

**Was Korea's Economy Structurally Dysfunctional in the mid-1990s?:
A Critique of the IMF's Justification for Regime Change in Korea**

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Abstract

As late as October 1997 the IMF declared that the Korean economy was experiencing a temporary liquidity squeeze, not a solvency problem. Yet in December 1997 Deputy Managing Director Stanley Fischer declared that Korea suffered from a systemic “breakdown of economic relations” so complete that only radical economic restructuring could restore prosperity. The IMF attached what it called “extreme structural conditionality” to its loan agreements with Korea, demanding a complete and rapid transition from Korea’s traditional East Asian economic model to a globally integrated neoliberal model. We subject the IMF’s assertion that the allocative efficiency of the Korean economy had collapsed by 1997 to a number of empirical tests. The evidence does not support the IMF’s systemic breakdown claim. We conclude that the IMF’s imposition of “extreme structural conditionality” on Korea is best understood as an illegitimate and antidemocratic exercise of power designed to meet the needs of the IMF’s key constituents rather than those of the majority of Korea’s people.

I. Introduction

Prior to late 1997, Korea's version of the state-guided East Asian economic model was widely admired by Western economists, the IMF and the World Bank for its exceptional long-term development record. The view that the achievements of the East Asia model were extraordinary and that the powerful role and effective role played by the state was in large part responsible for these achievements was not widely contested by mainstream economists prior to the crisis. (See Crotty and Lee, 2004 for a defense of this assertion.) Korea was also condemned by Western politicians, economists, and businessmen because it would not open itself fully to foreign industrial and financial investors who wanted to get in on the profit opportunities created by the Korean 'miracle.'

The 1997 crisis changed the West's view. The post-crisis conventional wisdom asserts that the structure of Korea's economy prior to the crisis was fatally flawed. The East Asian model can be useful, Western economists grudgingly acknowledge, but only in the early phase of development, when markets are too immature to guide resource allocation efficiently and the 'catch-up' objectives of state industrial policy are straightforward. However, as East Asian economies matured, the argument continues, the continued substitution of government-directed for market-guided resource allocation created severe inefficiencies that were the ultimate cause of the crisis. As Fed Chairman Alan Greenspan put it: "planning by some East Asian countries can look very successful for a time...but there are limits to this process as economies mature. Asian policy makers are learning that government-directed investments, though successful for a while, inevitably lead to overproduction of goods that neither domestic nor foreign consumers want" (*Wall Street Journal*, "Greenspan Sees Asian Woes Aiding Free Markets," April 3, 1998). Under pressure from foreign and domestic neoliberal enthusiasts, Korea did liberalize its economy significantly in the decade preceding the crisis, and mainstream economists acknowledge that this process made the dramatic rise in short-term foreign debt that triggered the crisis possible. However, they insist that liberalization was not the fundamental cause of the crisis; it merely exposed the underlying rot within. (See Ministry of Finance and Economy, 1999; Greenspan, 1999; Brittain, 1997; Hahm and Mishkin, 2000; Borensztein and Lee, 1999; Krueger

and Yoo, 2001.)

There is an alternative interpretation of recent events in Korea, whose adherents include numerous heterodox scholars (Chang, 1998; Singh, 1999; Wade and Veneroso, 1998; Crotty and Dymski, 2001; Crotty and Lee 2001) along with a few prestigious mainstream economists such as Joseph Stiglitz, former Chief Economist for the World Bank, and Harvard's Dani Rodrik. These authors argue that the major cause of the crisis was not *inherent* inefficiencies in the structure of the Korean development model, but rather *contingent* inefficiencies created by liberalization, especially in the 1990s. This liberalization process weakened the structural integrity and coherence of the traditional Korean economic system. In this view, the problem in the 1990s was not too much state intervention, but the cessation of government functions essential to efficiency within the Korean model. In particular, absent the drastic weakening of the government's traditional regulation of short-term capital inflows in the 1990s, there would have been no system-shaking financial crisis, no IMF takeover, and no radical neoliberal restructuring.

Determining which side of this debate is correct is of great importance for the theory of economic development and the policy prescriptions that flow from it. If the ultimate cause of the Korean crisis was the *inherent* inefficiency of state-guided development models in all countries that move beyond the early stages of development, then perhaps the neoliberals are correct when they insist that There Is No Alternative to neoliberalism. Though there are no neoliberal development success stories, reliance on economic guidance by a developmental state would apparently lead to even worse results than neoliberalism. (See Amsden, 2001 and Chang, 2003 for support of the hypothesis that all successful development experiences have taken place under anti-neoliberal policies and structures.) Conversely, if one accepts the *potential* efficiency of state-guided growth, and sees its erosion via liberalization in the 1990s as the ultimate cause of the crisis in Korea, then the imposition of neoliberalism becomes the cause of the of Korea's crisis, not the vehicle for its rescue, and a modernized state-guided growth model remains an economically viable option for less developed countries.

We have argued elsewhere (Crotty and Lee, 2001) that Korea did not face a solvency or structural crisis in 1997. We believe that the Korean government should have intervened forcefully when the crisis broke out to support the growth of aggregate demand, hold interest rates at reasonable levels, and make sure that domestic credit continued to be made available to

firms that would be viable under normal economic conditions. This was how the government reacted to earlier external shocks of even greater severity. Most important, the government should have postponed consideration of economic restructuring until after the crisis had passed. Rational restructuring is impossible in the heat of crisis. When the economy is in a state of economic and financial collapse, there are no objective criteria for distinguishing firms and banks that are potentially healthy from those that are not. A deep contraction and credit crunch will injure both well- and poorly-managed firms, especially in Korea's high debt model.

It was the perverse policy response to the Korean crisis put in place by the IMF, not structural deficiencies in the Korean economy, that was the main cause of the near depression conditions of 1998 and early 1999. The IMF raised the short term interest rate from 13% in early December to 34% just one month later, holding it above 20% through mid 1998. In an interview with one of the authors in February 1998, a high ranking Bank of Korea (BOK) official acknowledged that it was the IMF who determined interest rates in Korea, not the BOK. The IMF imposed restrictive fiscal policy as well. As aggregate demand collapsed, the IMF brought on a credit supply crunch by closing down banks and implementing for the first time in Korea the Basle capital adequacy standards – in the midst of deep recession! Real domestic demand fell by 13.8% in 1998 and the rate of unemployment, which was 2.1% in October 1997 (and had been below 3% for years) rose to 3.1% in December, 7% in June 1998 and peaked at 8.7% in February 1999.

The thesis that Korea faced a liquidity crisis in late 1997, not a systemic failure is one that the IMF acknowledged in statements made both just before the crisis and several years after it. In its October 1997 report on Korea, the IMF stated that Korea had been hit with a temporary liquidity squeeze only – it called attention to the “absence of deeper solvency concerns.” At that time, the IMF's worst-case scenario for Korea in light of the Asian crisis was a drop in the growth rate to 4.5% in 1998 – not the 6.8% decline it actually experienced under IMF policies (IMF 2003a: 162-63). Yet in December 1997, just two month later, the IMF declared that the Korean economy was in a state of profound structural dysfunction, requiring radical emergency surgery. This was the reason it imposed what it called “extreme structural conditionality” on Korea, along with tight monetary and fiscal policy to restore foreign investor confidence (IMF, 2003a: 179).

The IMF's post-crisis evaluation report of 2003 agrees with its October 1997 view. It says that if the IMF and World Bank had announced that they would provide Korea with as much foreign exchange as it needed, there would not have been a financial crisis at all. On the other hand, "A delayed or highly conditional commitment of funds would do nothing to reverse the drive by creditors to liquidate their investments while they still could" -- but that is all the IMF and World Bank provided (IMF, 2003a: 193). Unfortunately, "the financing packages...were not large in relation to potential private capital flows. Moreover, not all of the money was available -- especially at the outset -- to counter market pressure" (Lane, 1999: 45). By January 9, 1998, with the Korean economy and currency in free-fall, the IMF had only lent Korea a total of \$13.1 billion in a series of small payments, each conditioned on agreement by the Korean government to accept additional IMF demands.

We note in passing that the post-crisis neoliberal economic regime imposed on Korea has not been a success. GDP growth did rebound briskly in 1999 and 2000 as the trade surplus temporarily rose to record highs and macro policy shifted from restrictive to expansionary. But GDP growth fell again in 2001 to 3.8%. 2002 saw another spurt forward to 7% growth, but this was largely the result of what may be the most rapid household debt explosion ever, as the government tried to jump-start the sluggish economy by enacting tax incentives for debt-financed consumption, and banks fled corporate lending for temporarily more profitable consumer loans. Household debt averaged 41% of GDP in 1994-97, rose to 51% in 2000, then accelerated to 62% in 2001 and 74% in 2002. When the household lending bubble burst early in 2003, real consumption actually declined and economic growth dropped to a two decade low of 3.1%, 1998 excepted. An unsustainable export boom raised 2004 growth to 4.6%, but projections for 2005 are for growth below 4%. Thus, average annual real GDP growth, which was 7.7% in the 'inefficient' era from 1987-97, has dropped to below 4% in the neoliberal era. Worse yet, investment as a percent of GDP fell from 39% in 1996 to 30% or below since then, and real equipment investment has yet to regain its 1996 value. Moreover, poverty has doubled and the distribution of income has become much more regressive. In our view, this deterioration in performance is the inevitable result of the substitution of neoliberalism for Korea's traditional economic model. (For a more detailed analysis of Korea's economic performance since the crisis, see Crotty and Lee, 2005.)

The central question addressed in this essay is: *did the Korean economy become structurally dysfunctional by 1997*, and therefore in need of the radical neoliberal restructuring demanded by the IMF and senior US officials? Or, did these agents use a false claim of structural breakdown to rationalize seizure of control of Korea's economy and the implementation of policies that served the interests of their own constituents and not those of the Korean people?

The paper is organized as follows. First, after explaining how ill-conceived liberalization starting in the late 1980s made the onset of crisis almost inevitable, we argue that the IMF agreements with Korea in December 1997 and beyond demanded nothing short of a complete transformation of the Korean economy. *The only possible rational justification for such radical demands is the belief that the Korean economic system had completely broken down.* The main thesis in this paper is that this belief was wrong and therefore the demand by the IMF and the US that Korea put itself through a radical institutional transformation should have been rejected by Korea – as it would have been if the Korean people had been allowed to vote on it.

Second, in the main body of the paper we argue that the bulk of the available empirical evidence supports the proposition that the real-sector resource allocation process in the Korean economy, though it did suffer a modest decline in efficiency as the result of unwise liberalization after the late 1980s, remained essentially sound in the 1990s. It was primarily the mode of investment finance and the instability of short-term capital flows, not the process of real-sector resource allocation, which made the economy vulnerable to crisis. The correct response to the crisis would have been to fix what actually had broken. The government should have repaired the damage done by financial liberalization by reconstituting effective capital controls and creating an appropriate system of state regulation of domestic financial markets. The government could then have moved to address economic problems posed by the excesses of the chaebol, and made the broad outlines of economic policy more responsive to democratic processes and less responsive to chaebol and foreign political pressures. It was the modernization and democratization of the Korean economic model that was called for, not the forced imposition of neoliberalism.

II. The 1997 Financial Crisis and the IMF Response

Three crucial changes in the traditional Korean model took place in the decade preceding 1997. First, the government ended its industrial policy and eliminated its regulation and coordination of chaebol investment decisions. Second, important aspects of domestic financial markets were substantially liberalized. In particular, the government permitted the creation of new non-bank financial intermediaries that were free from government monitoring and regulation. These institutions channeled funds to the chaebol groups that controlled them. Third, government controls over short-term capital inflows, especially loans, were relaxed. While these changes were championed by external neoliberal forces, they were also demanded by the chaebol, who wanted freedom from government regulation and access to foreign loans that in the mid 1990s cost them only half the domestic interest rate (Chang, Park and Yoo, 1998; Weiss, 1999; Lee et. al., 2002).

The elimination of controls on the inflow of short-term capital took place at a time when such capital was in excess supply -- repelled by the low interest rates in the West in the early 1990s and attracted by the Asian economic 'miracle.' This guaranteed that bank loans and portfolio investment would flood the area. With key domestic financial markets freed from government control, these short-term foreign funds were used to accelerate an already rapid pace of investment in Korea, where, as we will see, incentives to invest were strong in the mid 1990s. Since industrial policy and state coordination of investment had ended, the chaebol conglomerates could now invest as they pleased.

In the wake of capital account liberalization, foreign debt rose dramatically. Debt to foreign banks tripled between 1994 and 1996. By late 1997, it reached \$120 billion. Much of this debt was used to finance chaebol investment spending. Total foreign debt as a percent of Korean GDP was not out of line with developing country experience. The problem was that two-thirds of the foreign debt was short term, with about 20% due in the first quarter of 1998 (OECD, 1998: 5). Thus, by 1996 the Korean economy had become extremely financially fragile. Korean companies and banks could pay back their foreign loans only if the following set of conditions were sustained indefinitely -- a healthy domestic economy, reasonable trade performance, continued growth of earnings in local currencies, and the absence of a decline in the exchange

value of the won. In other words, liberalization had brought Korea to the point where a financial crisis was almost inevitable. When a large drop in the rate of export growth hit Asia in 1996, it led to key loan defaults by some highly-levered chaebol firms and thus to an increase in domestic nonperforming bank loans in the first half of 1997.

The Asian financial crisis kicked off by the devaluation of the Thai bhat in July 1997 eventually weakened other Asian countries.¹ Foreign banks rushed for the door, and portfolio investors pulled out of the region. According to the Institute for International Finance, net private capital flows to Asia dropped from \$176 billion in 1996 to \$69 billion in 1997 (and again to near zero in 1998). Net commercial bank loans went from \$80 billion in 1996 to minus \$15 billion in 1997 (and to minus \$60 billion one year later) (International Institute of Finance 2000, p. 3). Net foreign loans to Korea, which had been \$11.6 billion in 1996, fell to minus \$26.6 billion in 1997 -- and remained negative for the next three years. Total net private financial flows into Korea fell by \$38 billion between 1996 and 1997 -- *almost eight percent of 1997 GDP*, a shock that would stagger *any* financial system, no matter how well run (Asian Development Bank, 2001: 21).

The first IMF agreement was signed on December 4th. By this time, the won-dollar exchange rate had jumped to 1249 from its value of 987 in late November. Investors understood that the “extreme conditionality” at the heart of the agreement reflected the IMF’s assessment that the Korean economy was irredeemably corrupt, inefficient, and in need of radical restructuring, and they knew that IMF-imposed austerity macro policy ensured a short-term economic collapse. The won-dollar rate thus fell to 1900 in early January – a total decline in the value of the won of 50% from its 1996 level, a level the IMF said at the time was not overvalued. The IMF agreements quickly opened Korea’s economy to foreign firms and banks, while the huge drop in the value of the won created “fire sale” prices for Korean assets.

In its own explanation of its response to the Asian crisis offered in January 1999, the IMF emphasized that “forceful, far-reaching *structural reforms* are at the heart of all [our] programs, marking an evolution in emphasis from many of the programs that the IMF has supported in the past” (emphasis in original). The structural reforms included the need to “break the close links between government and business” that define the East Asian model, “ensure the integration of the national economy with international financial markets,” increase the “potential for foreign participation in domestic financial systems,” and “remove impediments to growth such as

monopolies [i.e., the chaebol system], and trade barriers...” (IMF, 1999). In other words, *the IMF argued that only radical structural reform could save the Korean economy.*

Conservative economist Martin Feldstein, Chairman of the Council of Economic Advisors under President Reagan, argued that “the International Monetary Fund seized the troubles in the region as an opportunity to insist on fundamental structural reforms, ... asserting that they needed to remake their financial systems, tax and tariff structures, labour markets, central banking procedures and corporate governance” Yet in fact “Korea only needed a temporary restructuring of its foreign bank loans to give Koreans time to accumulate the reserves needed to service the debts.” (*Financial Times*, “Trying to do too much”, March 5, 1998).

His answer to the question of *why* the IMF took advantage of Korea’s temporary illiquidity to force the country to adopt radical structural reforms was that the IMF was a tool of the US and Japan.

Several features of the IMF plan are replays of the policies that Japan and the United States have been long trying to get Korea to adopt. These include accelerating the previously agreed upon reductions of trade barriers to specific Japanese products and opening capital markets so that foreign investors can have majority ownership of Korean firms, engage in hostile takeovers opposed by local management, and expand direct participation in banking and other financial services. ...Koreans and others saw this aspect of the plan as an abuse of IMF power to force Korea at time of weakness to accept trade and investment policies it had previously rejected. (*Foreign Affairs*, “Refocusing the IMF,” March/April 1998, p. 32)

Keep in mind that, as the *Wall Street Journal* noted in an editorial: “The U.S. Treasury provides the lion’s share of hard currency to the IMF. And in return – as is well known at the Fund, on Wall Street and in the capitals of the IMF’s chief client nations – Treasury calls the main shots at the IMF” (“Focusing the IMF Debate”, May 7, 1998). The *New York Times* noted that Treasury Secretary “Rubin, Greenspan, and Lawrence Summers, the deputy Treasury secretary, argued ... that the IMF had succeeded in using its bailouts to force [Asian] nations to open their markets and transform their economies...” (“Greenspan Sees Present Crisis Moving Asia Towards Western Capitalism”, February 13, 1998). Even the IMF acknowledges the existence of strong outside pressure, especially from the US government. “The IMF’s major shareholder governments made no secret of their view that IMF assistance should be accompanied by strong reforms. The U.S. authorities in particular insisted that strong reforms

should be a condition of IMF support” (IMF, 2003a: 185). Moreover, the IMF demanded that the radical neoliberal restructuring of Korea begin *immediately* -- in the chaos of the crisis, at the same time that austerity macro policy was being implemented.² The IMF acted in a manner more appropriate for an occupying military power than an international agency designed to assist countries in distress.³ The breadth and depth of IMF dictates to the Korean government were referred to in the press as “unprecedented.”

Having declared that Korea had reached a terminal state of inefficiency, neoliberals insisted that reform of the traditional Korean model was out of the question. In a wide ranging speech in April 1998 titled “The Ascendance of Market Capitalism,” Fed Chairman Alan Greenspan argued that neither the “caring capitalisms” of Europe nor the state led capitalisms of East Asia could withstand forever the assault of global neoliberalism. The Asian crisis was “an important milestone in what evidently has been a significant and seemingly inexorable trend toward market capitalism” of the US style. In Greenspan’s view, though area governments “relied on markets in most respects, they also used elements of central planning in the form of credit allocation, and those elements, in my view, turned out to be their Achilles heel.” East Asian countries “can look very successful for a time because they started from a low technology base... but there are limits to this process as economies mature”. “Eventually and inevitably” such a regime was bound to fail once it opened itself to the winds of international competition. (April 18, 1998, www.federalreserve.org).

The IMF agreements in Asia were clearly understood in the West as proof of the final defeat of Asian-style capitalism in the long-standing war between the East Asian model and US-style neoliberalism. Former US Secretary of State Henry Kissinger commented that “If the definition of a revolution is fundamental change in the economic and political system, ... what we are trying to engineer in some of these countries is clearly a revolution” (*New York Times*, “Indonesian Faceoff,” March 7, 1998). Alan Greenspan proclaimed that one of the most fundamental effects of the Asian crisis was “a worldwide move toward the Western form of free market capitalism instead of the competing Asian approach that only a few years ago looked like an attractive alternative model for nations around the world” (*New York Times*, February 13, 1998). In an article that stressed his “association with the free market political philosopher Ayn Rand,” Greenspan “predicted the Asian financial crisis... eventually will be viewed as a

milestone in the triumph of market capitalism” (*Wall Street Journal*, “Greenspan Sees Asian Woes Aiding Free Markets,” April 3, 1998). This triumphalism was summed up nicely by a *Wall Street Journal* headline that simply stated, “We Won”.

The IMF defended its imposition of ‘big-bang’ radical restructuring by insisting that the Korean economic system was structurally dysfunctional. “The past model of government-directed industrialization brought tremendous economic progress, but also contained inherent flaws and is no longer suited to Korea as an advanced economy in globalized markets” (IMF, 1998: 29). In response to the question: “Is it possible for Korea to reform the current system of industrial policy, or will it be necessary to dismantle it?” Deputy Managing Director Stanley Fischer replied:

I don’t think this restructuring would be possible within the Korean model. What has happened in Korea is a *breakdown of economic relations* caused by that system—the banks were being used to funnel money from abroad into corporations that were not being subjected to market discipline and whose financial structures were not clear. (IMF Survey, December 15, 1997, p. 387, emphasis added)

In a 1999 article in *Finance and Development*, a journal of the IMF and World Bank, Bijan Aghevli declared that “there is a consensus on the causes of the [Asian] crisis”: “domestic allocation of these borrowed foreign resources was inefficient because of weak banking systems, poor corporate governance, and a lack of transparency.” (p. 28) Responding to critics who argued that the IMF should have concerned itself only with macro policies upon taking charge of the affected Asian countries, the article retorts: “But the main source of the problems in all these countries was structural – the weakness of the financial and corporate sectors” (p. 30). The IMF Survey of March 6, 2000 states that “While a severe international liquidity squeeze triggered the crisis, structural weaknesses were at the heart of Korea’s problems” (p. 78). US Under Secretary of the Treasury Larry Summers, stated the US-IMF position nicely: this crisis “is profoundly different because it has its roots not in improvidence, but in the economic structures. The problems that must be fixed are much more microeconomic than macroeconomic, and involve the private sector more and the public sector less” (*Financial Times*, February 20, 1998).

But if the system was in fact so corrupt and inefficient in the mid 1990s that it inevitably caused a system-shaking crisis, *we should to be able to see clear evidence of this collapse of efficiency in the pre-crisis data*. As we show below, if real-sector efficiency declined

at all, its decline was modest. The Korean economic system was not deeply and inherently flawed in the 1990s, as neoliberals claimed ex post, and therefore the Korean people did have different alternative development paths open to them. They should have been permitted to debate the merits of these alternatives without threat and coercion, and make their selection in an open democratic process.

III. Did the Korean Economy Collapse in the mid 1990s?

The ex post story of the alleged collapse of the Korean economy is usually told in the following way. In the 1990s the chaebol conglomerates went on an irrational investment spree, borrowing and investing far more than made economic sense. Gross private domestic investment, which was about 30% of GDP in the 1980s, rose above 35% from 1993-95, and peaked at 39% in 1996. They did this because of their inefficient governance structure, mainstream economists argued; they were controlled by individual families who sought size for its own sake, rather than by efficient capital markets. Moreover, financial liberalization gave the chaebol access for the first time to limitless finance at low interest rates, both via newly available foreign bank loans and through domestic financial enterprises controlled by the chaebol. Foreign banks lent money to the chaebol because they believed they were “too big to fail”: the government would bail them out if they became insolvent. The end result of this out-of-control economic system was a deep decline in capital efficiency that led to a sharp drop in profitability and a qualitative and unsustainable leap in indebtedness. When the Asian crisis hit the broken-down Korean economy in late 1997, it collapsed like a house of cards.

In this section, we examine empirical evidence on the health of the Korean economy in the mid 1990s. In 1997, Western analysts came to the conclusion that the Korean economy was dysfunctional without delineating appropriate criteria for making such a determination. There are no available methods, models or templates we can adopt to investigate the question of whether the Korean economic system had become structurally dysfunctional and unviable in the mid 1990s. For this reason, we are forced to follow an eclectic strategy and analyze a number of relevant data sets.

Was the Investment Boom of the 1990s Irrational Ex Ante?

Even if capital productivity and corporate profitability did deteriorate in response to the investment boom of the mid 1990s, this would not by itself demonstrate that the investment decision-making process was irrational or inefficient. Investment decisions can only be made in response to projections or guesses about future profit prospects, and these must be based primarily on current and past data. The key question should thus be: *was it obvious ex ante that the investment decisions of Korea's big conglomerates were irrational or grossly irresponsible?*

Rising investment by Korean firms in the mid 1990s was a response to very positive market signals. Real domestic demand grew slowly in 1993, but it rose rapidly from 1994 through 1996. As shown below, operating profit rates and operating profits as a percent of sales were more than adequate through 1995. Capacity utilization in manufacturing in 1994 and 1995 was higher than in any year in the 1980s.

In addition, the outbreak of labor militancy in the late 1980s led to a rising labor share of income, which rose from 47% in 1987 to 54% in 1991-92. An increase in labor-saving investment was a rational response to this development. Productivity growth was below real wage growth from 1987-90, but was above it every year from 1991-97.

The most severe criticism of investment irrationality was leveled at those chaebol firms engaged in competition in the key manufacturing industries such as autos, airplanes, computers, chemicals, semiconductors, electric appliances, steel, ship building, and machine tools. The OECD's 1998 report on Korea specifically condemns over-investment in semiconductors, steel, consumer durables, autos and petrochemicals – mainstays of Korea pre- and post-1998 export growth (OECD, 1998: 23 and 26). According to the OECD, Korean firms should have left the field of battle in these industries, where they had spent decades developing their competitive capacities, presumably so that North American, European and Japanese firms could operate in peace there.

A serious problem with the OECD's position is that Korea's exports were booming in the mid 1990s. Total exports rose from \$82 billion in 1993 to \$125 billion in 1995, growing by 17% in 1994 and 30% in 1995. This superb growth in exports was concentrated in precisely the heavy industries that the OECD, looking backward in 1998, thought Korea should have exited.

The export boom of the mid 1990s came to an end in Korea in large part because a large negative export 'shock' hit East Asia in 1996. Export growth in Asia fell dramatically: in volume terms, export growth in the region rose by 15% in 1994 and 18% in 1995, but it fell to 6% in 1996. The dollar value of Korean exports, which had grown by over 50% from 1993 to 1995, rose by a mere 4% in 1996. Heavy industry exports, which were at the core of Korean manufacturers' development plans, showed no growth in 1996 after averaging 35% annual growth in the previous two years.

Korean manufacturing firms naturally planned for a continuation of the ongoing export boom and invested accordingly; thus, they were hit hard by in 1996 by a shock no one predicted. The rate of growth of manufacturing sales revenue in 1996 fell by half from its rapid 1995 pace (OECD, 1998: 176). The export shock slashed profits. In previous decades, when the economy was hit by negative export or exchange value shocks that caused many firms to become illiquid, the state saw to it that credit remained available at reasonable rates, and that aggregate demand growth was quickly restored to healthy levels. Thus, widespread illiquidity did not become general insolvency, even in the global recession and oil shock of the early 1980s, as it did in 1998. But this time the state was unwilling or unable to play its traditional role.

Many firms had major ongoing investment projects that it was uneconomical for them not to complete. But with the collapse of profitability, firms had to borrow virtually all the funds they needed to complete ongoing projects, raising financial fragility. Foreign banks would only lend short-term (to keep their risk down), the Korean government had deregulated only short-term foreign borrowing, and short-term rates on foreign loans were low. Thus, the stage was set in 1996 for the catastrophe of late 1997.

There is an additional reason why export-oriented chaebol firms sustained investment spending even in years when profit prospects were not rosy. The rapid spread of neoliberalism caused a slowdown in the pace of global demand growth that induced sluggish sales growth in key global manufacturing industries. The rate of growth of world GDP in the 1990s was by far the lowest of any decade in the post World War II era; the period from 1989 through 1993 was particularly sluggish. Competition in global markets had become so intense that firms in important global industries faced the following bitter choice: continue to invest even in the face of slim profit margins, falling industry rates of capacity utilization, and increasing leverage, or

withdraw from the industry – a move that would destroy much of the value of their immobile physical and organizational capital. Asset sales in periods of industry stress often bring as little as 10 to 30 percent of their original cost. Thus, most big companies in both the developed and the developing world decided to fight for survival rather than exit these industries. But to remain viable in these intense competitive struggles, firms had to sustain investment. Consider an example in Korea's domestic economy. When Samsung entered the auto industry in the early 1990s, Kia felt compelled to raise the pace of investment to meet the new competitive challenge. This key issue is discussed in detail in Crotty (1993, 2000, 2002, and 2003).

When we combine this ongoing need to invest to 'stay in the game,' the pressure to lower labor costs through mechanization, positive export and domestic market signals, and the oceans of relatively low interest loans foreign banks made available to Korea (that came with a promise that the bank's would roll these loans over indefinitely), *the decision to raise investment in heavy industry in 1993-96 is understandable ex ante.*

We do not mean to suggest that investment decisions in this period were immune to criticism. Even ex ante, the size and speed of the investment response to positive market signals were excessive in some cases, reflecting the optimism – even arrogance – of chaebol leaders, who over-estimated their prospects in global markets.⁴ Most important, the heavy reliance on short-term foreign loans to finance risky long-term investment projects made possible by the weakening of short-term capital controls was potentially catastrophic, and this is so obvious that it should have been clear ex ante.

Capital Productivity and Related Issues

Neoliberal critics argued that over-investment and misallocated investment in the 1990s caused a rapid decline in capital productivity. The output to capital ratio (OCR) was alleged to have fallen dramatically in the 1990s to a disastrously low level as a result of economic mismanagement.

It is crucial to understand that rapid development always brings a sharp fall in the OCR. A key goal of East Asian models is to raise labor productivity by increasing capital per worker (K/L). A simple exercise with a neoclassical production function shows that, ceteris paribus, as

K/L rises, output per unit of capital (Y/K) falls. The payoff is a fast-paced increase in labor productivity (Y/L) that makes possible rapidly rising per capita income.

The best Korean source on output-capital ratio data is provided by the Korean Development Institute (KDI). **Graph 1** shows the Y/K series for manufacturing from 1970 through 1997. From 1988 through 1997 there is a substantial decline in Y/K, from .60 to .42. This was undoubtedly the result of a rapid increase in the rate of investment that boosted K/L dramatically. However, *almost all the decline in the OCR took place before the 1993-96 investment boom.* (The additional deterioration in 1997 and 1998 was caused by a slowdown followed by a collapse of real GDP growth.) Until the export shock of 1996 and the onset of crisis that followed, Y/K appeared to have stabilized at about .44 in response to the higher trend rate of capital accumulation. A quadratic approximation to the Y/K series that represents its long-term trend suggests that the mid-1990s were compatible with the general trend of Y/K across three decades.

Graph 2 presents time series data on economy-wide OCRs for a number of countries. They demonstrate that all fast-developing Asian countries experienced a large decline in Y/K. Taiwan stands out because it had a relatively high level of Y/K in the 1990s even after experiencing a substantial decline in Y/K in its early development stages.

Korea's high rate of capital accumulation over decades did generate the rapid increase in labor productivity desired by government planners. The rate of output per worker rose by a spectacular average rate of 8% per year from 1961 through 1996, and the Penn World data tables show that from 1960 to 1997, Korea had the second highest rate of growth of per capita real GDP in the world. Data from the US Bureau of Labor Statistics shows that output per hour in Korea's manufacturing sector rose by 10.5% per year from 1993 through 1997, faster than their 8% rate of growth in the boom years from 1986-1991 (BLS, 2001). They also show that output per work hour grew significantly faster than real compensation per hour. Both these conclusions are consistent with Korean National Statistical Office (NSO) data for manufacturing and all-industries. The results of a recent study of long-run economic performance in Korea and Taiwan by Timmer and van Ark (2000) are consistent with the picture presented here. They estimate that capital per worker in Korean manufacturing grew at an annual rate of 1.9%, 9.2% and 11% in 1963-73, 1973-85, and 1983-96 respectively (p. 19). This led to annual increases in value-added

per work hour of 7.6%, 5.8%, and 7.9% in these periods. Results for the whole economy are similar.

It has often been argued (see Krugman, 1994) that Korea generated spectacular gains in productivity and per capita income in the decades following the military coup in 1961 through rapid capital accumulation alone; there was little technical progress. Tests of this proposition rely on the measurement of total factor productivity (TFP), a particularly treacherous endeavor. Estimates by the IMF (IMF 2001, p. 8) show the average annual TFP growth for the Korea economy as a whole over the period 1970-99 to be 2.1%. In the investment boom of 1986-91, annual TFP growth was 3.2%, while the investment boom of 1993-96 showed a TFP growth of 2.5%. From 1994 through 1996, TFP growth was 2.9%, slightly lower than in the 1980s boom, but quite good nonetheless. The paper concludes: “Korea’s [total factor] productivity performance has been striking. Accumulation of physical and human capital has been rapid, but does not seem to have been so excessive as to lead to decreasing returns...” (p. 9). A 2003 IMF study finds that average annual Korean TFP growth is about the same as in other OECD countries (IMF, 2003b: 40). It also finds that TFP growth from 1990-96 is about equal to the long-term average from 1980-2002.

Bosworth and Collins examined the question of whether the ‘miracle’ of the East Asia economies should be attributed solely to capital deepening. For Korea, they estimate that output per worker grew at a rate of 5.7% per year from 1960-1994, while TFP growth was 1.5% annually over the same period. However, from 1984-94, productivity rose at a rate of 6.2% per year, while TFP growth, at 2.1% per year, was almost twice as rapid as in the preceding decade (1996, p. 157). Finally, Timmer and van Ark (2000) show that TFP growth in Korea in 1985-96, at 2.3% per year, was substantially higher than in the period from 1963-85 (p. 13).⁵

The data on Korean capital efficiency are thus broadly consistent with our expectation of a modest decline in economic efficiency in the 1990s as the result of inappropriate liberalization, but not with the ‘total-collapse’ thesis required to justify US and IMF actions in the wake of the crisis.

Measures of Profitability in the mid 1990s Investment Boom

In an idealized neoclassical market economy, profitability is the best measure of enterprise economic efficiency. In real world economies, profit can be raised or lowered by many things unrelated to enterprise efficiency -- shifts in market power, changes in exchange rates, and, most important, fluctuations in demand and excess capacity.

There are many ways to measure profitability; each suffers from significant measurement problems. The most important question is: are profits gross or net of payments for financial capital the best index of the economic efficiency of the firm and the economy? The correct answer depends on whether one is primarily interested in the efficiency of real-sector resource allocation or in the likely outbreak of a wave of bankruptcies or a systemic financial crisis. *If real-sector resource allocation becomes severely dysfunctional, questions about the long-term viability of the economic system are appropriate*, but if an otherwise effective real-sector allocation process is temporarily rendered vulnerable because of a dangerous mode of finance, *then it is primarily the financial system – not the whole economy -- that needs overhauling*.

Operating profits, which are measured prior to the deduction of interest payments, are a more appropriate indicator of the firm's real-sector efficiency than ordinary profits, which are measured net of interest payments and other factors. The interest cost deduction used in the construction of ordinary profits is affected by many things that have nothing to do with enterprise resource allocation efficiency, including changes in interest rates and leverage ratios. Of course, ordinary profitability is the best index of potential bankruptcy at the micro level and potential financial crisis at the macro level.

Domestic Profit Time Series

Was there a collapse in profitability for Korean firms in the mid 1990s as a result of a breakdown of the Korean economic system? We focus on a comparison between the investment boom of 1986-91, a period when the Korean 'miracle' had not yet been questioned, and 1993-96, when the economy is alleged to have become totally dysfunctional.

The first profitability indicator we examine is profit as a percent of sales. **Graph 3** shows both operating and ordinary profit as a percent of sales for manufacturing from 1970 through 1997. The former series has a key advantage over the operating profit *rate* shown below, because

financial payments are excluded from the numerator and financial assets are excluded from the denominator – it is thus directly influenced only by real-sector variables. This profit index cycles around an average rate of 7.5% from the early 1970s through 1986. From 1986 through 1989, it declines from 7.9% to 6%, in large part because of the rise in the wage share following the labor unrest of 1987-88. *It then increases every year from 1990 through 1995 -- at which point, at 8.3%, it matches its post-1973 peak.*

Profitability declined in 1996 due to the precipitous drop in the growth of exports, but it rose again in 1997 to over 8%-- higher than any year in the late 1970s and 1980s. It took Korean firms a number of years to adjust to the jump in labor's share after the late 1980s and the slowdown in global growth in the early 1990s, but by the mid 1990s profitability was rising as exports boomed, and had achieved levels not seen in two decades. There is no evidence of an allocative breakdown here.

The ordinary profit series is unstable because the main adjustments it makes to operating profits -- for interest charges, for gains or losses from financial assets, and for changes in the exchange rate – are volatile. It shows a drop in profitability after 1978, a result of both the spike in oil prices in the late 1970s and high interest rates and global recession in the early 1980s. It is higher in 1986-88, partly due to lower interest rates and oil prices. Profitability declined thereafter through 1992, then rose in 1993, 1994 and 1995, where, at 3.6%, *it was higher than any year in 1974-95 other than 1988.* It drops in the export shock of 1996 and falls to below zero in 1997 even though operating profit as a percent of sales rose to 8.3%. The problem here is obviously not efficiency in the real sector, but the onset of a financial and currency crisis. Net interest costs, at 4.9% of sales, were 0.6% higher than in 1996, and the loss from the collapsing won leapt to 3.1% of sales from 0.4% the preceding year.

Both series indicate that profitability was rising rapidly in the mid 1990s investment boom, and that by 1995 profitability was near a two decade high. The key difference is that the ordinary profit series signals the country's vulnerability to financial crisis in 1997, whereas the operating profit series tells us only that real-sector efficiency had a temporary decline in 1996. Together they suggest that *the origin of the crisis was primarily financial, the result of destructive liberalization.*

Graph 4 shows two different estimates of the profit rate on total assets (defined as the

sum of real and financial assets). Keep in mind that estimates of the capital stock are unreliable, and the denominator mixes real and financial variables in a period of financial instability.

In the 1980s, ordinary profit plus interest payments as a percent of assets-- an approximation of the operating profit rate -- cycles around an average value of 9.6%. It declines from its peak of 10.5% in 1988 to a low of 7.3% in 1993. But it then rises again, hitting 9.5% in 1995, before falling to 6.4% in 1996, the year of the export shock, and to 5.4% in 1997 as losses from the collapsing exchange rate mounted. The large chaebol firms that neoclassical economists argued were most inefficient, were actually more profitable than other firms: the rate of return on assets for top 5 chaebol manufacturing firms was higher in 1995 than in any year in the 1986-91 investment boom (Krueger and Yoo, 2001: Appendix 6). The time profile of the series on ordinary profits over assets is quite similar. A rational Korean firm extrapolating the 1993-95 data from either series to create expectations about future profitability would have been quite optimistic.

The profit time series suggest that efficiency as measured by average profitability was lower in the 1990s than in the preceding decade – an outcome caused primarily by the destruction of the traditional model. But as of 1995 the decline was modest and appeared to be evaporating. The drop-off in 1996 was largely due to the unforeseen export shock, and the sharp decline in ordinary profitability in 1997 to exchange rate losses and rising interest payments. As the operating profitability series demonstrates, the crisis could not have been caused by a collapse of real-sector efficiency.

Cross-Country Profitability Comparisons

Another way to address the question of Korea's economic performance in the 1990s is by comparing it with that of other countries that were not targets of US-IMF demands for radical neoliberal restructuring.

Some post-crisis studies argue that Korean firms had lower profitability than firms in most other countries, and this was the cause of the crisis. For example, Claessens et al.(2000) compare rates of return on assets (ROA) for a sample of firms in Korea and many other nations. Using local currencies, they find a low ROA for Korean firms (so low they seem incompatible

with Korea's high growth rates of GDP and productivity), but using the US dollar, they find that Korean firms had a higher ROA than the US. In a World Bank Working Paper whose main thesis is that "crony capitalism was at the core of the crisis," Pomerlano (1998) finds that the pre-tax return on capital employed in a sample of Korean firms from 1992-96 was actually higher than that achieved in France and Germany and equal to that of Taiwan and Singapore.

Graph 5 shows operating profits as a percent of sales for Korea, Taiwan, the United States, and Japan from 1971 through 1997. (Taiwanese data end in 1995.) On this preferred efficiency criterion, Korea is the best performer of the group over the 26 years of the sample. If we look only at the 1990s, we find that Korean firms had significantly higher profitability than US firms every year of the decade except 1996. Korea also did better than Taiwan in five of the six years for which data is available, and better than Japan in every year from 1990-97. Japan clearly was struggling with economic problems in the 1990s, but the US is the world's most advanced economy, and Taiwan is rightly considered to have a great development record. The fact that Korea had a better profit record than both these countries is very strong evidence indeed that it was not structurally dysfunctional in this period. As Chang and Park put it: "Korean firms do not have low profitability by international standards and have done as well as, or even better than, the US firms which they are constantly asked to emulate" (Chang and Park, 1999: 11).⁶

Graph 6 shows operating profit over assets for Korea, the US and Japan. (Korea's operating profits are proxied by ordinary profit plus interest payments.) *The Korean profit rate exceeds that of both countries in every year from 1982 through 1995.*

Econometric Evidence

In Crotty and Lee 2004, we conduct econometric tests of investment equations on Korean data. Industry regressions indicate that investment decision-making was certainly not less efficient or rational by neoclassical criteria in the 1990s than it had been in the 'miracle' decade of the 1980s. They also suggest that investment in the years leading up to the crisis responded appropriately to market signals. There is some evidence in firm regressions that in the mid 1990s investment spending by chaebol firms was less responsive to profitability signals than that of non-chaebol firms, but this may indicate merely that chaebol firms were less finance constrained

in the midst of a general investment boom and they confronted more powerful expansionary stimuli from the export sector in this period. While it is possible that chaebol firms over-reacted to some degree to the positive investment incentives, our econometric studies provide no evidence that the resource allocation process in the mid 1990s was dysfunctional.

IV. Conclusions

Destructive liberalization in the 1990s made the onset of a difficult economic period in Korea inevitable. It also created the need for significant reform of state-economy relations. Critics of neoliberalism agree with its supporters that changes in key institutions and policies were in order. It was the nature of these changes and their timing that was in dispute. Control over the political process by chaebol leaders stood in the way of genuine popular rule and, as is the case in many countries, money bought political influence. Moreover, serious economic problems within the chaebol system needed to be resolved. Substitution of broader stakeholder control (with government oversight) for domination by families of the chaebol founders is one policy that received attention and support. Sensible macro policy could have prevented the financial and economic collapse of 1998, and in so doing would have created an environment in which necessary alterations in Korea's economic institutions and practices could have been implemented over an extended period of time without unnecessary transition costs.

Prior to the crisis, there was substantial agreement among Koreans that the traditional model needed to be more thoroughly democratized, and most Koreans understood that the state-economy nexus needed to be modernized, though there was no consensus about the precise form such change should take. However, we know of no evidence that the extreme form of neoliberalism backed by the IMF had significant popular support in the mid 1990s. Koreans elected Kim Dae Jung as President on December 18, 1997 in large part because "of the three major candidates, Kim was the most critical of the IMF bailout" ("Chronology of the Asian Currency Crisis," www.stern.nyu.edu/~nroubini/asia/AsianChronology1.html). Kim promised the Korean people during the election he would renegotiate a less severe agreement before taking over the presidency. Clearly, most Koreans favored reform, not revolution.

We have argued elsewhere (Crotty and Lee, 2002) that the IMF knew full well that the

macro policies it imposed on Korea starting in December 1997 would lead to an economic collapse in 1998; an examination of newspaper and business press reports at that time demonstrate that everyone knew this. But an economic collapse was the sine qua non of the US-IMF strategy. If the neoliberal powers tried to impose their free-market revolution under normal conditions, when restructuring might have been most efficient because it would have been easier to distinguish between well and poorly run firms and banks, they would have met strong political resistance from labor, large segments of the Korean people, and even some sectors of the business community.

This is the paradox of neoliberal revolution: efficient restructuring requires a semblance of economic normalcy, but neoliberal policies are so destructive to the perceived interests of the majority of the population that they are extremely unpopular. Who would vote for the outcomes that typically follow an IMF takeover: mass unemployment, falling real wages, an assault on trade unions, destruction of welfare programs, the elimination of subsidies for the poor, rising inequality, and so on? This was acknowledged by Stanley Fischer, IMF First Deputy Managing Director, in 1998. “If the medicine needed to cure its economic illness had been sweet, the country would have taken it years ago. Rather the medicine will usually be unpleasant... when structural changes have to be made, the losses are often immediate and the gains some way off” (Fischer 1998, p. 4). Radical neoliberal restructuring cannot be achieved through democratic processes in normal economic times. Only times of crisis and chaos, when a panicked public can be led to believe that failure to accept IMF dictates would be even more disastrous than their implementation, is it possible for neoliberalism to be victorious in countries like Korea that have been reasonably prosperous. Former Treasury Secretary Larry Summers put the point this way: “Times of financial emergency are times when [outside political] leverage is greatest. Times of financial emergency are often moments when there is the greatest malleability with respect to structural change” (2001).

US pressure on Korea, especially to open its financial markets, became much more aggressive after the collapse of the Soviet Union. The US refused to support Korean admission to the OECD until it got its way. The *New York Times* reported in 1999 that the US push “for financial liberalization was directed at Asia in particular, largely because it was seen as a potential gold mine for American banks and brokerages.” This pressure:

is reflected in an internal three-page Treasury Dept memorandum dated June 20, 1996. The memo lays bare the Treasury's negotiating position, listing priority areas where the Treasury is seeking further liberalization. These included letting foreigners buy Korean bonds; letting Korean companies borrow abroad both short term and long term; and letting foreigners buy Korean stocks more easily. Such steps... would make Korea more vulnerable to precisely the kind of panicky outflow of capital that unfolded at the end of 1997. (*New York Times*, "How the US Wooed Asia to Let the Cash Flow In," February 16, 1999)

The initial Korean response to IMF's long list of structural changes was disbelief and shock. The *Wall Street Journal* quotes IMF Director Michel Camdessus: "Their first response [to IMF demands] was to say "You're crazy; our system works." The story continues: "The Koreans, convinced by 30 years of rapid growth that they have devised a new industrial model, were shocked by such IMF dictates." Camdessus told the Korean Finance Minister (in the midst of the collapse of the won in December 1997) that "unless you agree with all the items I have on my piece of paper,... there [won't] be a bailout." Camdessus also demanded that the three presidential candidates "endorse the IMF deal" – which they hadn't seen. The article notes that the IMF was not acting independently in these negotiations: "despite their demonstration of power, many IMF officials feel overshadowed by the U.S. Treasury." (*Wall Street Journal*, "Bitter Medicine," March 2, 1998) External neoliberal forces had domestic allies: wealthy families and chaebol leaders also wanted freedom from government regulation and the ability to operate without restriction in global markets.

The central argument of this paper is that the Korean economy showed reasonable real-sector allocative efficiency in the mid 1990s. Though ill-conceived liberalization rendered the economy financially fragile, it was no more 'broken' than any other OECD economy. But IMF officials, US politicians and Western 'experts' insisted in December 1997 and early 1998 that the Korean economy was completely dysfunctional. This combination of this claim with the chaos brought on by austerity macro policy in late 1997 and early 1998 helped break popular resistance to radical neoliberalism.

This is why the main question addressed in the paper is so important. Was the mid 1990s version of the Korean economy so 'broken' that it could not be fixed through reform? If the answer is yes, then there was a prima facie case for radical restructuring of some sort. If the answer is no, as we have argued, then the IMF takeover of Korea should be seen as an

illegitimate anti-democratic power-play by neoliberal forces to take control of the Korean economy and restructure it to meet their own interests rather than the needs of the majority of the Korean people. And the proper lesson to be drawn from Korea's experience is that developing countries should resist pressures to liberalize their economies in ways that make them vulnerable to banking and currency crises followed by destructive IMF agreements, and in this way maintain control over their own economic destiny.

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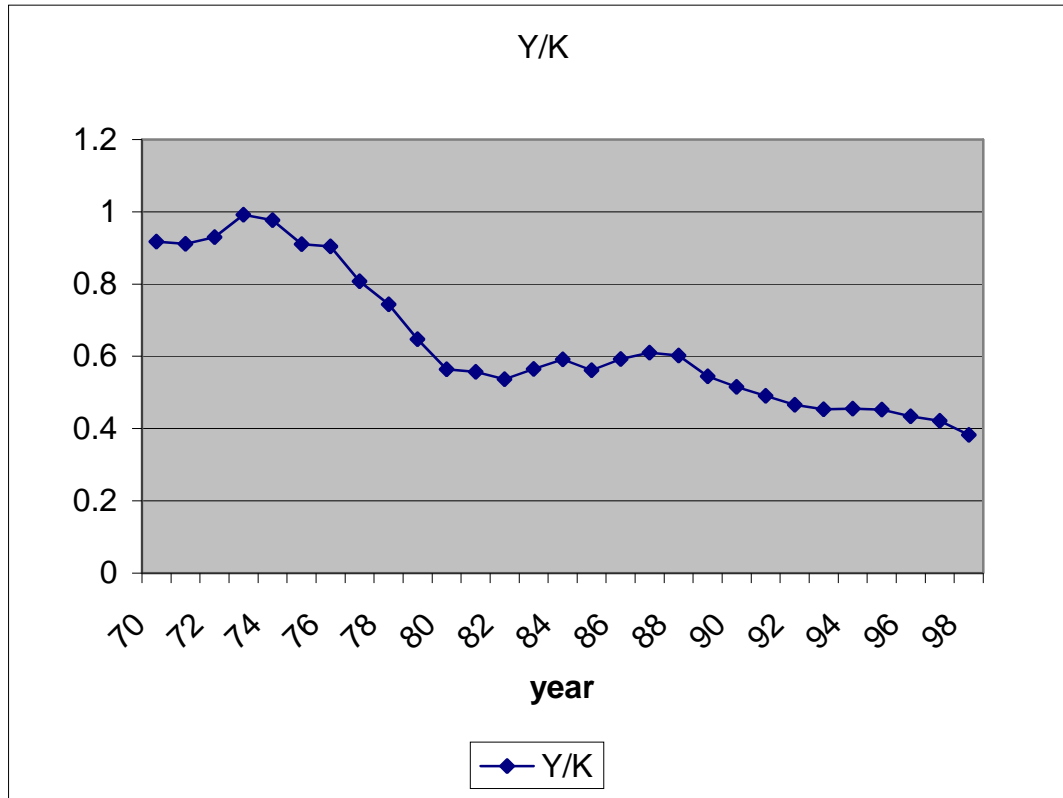
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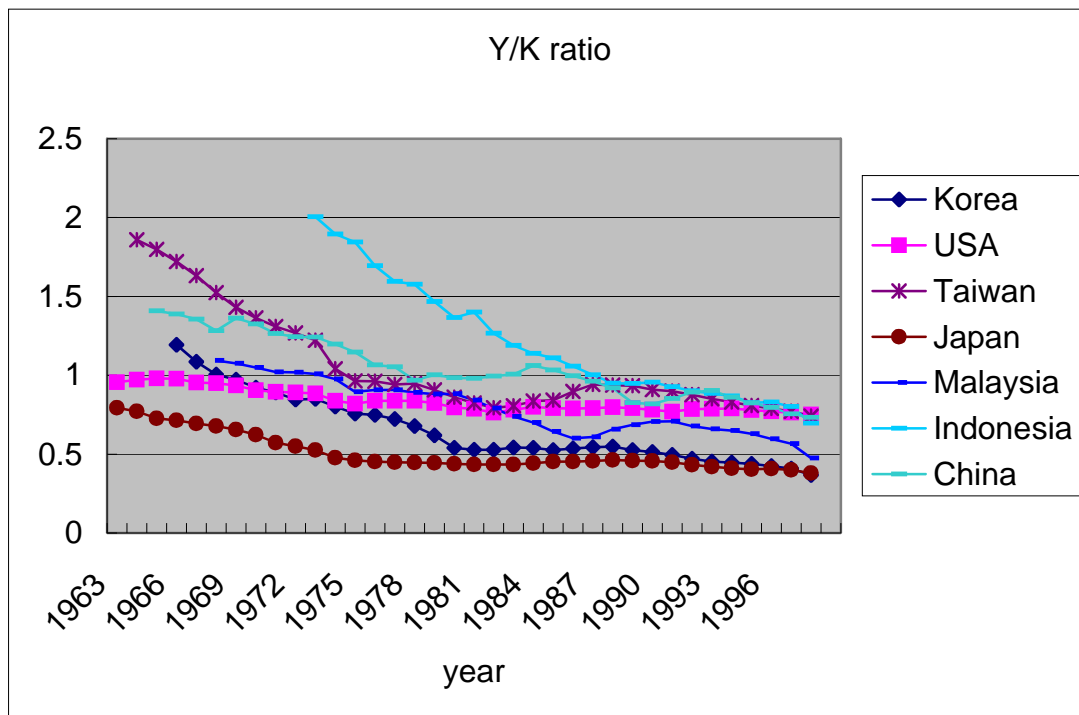
GRAPH APPENDIX

Graph 1. Capital productivity in Korean manufacturing sector



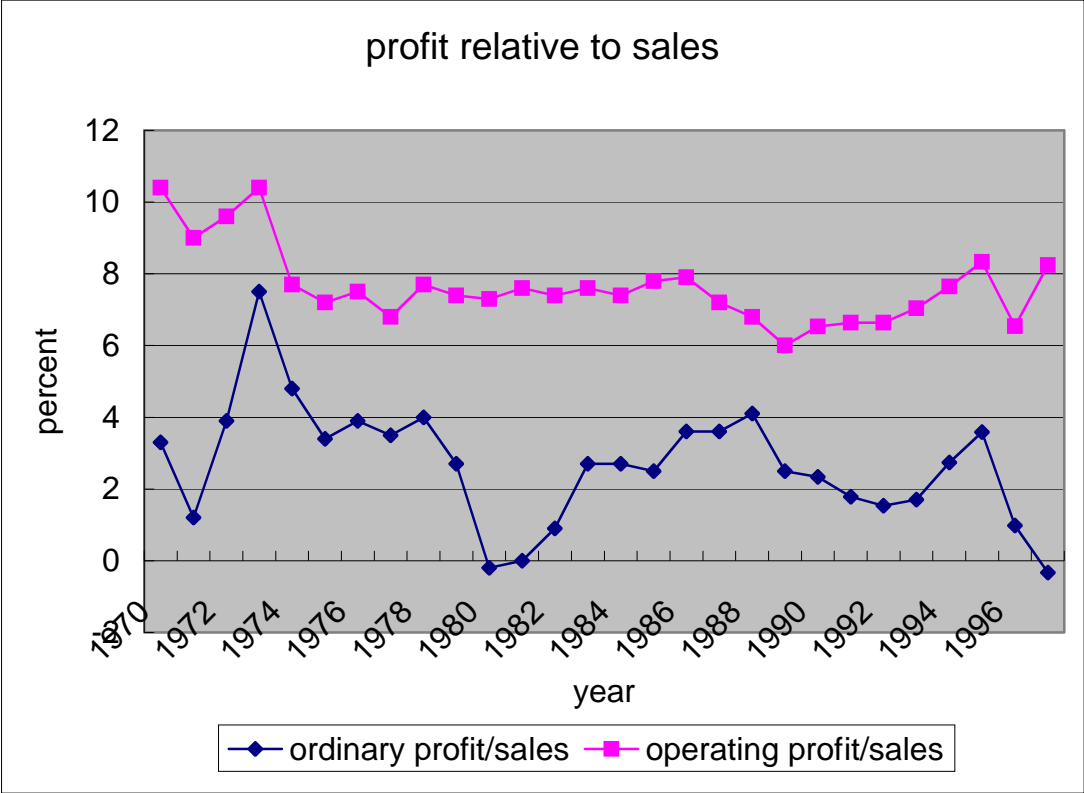
Source: KDI (Korea Development Institute), 2001 and national accounts

Graph 2. Y/K ratio in countries



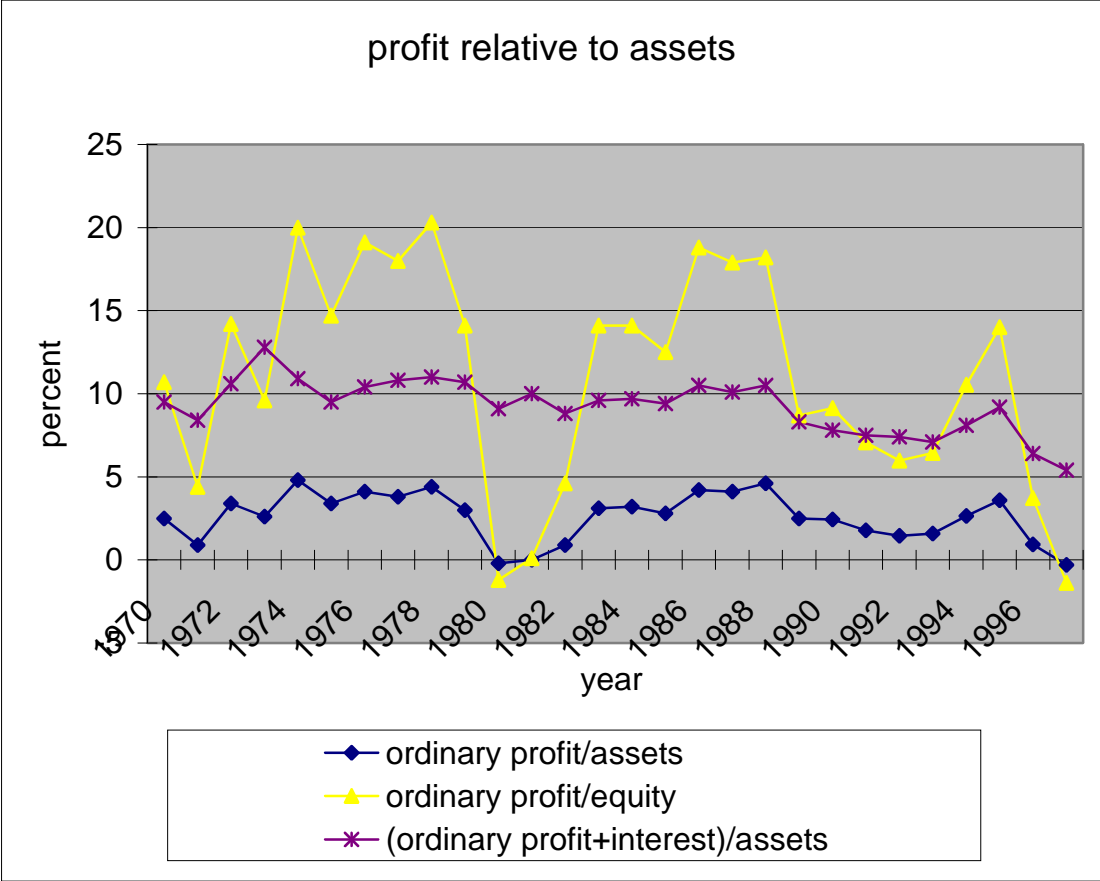
Source: Extended Pennworld table by Marquetti, A.
<http://homepage.newschool.edu/~foleyd/epwt/>

Graph 3. Profit to sales ratio in the manufacturing sector.



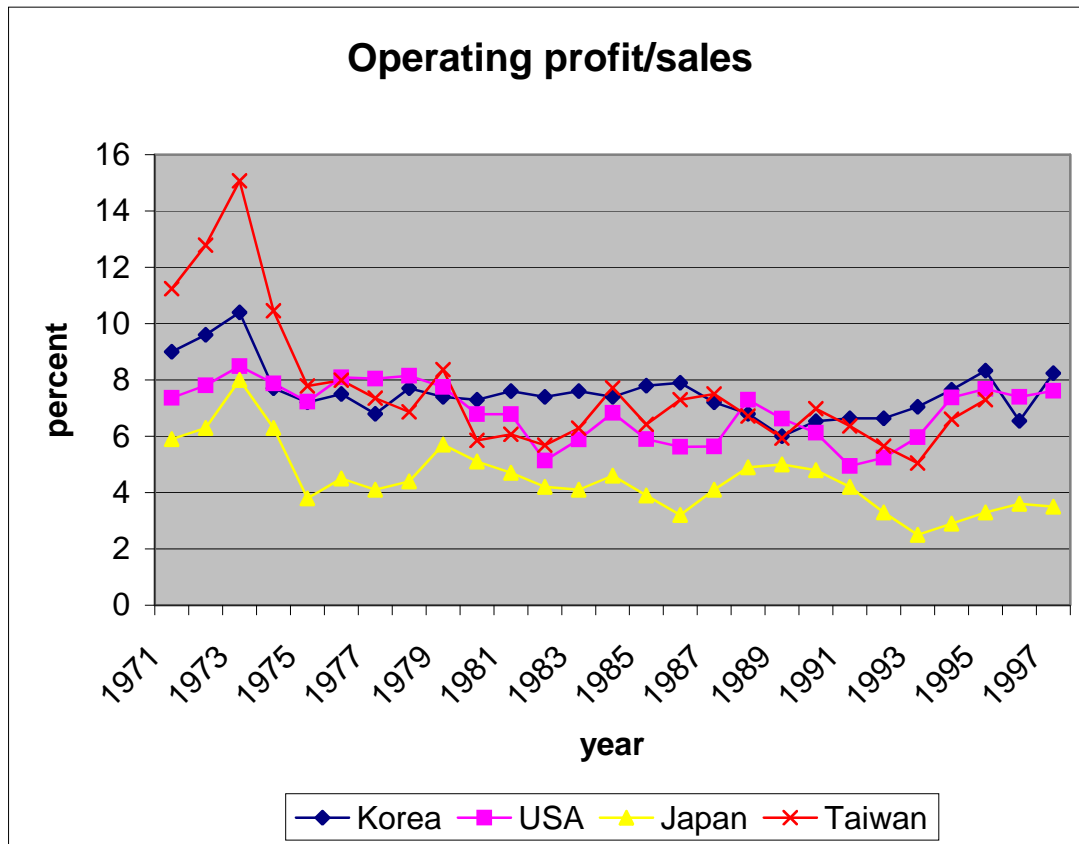
Source: BOK. Financial Statements Analysis, various years.

Graph 4. Profit relative to assets



Source: BOK, Financial Statements Analysis, and Krueger and Yoo (2001)

Graph. 5. Operating profit/sales in countries



Source:

USA: Federal Trade Commission, Quarterly Financial Report for Manufacturing, Mining and Trade Corporations, 4th Quarter, (71-80)

USA: U.S. Department of Commerce, Quarterly Financial Report (81-)

Japan: Ministry of Finance, Monthly Report of Finance (in Japanese)

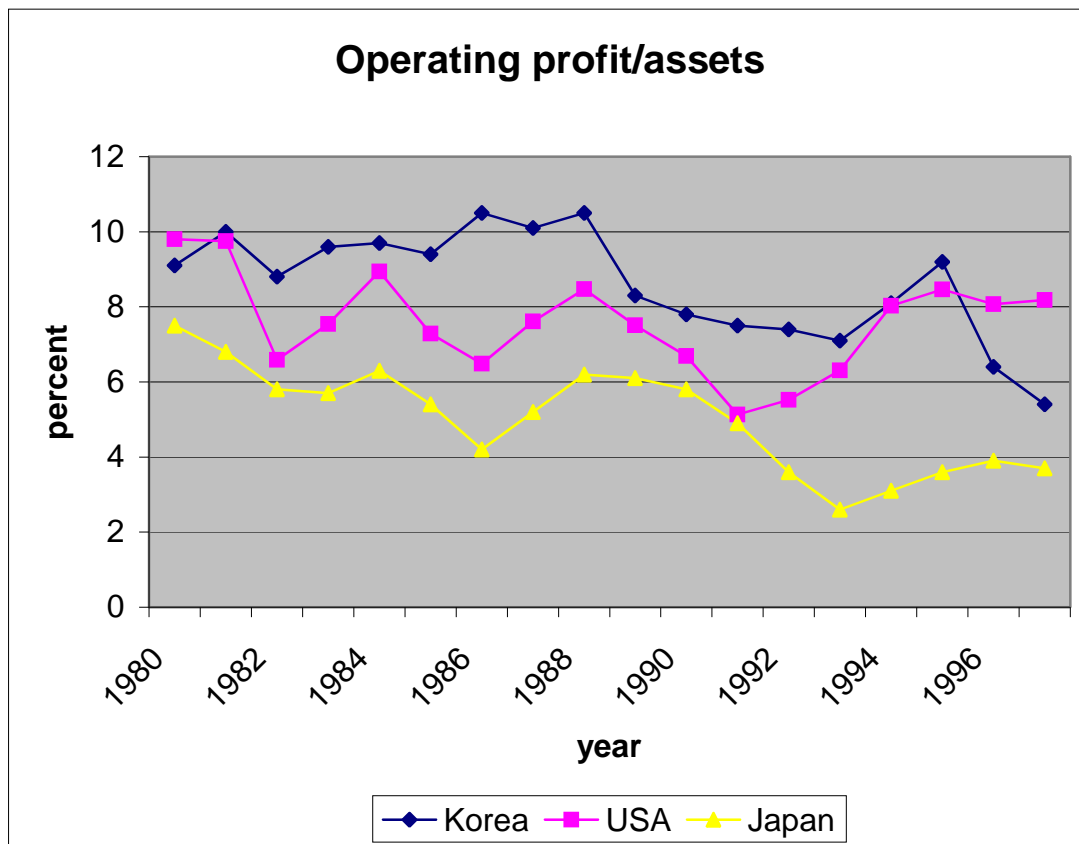
West Germany: Statistisches Bundesamt, Wirtschaft und Statistik (in Deutsche), 1981. 12

Taiwan: Bank of Taiwan, Taiwan Manufacturing Financial Statements Report (in Taiwanese)

Korea: Bank of Korea, Financial Statements Analysis (in Korean)

recited from, Bank of Korea, Financial Statement Analysis, various years

Graph 6. Operating profit/assets in countries



Source: Ibid.

Note:

1) Ordinary profit plus interest payment for Korea

ENDNOTES

¹ Only countries such as China, Taiwan and India, that maintained effective control of their capital accounts, remained relatively unscathed.

² See Crotty and Lee 2002 for a discussion of the politics of radical restructuring.

³ See Crotty and Lee 2001 for a detailed discussion of the radical restructuring done under IMF guidance and its negative impact on Korea's economy.

⁴ In an interview with one of the authors in March 1998, a leading spokesman for chaebol interests acknowledged that their investment response to the positive signals of 1993-95 was excessive and reflected a kind of triumphalist optimism in the wake of their successful efforts to free themselves of many government controls.

⁵ Empirical studies by Nehru and Dhareshwar (1994), Sarel (1997) and Nadiri and Son (1997) also support the thesis that TPG growth was adequate in the 1990s in Korea.

⁶ Using ordinary profit over sales, Korea fares worse than the US, Taiwan and Japan. However, Korea's performance relative to the US and Taiwan did not deteriorate in the mid 1990s. The fact that US profitability exceeds Korea's for the entire period from 1971 through 1997, making the US, not Korea, the 'miracle' economy, suggests that ordinary profits are a poor gauge of economic efficiency.