Currency Crisis and Over-investment in the Perspective of Long-Run Equilibrium**

by Chang-Jin Kim, Kwanghee Nam and Chong-Ook Rhee

The purpose of this paper is to assess whether there was over-investment in Korea before the crisis in the perspective of long-run equilibrium. Previous research interpreted over-investment in terms of investment over savings. Instead, we interpret over-investment in terms of investment away from the long-run equilibrium path. If an observed investment is over the long-run equilibrium level that is sustainable with other macroeconomic variables such as consumption and output, then we interpret it as being over-investment at the time observed.

For this purpose, we establish a standard neoclassical model based on King, Plosser, and Rebelo(1988) as well as King, Plosser, Stock, and Watson(1991), and find a long-run equilibrium relationship between consumption, investment and output using a

cointegration relationship.

Our main findings are as follows. First, even though we cannot reject the null hypothesis of no cointegrating vector for the full sample period(1970:Spring-1997:Spring), a cointegrating vector is found for the later subsample period. That is, the long-run relationship between output, consumption and investment holds for the earlier subsample, but later breaks down.

Second, in contrast to King, Plosser, Stock, and Watson(1991), which found two cointegrating vectors with one common stochastic trend for the U.S. economy, we find that only one cointegrating vector holds for the Korean economy. This finding implies that another common stochastic trend other than technological shock affected the Korean economy. One may interpret it as arising from some type of fiscal policy or export-oriented trade policy in the 1970's and 1980's.

Third, we find from hypothetical equilibrium errors in the cointegrating relationship that there has been over-consumption and under-production in the 1990's, but we are unable to conclude that there has been over-investment during the 1990's.

### **Korean Chaebol in Transition : Road Ahead and Agenda**

edited with an Introduction by Sung-Hee Jwa and In Kwon Lee

The business environment of the chaebol, the large Korean business groups, has changed drastically since the financial crisis of the end of 1997. The introduction of market-enhancing institutions and the digital/network revolution has led to a dramatic fall in transaction costs and has also increased the importance of market transactions vis- -vis intra-group transactions. Most of these changes are market-conforming, which inversely acts to increase the costs of running a number of businesses under a sole umbrella. The chaebol need to fundamentally change the way they run their businesses to survive in the future, considering the important changes in markets and institutional contexts that are taking place.

The government policy toward chaebol is critically reviewed by the authors of this book, who also evaluate the entire chaebol restructuring process. They suggest desirable restructuring strategies and investigate the interaction of economic institutions with the chaebols incentive structure and management behavior. This volume is composed of eight papers. The papers were prepared individually by the authors and then discussed either at the Korea Economic Research Institute or academic conferences. The authors incorporated the comments and suggestions made by discussants into the final version of their papers.