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Regime Change in Korea Justified?
A critique of the IMF's economic
and political role before and after
the crisis**

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**Was the IMF's Imposition of Economic Regime Change in Korea Justified?:
A Critique of the IMF's Economic and Political Role in Korean During and After
the Crisis**

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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, including time series and cross-section analyses of capital productivity and corporate profitability, and firm and industry level econometric tests of the proposition that investment spending was excessive and misallocated in the pre-crisis period. This 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 anti-democratic 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. It 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.'¹

The 1997 crisis and its aftermath 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, the story continues, as Korea's economy matured, decisions became too complex for government bureaucrats to handle efficiently; 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).² 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 Korean Development Institute 1999, Greenspan 1999, Brittain 1997, Hahm and Mishkin 2000, Borensztein and Lee 1999, and 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 Dymksi 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 disastrously 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, not only for Korea, but also 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 Korea's 35-year economic 'miracle' holds mostly negative lessons. Though there are as yet 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.) In other words, There Is No Alternative to neoliberalism.

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 neoliberalism becomes the cause of the demise of Korea's prosperity, not the vehicle for its rescue, and state-guided growth 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. Therefore, 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 any 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 at least implicitly 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, p. 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, p. 193). In other words, with appropriate assistance from the IMF and World Bank, the financial and general economic crises that took place in late 1997 and early 1998 would not have occurred. 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, p. 45). Though up to \$58 billion was pledged, 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. An IMF-created miracle was widely proclaimed. But GDP growth fell again in 2001 to 3.1% – the slowest growth since the early 1980s save for the collapse in 1998. 2002 saw another spurt forward to over 6% 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 more than doubled between 1997 and 2002*. It averaged 41% of GDP in the 1994-97 period, rose to 51% in 2000, then accelerated to reach 62% in 2001 and 74% in 2002.³ By way of comparison, household debt to GDP was 79% in the highly leveraged US in 2000. But while the ratio of household debt to the value of household assets is only 29% in the US, it is now 48% in Korea.

When the household lending bubble burst early in 2003, consumer spending stopped growing (it fell by 1.1% in the first nine months of 2003) and economic growth again sputtered. The BOK predicts growth in 2003 of just 3 %. Thus, average annual real GDP growth in the neoliberal era is less than 4%, whereas in the bad old days of 1987-97 it was 7.7%. Worse yet, radical neoliberal restructuring is rapidly destroying the economic and political preconditions necessary for a return to long-term prosperity. Investment as a percent of GDP fell from 38% in 1996 to 26% in 2002 – the second lowest rate since 1975, at which point it was 3.1% below the national saving rate, an indication of substantial aggregate demand deficiency. Moreover, 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.

The central question addressed in this essay is: *was the Korean economy structurally dysfunctional in late 1997*, and therefore in need of the radical neoliberal restructuring demanded by the IMF, World Bank 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?⁴

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. Reform, not revolution, was the medicine appropriate to Korea's economic problems in 1997, and decisions about how to respond to the crisis should have been made through a democratic political process, not dictated under threat of economic chaos by external neoliberal forces in collaboration with leaders of the large Korean conglomerates known as chaebol.

Second, we show that right up until the outbreak of crisis in late 1997, the conventional wisdom among Western economists was that the Korean economy was exceptionally efficient and the Korean version of the East Asian economy fundamentally sound. Post crisis condemnations of the cronyism and corruption of the mid 1990s Korean economy are suspect to some extent because they constitute such an obvious exercise in revisionist history

Finally, 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.⁵ 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 economy that was called for, not the forced imposition of neoliberalism.*

II. The 1997 Financial Crisis and the IMF Response

The decade ending in 1997 saw a deliberate weakening of the traditional Korean model. Three crucial structural changes took place. 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. It should be noted that 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, and Lee et. al. 2002).

It should have been obvious that the weakening of all three tools of state economic guidance would cause serious problems that could expose the economy to potential crises. The elimination of controls on the inflow of short-term capital took place at a time when it 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. This is what generally happens when a previously "repressed" financial system is forced open through liberalization. With key domestic financial markets freed from government control, these short-term foreign funds would be 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. By 1997, any significant outflow of foreign funds was likely to trigger a financial and currency crisis.

Contrary to popular belief, Korea's main financial problem was not that chaebol firms borrowed more heavily in the mid 1990s than they had previously. For all firms of the top-30 chaebol, the debt-equity ratio, which was near 5 in 1986-87, stayed well below 4 from 1993-96, before leaping to 5.2 as the crisis broke out in 1997. Firms of the top-5 chaebol groups have a similar time profile, but with lower absolute leverage values. The debt-equity ratio of top-5 chaebol manufacturing firms was 3.9 in 1986-87, but it dropped to 2.8 in the mid 1990s. It did not surpass its 1980s high until 1997. This holds true for all manufacturing firms as well (Krueger and Yoo 2001, Appendix Table 5)

In the wake of capital account liberalization, foreign debt rose dramatically in Korea. 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, p. 5). Korean borrowers were not concerned about their dependence on short-term foreign loans because foreign creditors led them to believe they would automatically roll the loans over as they came due. Foreign banks were confident that their loans were secure

because everyone expected the Korean miracle to continue indefinitely, and the IMF was always there to bail them out if unexpected trouble hit.

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 pulled many Asian countries down, the strong as well as the weak.⁶ 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). Though Korea was initially considered too strong to be affected by the crisis that hit the weaker South East Asian economies, investors in the heat of panic lost their ability to distinguish between strong and weak investments; they just wanted to get out of Asia. Net foreign loans, 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, p. 21).

The first IMF agreement was signed on December 4th. By this time, the won-dollar exchange rate had jumped from 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 corporate bond rate leapt from 14.1% in November 1997 to 24.3% in December. As late as mid 1998, when the Korea economy was in a state of total collapse, Treasury Secretary Rubin was still “spreading the gospel of high interest rates to troubled Asian nations that don’t want to hear it.” His main argument was that the most important goal was to restore foreign investor confidence through radical structural reform, but “easy money would hinder such changes” (*Wall Street Journal*, “Rubin Prescribes Tight Money for Asia,” June 30, 1998).

The IMF’s long-term objective was the complete deconstruction of the traditional Korean model. 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*. The IMF’s evaluation of its performance in the Asian crisis refers to IMF demands on Korea as “extreme structural conditionality” (IMF 2003a, p. 179)

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 used to force Korea to implement policies desired by 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, p. 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.⁷

The IMF acted in a manner more appropriate for an occupying military power than an international agency designed to assist countries in distress.⁸ The breadth and depth of IMF dictates to the Korean government were referred to in the press as “unprecedented.” To recapitulate, they included demands to: free capital markets from remaining government control (which were still substantial); breakup the chaebol conglomerates; destroy Korea’s powerful labor unions by implementing labor market ‘flexibility’; make the central bank independent of democratic processes; eliminate managed trade; and remove all remaining impediments to cross border capital flows and the takeover of Korean firms and banks by foreign enterprises. (See Republic of Korea: Request for a Standby Arrangement, December 3, 1997, www.chosun.com.) As Chang and Park put it: “the “reform” package, at least on paper, is far reaching and includes everything short of the forceful disbandment and ownership transfer that the large German industrial concerns and the Japanese *zaibatsus* were subject to immediately after the war” (1999, p. 3).

Having declared that Korea had reached a terminal state of inefficiency, neoliberals presumed that reform of the traditional Korean model was out of the question. Koreans had no choice but to accept a process of radical neoliberal reform. In a wide ranging speech in April 1998 titled “The Ascendence 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. The *New York Times* quotes Greenspan, Treasury Secretary Rubin and Under Secretary Summers as arguing “that the IMF had succeeded in using its bailouts [in Asia] to force nations to open their markets and transform their economies” (“Greenspan Sees Present Crisis Moving Asia Toward West’s Capitalism,” February 13, 1998). 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”.

In the immediate aftermath of the onset of crisis 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, p. 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)

Writing in *Finance and Development*, a journal of the IMF and World Bank, in 1998 John Lipsky noted that: “The catalytic role of external capital flows in triggering the crisis has been over-estimated – in essence, treating symptoms of deeper problems as if they were the problems themselves” (p. 10). It was “only the implementation of significant structural reforms” that ended the crisis (p. 12). In an 1999 *Finance and Development* article, 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. Revisionist History: Mainstream Economists Praised the Korean Model in the Mid 1990s

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*. It was the conventional wisdom.

For example, Stanley Fischer, later to become chief economist for the IMF, wrote in 1996 that “there really has been a miracle in East Asia”; and that the view that government action was central to this success is “widely shared” (1996, pp. 345 and 347). In the year preceding the crisis, he argued:

First, the growth process is not about to collapse; the notion that, because this is largely an extensive growth process, it has to end abruptly is just wrong. Second, success in this region breeds success: there *is* a virtuous circle... Countries have to be vigilant to ensure that they do not destroy the process by allowing overheating or otherwise allowing the macro economy to get out of hand. But none of the East Asian countries has pursued an excessively easy macroeconomic policy...so the risk of a prolonged slowdown caused by a need for major macroeconomic adjustments is small. (1996, pp. 349-50).

That same year, William McDonough, President of the New York Federal Reserve Bank, expressed admiration for the great economic achievements made in East Asia in the recent past, calling performance there a “growth miracle.” He continued, “Asia’s economic future looks brighter today than it has at any time in the post war period” (McDonough 1996, p. 3). No hint here of deep-seated corruption and inefficiency.

Until the early 1990s, the World Bank and IMF denied that industrial and financial allocation policies or area governments played any significant role in the creation of the East Asian “miracle.” Rather, they emphasized the “market friendly” nature of government policies and the “reluctant” character of state interference with markets. However, this position was in such obvious conflict with the facts that in 1993 the World Bank published The East Asian Miracle (World Bank 1993), a study that acknowledged the importance of state economic guidance in East Asia and admitted that many area governments implemented their responsibilities as developmental states effectively and efficiently.

The March 1994 issue of the IMF and World Bank’s *Finance and Development* was devoted to the “The Asian Miracle.” The lead article observed that “never before have “countries expanded so fast for so long,” and applauded the “exceptional long-term growth in output, productivity, saving, capital accumulation, and human capital as well as the decline in income

inequality in the area” (p. 2). Governments were praised because they “adopted the principle of shared economic growth as a major economic goal... and convinced economic elites to support pro-growth policies [and] share the benefits of growth with the middle class and the poor” (p. 5). State policy was considered to be responsible for creating the very high saving rates in the area, not just by maintaining high real interest rates but by “creating secure bank-based financial systems through strong prudential regulation, good supervision, and institutional reforms” -- qualities which, after the crisis, were said to be totally absent from the affected countries’ financial markets!

The article also acknowledged the contribution made by industrial policy to the achievement of investment efficiency, stressing the effectiveness of the government monitoring and regulation process, especially in Korea and Japan, where governments:

created “contests” that combined competition with the benefits of cooperation among firms... Such contests range from very simple nonmarket allocation rules, such as access to rationed credit for exporters, to very complex coordination of private investment in the government-business deliberation councils of Japan and Korea. The key feature of each contest is that the government distributes rewards -- access to credit or foreign exchange - - based on performance, which the government and competing firms monitor (p. 5).

The second article also lauded the efficiency of investment allocation in the area:

Investment as a percent of GDP has risen sharply in the past quarter of a century, and estimates of rates of return are similarly favorable. ... The quality of investments derives in part from superior growth performance that validates past investment decisions -- a kind of virtuous circle -- but also stems from above average implementation and the strength of institutions. ... Many of the gains in East Asia come from total factor productivity growth, which averages three to six times the developing country average. (p. 6)

The quality of government economic policy gets consistently high grades. The act of developing a “national consensus concerning the direction of economic policy, beginning with land redistribution in Korea and Taiwan and large-scale public housing investments in Hong Kong and Singapore” is noted, as well as the general efficiency of government economic bureaucracies.

Effective policymaking was aided by an effective bureaucracy. In most East Asian countries, because government service confers status, governments are able to select the most highly qualified individuals. Starting with a highly motivated and well-trained cadre of individuals, East Asian governments by and large were able to organize themselves efficiently, often using the concept of core economic ministries... A pioneer among organizations was the Economic Planning Board in Korea... p. (9)

The third article focuses on the centrality and effectiveness of industrial and financial policy in Japan and Korea. “Japan and Korea shared the way they managed and implemented

policies. The governments had clear, credible, and flexible versions of the objectives of both industrial policy and policy-based finance. ... The most distinguishing feature of the Japanese and Korean experience was the high degree and effectiveness of monitoring” (p. 11).

These three articles adequately represent the assessment of the East Asian model by the IMF and World Bank in 1994, just three years before the onset of the Asian crisis. *They express no concern about cronyism, rent seeking, limitless empire building by reckless conglomerates, inadequate bank regulation, or bureaucratic inefficiency* -- problems said only a few years later to be endemic. On the contrary, they not only acknowledge the powerful and effective economic role played by the state, but argue that what differentiated area countries from less successful developing nations was precisely the superb quality of their governments’ monitoring of, and control over, the firms they favored through industrial policy and the banks that were instruments of the state.

Thus, a few years prior to the crisis, even the most important ideological enemies of the East Asian model were forced to admit that *there was no important inherent or even contingent structural deficiency in the Korean version of the East Asian model.*

Moreover, the IMF the World Bank continued to praise East Asian economies right through late 1997. Furman and Stiglitz point out that “until the outbreak of the crisis, East Asian economies were widely praised for rapid growth with equity that resulted in large reductions in poverty and increases in longevity” (1998, p. 10). On December 11, 1997 Jeffrey Sachs observed that “Three months ago there was not a hint of alarm [by the IMF concerning the Korean economy], only a call for further financial sector reforms – incidentally without mentioning the *chaebol* (conglomerates), or the issue of foreign ownership of banks, or banking supervision that now figure so prominently in the IMF’s Korea programme.” He continued: “There is no ‘fundamental’ reason for Asia’s financial calamity except financial panic itself”. He also observed that in its 1997 annual report, the World Bank said that IMF “Directors welcomed Korea’s continued impressive macroeconomic performance [and] praised the authorities for their enviable fiscal record” (*Financial Times*, “IMF is a Power Unto Itself,” December 11 1997). The IMF mission in Korea in October 1997 “concluded that Korea would avoid being seriously affected by the crisis...” (IMF 2003a, p. 35). And foreign investors, both naive individuals and sophisticated institutional professionals, kept pouring money into to area right into 1997.

Paul Krugman was one of the few critics who claimed to have discovered a flaw of sorts in the Asian model before the crisis broke out. In a widely discussed paper (Krugman 1994) he argued that East Asian growth was caused by pouring an usually high percent of GDP into capital formation -- not through improvements in technology or total factor productivity. Thus, growth was merely ‘extensive,’ a movement along a pre-existing production function. Stanley Fisher rightly pointed out in response that even if Krugman was correct about this, the ability to invest as much as 30% and more of GDP annually while remaining on the production possibility frontier was an enormous achievement. Others made telling criticisms of the econometric exercise on which Krugman’s conclusions were based. (See Bosworth and Collins 1996, Rodrik 1997). More important, the logical conclusion that should be drawn from Krugman’s model is that Asia would experience a slow decline in its rapid rate of growth if it did not achieve faster

technological progress, not that it was so inefficient that a sharp crisis like the one that took place in 1997 was likely.

In sum, *prior to 1997, mainstream conventional wisdom was that that Korea's mid 1990s version of the East Asian economic model was extraordinarily effective.* Given this glowing assessment, how credible is the post-crisis conventional wisdom that the mid 1990s Korean economy was so structurally inefficient there was no sense in trying to reform it?

IV. Did the Korean Economy Collapse in the mid 1990s?: Non-Econometric Empirical Evidence

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. They did this because 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. The reader should be aware that, to the best of our knowledge, *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.* In 1997, Western analysts came to the conclusion that the Korean economy was dysfunctional without delineating appropriate criteria for making such a determination. 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?

We preface our empirical review by stressing an important fact. 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 on current and past data.

The key question should be: *was it obvious ex ante that the investment decisions of Korea's big conglomerates were irrational or grossly irresponsible?* We present two arguments that suggest the positive investment response of the period was not obviously irrational.

First, by the early 1990s, 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 physical and organizational capital. Asset sales in periods of industry stress often bring as little as 10 to 30 percent of their original cost.

This issue is discussed in detail in Crotty (1993, 2000, 2002, 2003) and in Brenner 2002. The rapid spread of neoliberalism around the globe caused a slowdown in the pace of global demand growth that induced sluggish sales growth in key global manufacturing industries -- such as autos, airplanes, computers, chemicals, semiconductors, electric appliances, steel, ship building, and machine tools. 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 and the period from 1989 through 1993 was particularly sluggish. Yet supply in such industries kept growing. The high industry excess capacity that resulted put intense competitive pressure on all firms. This problem was quite severe for export-dependent East Asian economies. (See Kaplinsky 1998, Ernst 1998, and Erturk 2002 for details of this problem in Asia.)

Large Northern multinational corporations (MNCs) traditionally dominated these industries, which were quite profitable when organized as corespective oligopolies in the rapid growth environment of the post-war Golden Age. Most chose not to exit even as competitive pressures mounted, because they had enormous investments in physical, human and organizational capital that were firm- and industry-specific. But firms from upwardly mobile countries *have to* enter such industries in order for both firms and countries to move up the technology ladder and thereby accelerate economic development. To decide to stay out of all key global manufacturing markets is thus to choose to remain under-developed. The result: exit is too small, and entry too large to eliminate industry excess capacity.

If it were known in advance which firms would ultimately lose the struggle for survival, the losers would quickly exit to cut their losses. And those who are demonstrably weaker than their opponents often do leave. But given the importance of many of these markets, the huge irreversible costs required to enter and thrive in them, and the equally huge assured loss upon exit, most competitors try to ‘stay in the game’ even as competition mounts, hoping to survive the current struggle and reap the secure, above-average profits expected to emerge when the eventual winners re-oligopolize the industry. This is not an irrational choice.

But it takes sustained investment to remain competitive in these industries. This phenomenon is called “*coerced investment*” in Crotty 1993. Price-profit pressures *force* firms that have decided to ‘stay in the game’ to build plants where labor and other costs are cheapest and market growth strongest. They invest to shed and more tightly control labor, to gain economies of scale and scope, to develop new products and new models of old products, and to acquire best-practice technology for both cost reduction and quality reasons. Finally, they invest to get inside the borders of expected high growth developing markets such as China.

Many of Korea's chaebol were eventually able to penetrate important global industries and move up the technology ladder in the decades after 1961, helping Korea prosper. They can hardly be criticized as "irrational" because they tried to both build upon and protect their accumulated human and physical capital through continued investment, even at times when current market signals were not attractive. Giant Northern MNCs were doing precisely the same thing at the same time. In the mid 1990s chaebol leaders did form grandiose plans to become dominant players in the global economy, plans that had enthusiastic government support. But it is important to keep in mind that these plans were not formulated in a vacuum and that over-investment was not a peculiarly Korean phenomenon – consider the massive over-investment in information and communication industries in the US in the late 1990s. *The tendency toward seemingly excessive investment in key global industries is built into the structures of global capitalism in the slow growth neoliberal era.*⁹

In addition, until the late 1980s, the government had limited the extent to which rival chaebol firms could enter and compete in each other's domestic markets and maintained constraints on inward foreign direct investment as well as on imports. The release of these constraints and protections added to the intensity of competition in many Korean industries (See Chang, Park and Yoo 1998).

Second, 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. Moreover, capacity utilization in manufacturing in 1994 and 1995 was higher than in any year in the 1980s. In addition, since the outbreak of labor militancy in the late 1980s led to a rising labor share of income, an increase in labor-saving investment was understandable. As a result of this investment, labor productivity growth was very high and labor costs were under control in manufacturing in the 1990s. This can be seen in **Graph 1**.

The most severe criticism of investment irrationality was leveled at those chaebol firms engaged in competition in the key manufacturing industries mentioned above. The OECD's 1998 report on Korea specifically condemns investment in semiconductors, steel, consumer durables, autos and petrochemicals – mainstays of Korea post-1998 export growth (1998, pp. 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 MNCs 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 boom of the mid 1990s came to an end in Korea in large part because it was hit with a severe negative export 'shock' in 1996 that set the stage for the crisis in late 1997. 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 the export shock in 1996 -- *a shock no one had predicted*. The rate of growth of manufacturing sales revenue in 1996 fell by half from its rapid 1995 pace (OECD 1998, p. 176). The export shock cut profits dramatically in 1996. 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 Great Recession 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. This is part of a general tendency in investment spending: "the rate of capital formation displays considerable inertia" (Kopke and Brauman 2001, p. 4). "Many investments...have long lead times and come to market even when they are no longer needed" (Wall Street Journal, "Long a Drag on the Economy, Capacity Glut Begins to Ebb," September 8, 2003, p. 1). But with the collapse of profitability, firms had to borrow virtually all the funds they needed to finance investment, raising financial fragility. Foreign banks would only lend short-term to lower their risk and the Korean government had deregulated only short, not long-term foreign borrowing. Since short-term rates on foreign loans were quite low, Korean firms found them attractive. The stage was thus set in 1996 for the catastrophe of late 1997.

When we combine the 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*.

However, we do not mean to suggest that investment decisions in this period were above 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-reacted to the increased intensity of global competition signaled by the extended web of recent WTO agreements.¹⁰ And there is no doubt that by the mid 1990s the large chaebol groups had become excessively diversified, though there is disagreement as to the importance of this problem. *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

One important aspect of the ex post neoliberal attack on the traditional Korean model was the argument 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 successful East Asian development models will create a significant decline in the OCR in their early decades. The general result of successful development in this model is a rise in capital per worker (K/L) that is much more rapid than in countries that develop slowly. 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 capital–output ratio data is provided by the Korean Development Institute (KDI). **Graph 2** shows the Y/K series for manufacturing from 1970 through 1997. From 1988 through 1997 there is a substantial decline in \hat{Y}/K , from .60 to .42. This was undoubtedly the result of a rapid increase in the rate of investment that boosted K/L substantially. For the economy as a whole, gross domestic investment as a percent of GDP, which was about 30% from 1981-87, rose to 36% for the period from 1988 through 1997. However, *almost all the decline in the OCR took place before the 1993-96 investment boom.* (The additional deterioration in 1997 and 1998 were 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. **Graph 3** presents a quadratic approximation to the Y/K series that represents its long-term trend. It suggests that the mid-1990s were compatible with the general trend of Y/K across three decades.

As noted above, the decline in the OCR over this period was the result of three factors that increased the already high rate of capital accumulation. First, the sharp rise in labor militancy that accompanied the uprising against the military dictatorship in 1987-88 caused the wage share of value added in manufacturing to rise from 47% in 1987 to 54% in 1991-92. With the exception of 1995, it remained over 50% until 1997 (BOK, Financial Statement Analysis for Manufacturing Firms, various years).¹¹ This made labor-saving investment attractive to chaebol leaders. Second, profitable market signals in the mid 1990s stimulated a burst of investment. Third, the end of government investment regulation unleashed a burst of pent-up chaebol investment demand.

Graph 4 presents time series data on economy-wide OCRs for a number of countries. The data show that all fast-developing Asian countries show a large decline in Y/K in their decades of rapid development. 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 stages of development.

Given that Korea had a high rate of capital accumulation over decades that did cause a substantial decline over time in its Y/K ratio, did it also gain the rapid increase in labor

productivity that was one of its central goals? 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. So the answer is obviously yes. But we are most interested in the 1990s performance. 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, suggesting that Korean manufacturing firms avoided a wage squeeze on profits in the mid 1990s through labor-saving investment. Both these conclusions are consistent with Korean National Statistical Office (NSO) data for manufacturing and all-industries, as can be seen in **Graphs 1 and 5**.

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 only because it rapidly raised the rate of national saving and investment. It was not able to generate much 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%. In the heart of the mid 90s boom, 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).¹²

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 -- the key determinant of long-term development -- or in the likelihood of a wave of bankruptcies or a systemic financial crisis. These are distinct questions that unfortunately were mixed together in most analyses of the causes of the Korean 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 -- its effectiveness in converting scarce resources into products valued by buyers -- 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 efficiency. To take an obvious example, if the Central Bank intervenes to raise interest rates, ordinary profits drop for all firms even though their basic economic efficiency is unchanged. Or consider two otherwise identical firms, one of which is heavily leveraged and the other is debt free. The debt free firm will have a much higher ordinary profit rate. There are many reasons why the interest rate is not an accurate measure of the opportunity cost to the economy of the use of resources by the firm. For example, in the ‘miracle’ years from 1970-96, there were only two years in which the return on assets for Korean manufacturers (measured by ordinary profit plus interest as a percent of total assets) exceeded the average loan rate

This is not to say that an ordinary profitability measure is not essential to an analysis of the causes of the 1997 crisis. On the contrary, it is the best index of potential bankruptcy at the micro level and potential financial crisis at the macro level. Our general position is that Korea suffered a crisis in 1997 not because firms were economically inefficient (as measured by operating profit), but because too many firms relied on short-term foreign credit to finance investment, credit that was quite likely to evaporate at the first sign of serious financial trouble.

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 broken down.

Since there are serious measurement problems in the construction of the capital stock estimates needed to calculate profit rates, the first profitability indicator we examine is profit as a percent of sales. **Graph 6** 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 economic 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 7 shows three different estimates of the profit rate on total assets (defined as the

sum of real and financial assets). There are two serious problems with this index: estimates of the capital stock are notoriously 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. Large chaebol firms were more profitable than average. We know that 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. (We also present a series of ordinary profit over equity, but the main thing this series reflects is the volatility of the equity variable.)

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 and exogenous 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.

There are some post-crisis studies that argue that Korean firms had lower profitability and higher indebtedness 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. However, there are several questionable measurement procedures in the work, especially concerning the adjustment of ROAs for inflation. 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 8 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, p. 11).

Graph 9 shows ordinary profit as a percent of sales. By this criterion, firms in Taiwan and the US, which have much lower leverage and interest rates than Korean firms, do best. Ironically, using this index of profitability, it is the US, not Korea, that looks like a 'miracle' economy, even though the period after the early 1970s was, on average, one of dismal economic performance in the US. But even with this less-preferred measure of real-sector efficiency, there is no evidence that Korea's relative performance versus the US and Taiwan from 1990 through 1995 was worse than it had been in previous decades.

Graph 10 shows operating profit over assets for Korea, the US and Japan. (Korea's operating profits are again proxied by ordinary profit plus interest payments.) *The Korean profit rate exceeds that of both countries in every year from 1982 through 1995.* **Graph 11** shows ordinary profit as a percent of the value of assets for the same three countries plus Japan. As the country with the highest leverage and highest interest rates, Korea does poorly in the comparison. However, in the late 1980s through 1995 the gap between Korea and the others is relatively low.

The cross-country profitability comparisons shown here are important to the general debate about the condition of the Korean economy in the 1990s. After the onset of the crisis in 1997, most Western economists concluded that the collapse was caused by the breakdown of Korea's resource allocation process. Yet Korea's overall performance in the 1980s and 1990s was not compared with that of more neoliberal economies such as Brazil or Argentina or Mexico or Chile, but rather with the perfect allocation process of neoliberal systems as depicted in neoclassical theory. There is no actually existing, relatively open, free-market developing country that can come close to matching Korea's long-term dynamic efficiency. The Korean people were thus dragged onto a dangerous economic development path after 1997 by the US, the IMF, and representatives of chaebol interests, not because of solid evidence that actually existing neoliberal countries performed better than Korea – none did! Rather, the radical neoliberal restructuring of the economy, forced on Korea's people by non-democratic means, was often justified by the thesis that a fairy tale economy that exists only in neoclassical theory was superior to the Korean model.

V. Econometric Evidence

In this section, we present econometric evidence relevant to the debate about real-sector allocative efficiency in Korea prior to the crisis. Some caveats are in order before we begin.

First, for key firms in the large chaebol groups that were, along with Korean workers, the direct producers of the Korean ‘miracle,’ the main challenge over time was to *create* competence in industries that did not yet exist in Korea. Rather than passively respond to indicators of static comparative advantage, they tried to create dynamic comparative advantage (see Amsden 1989). To do this, firms had to make major investments over long time periods during which sales and profits in the new industry were meager -- at best. When successful, the profits came along well after the investments were made. Investment econometrics thus cannot adequately test the efficiency of this crucial aspect of Korean development.

Second, as noted, in some periods Korean firms were forced to engage in defensive or ‘coerced’ investment to avoid being forced out of crucial export industries that were experiencing spells of excess capacity, price wars and low profits. Such investment will be deemed ‘irrational’ in neoclassical interpretations of investment econometrics because it tends to be high just when profitability signals are poor.

Third, Korea was one of the East Asian models in which banks were the dominant mediator between savers and investors. Thus, rapidly rising investment was funded primarily by debt and the most successful Korean firms had very high leverage. High indebtedness thus did not demonstrate poor planning or inefficient resource allocation. And it did not cause banks to ration credit to firms. Therefore, we should not expect indices of leverage such as debt-equity ratios to play the same role in investment econometrics using Korean data as they do with, for example, US data. (Moreover, the fact that Korean firms were highly levered suggests an important lesson for the appropriate ‘sequencing’ of financial liberalization. Even those who believed that financial liberalization was the right long-term policy for Korea should have understood that liberalization could not be implemented effectively until *after* firm leverage had been dramatically reduced. To liberalize before reducing leverage was to invite financial crisis.)

For these reasons, tests of allocative efficiency based on investment econometrics cannot be definitive. They are simply one more source of information we can add to the data on capital productivity and profitability already examined.

The Korean investment econometric literature

There are many recent econometric studies of micro economic performance in Korea. (See Borensztein and Lee 1999, Joh 1999 and 2000, Lee, Ryu and Yoon 2000, Hahn 2000, Shin and Park 1999, Chang and Choi 1988, Chang and Hong 2000, Chang 2003, and Lee et. al. 2000), but only a few of them are based on investment performance. Most focus on alleged weaknesses of the chaebol conglomerates rather than on a general collapse in the efficiency of resource allocation in Korea in the mid 1990s. They argue that chaebol firms invested more than they should have in the period preceding the crisis, and were more indebted and less profitable than non-chaebol firms. The advantages associated with chaebol membership – access to group finance and technical and managerial expertise as well as economies of scale and scope – were found to be smaller in the 1990s than in previous decades.

These recent studies conflict with some pre-crisis analyses of the Korean. For example, the 1996 OECD economic survey of Korea made the following observation about the efficiency of chaebol groups:

The concentration of economic power [in chaebol groups] is criticized as leading to an inefficient allocation of resources by these groups, which are thought to be too broadly diversified. However, this concern is not supported empirically; the productivity of subsidiaries of the *chaebol* is higher on average than that of independent firms. ...The diversification of the chaebol would not appear to be irrational. (1996, p. 116)

We do not dispute the assertion that the high indebtedness of many of the smaller chaebol left them in a precarious financial position after the collapse in export growth in 1996 and the drying up of foreign bank loans in late 1997, or that chaebol firms invested more than non-chaebol firms. But it is important to understand that this literature pictures a gradual decline in chaebol efficiency. It thus cannot be used to support the thesis that the resource allocation process suddenly broke down in the mid 1990s. The theories used in the literature also fail to provide any insight into the reasons for the thirty-five year long Korean 'miracle.'

There is some confusion concerning the proper interpretation of investment econometric results for Korea. One common specification shows investment/K as a function of sales/K and cash-flow/K and its lagged value (where K is the value of the stock of capital). Here Sales/K is the independent variable thought to reflect the 'efficiency' or productivity of investment – a measure of the value of the marginal product of capital. Cash-flow/K is normally used to measure the likelihood that the firm is finance constrained in the short run. (See Fazzari et al. 1988; Laeven 2000; Love 2001, and Hoshi, Kashyap and Scharfstein 1991). The debt-to-capital ratio is added as an index of the long-term financial problems. Some regressions add profit/K as an independent variable. It is, of course, highly correlated with cash-flow/K, but profit/K is not just an index of possible finance constraints. It is also an index of the average efficiency of investment allocation over time.

Now, suppose that investment function regressions indicate that the coefficient on profit/K declines and/or becomes less significant over time. Does this mean that firms are less finance constrained, or that investment is less responsive to market efficiency signals, or both? The first interpretation may be seen as a positive development, while the second suggests a serious breakdown in economic efficiency. This problem will be addressed further in the discussion of our results.

It is also unclear whether operating profits (most closely related to efficiency) or ordinary profits (a better indicator of the likelihood of binding finance constraints) or cash-flow should be used in the regressions. We use operating profit or its approximation as ordinary profit plus interest payments here, but the use of ordinary profit or a traditional cash-flow index (such as ordinary profit plus depreciation) yields qualitatively similar results.

Industry-level investment equations in the manufacturing sector

The industry-level data used in this section are taken from a data set for the manufacturing sector published by the BOK. We use a model similar to the one used in the industry investment econometrics in Borenzstein and Lee 1999. We ask two related questions. Was investment decision-making in the pre-crisis period ‘irrational’ – not strongly influenced by the ‘fundamentals’ defined in this literature? And, was it significantly less responsive to economic fundamentals (as proxied by variables used in the literature) than it had been in the ‘miracle’ decades of the 1970s and 1980s. We rely primarily on ordinary least squares (OLS) and OLS with dummy variables, but we also use two fixed-effects panel-data models to check for consistent inter-industry or inter-firm differences.

We begin in Table 1 with results for all manufacturing industries from 1972-90. (Industry regressions use the annual rate of growth of sales rather than S/K because there is no available data series for the industry-level capital stock.) All four regressions indicate that investment responded significantly to the profit rate, and three of the four regressions show a significant response to sales growth. There is no evidence of investment inefficiency in this period.

As interpreted in the literature, the significance of the profit rate implies that most industries were finance constrained. However, we know this was not the case for the large-chaebol firms that did most of the investing. The lack of significance of the debt ratio may result from the fact that the largest and fastest growing firms relied on debt to fund most of their investment. Thus, the negative relation normally assumed between debt and the willingness of market-oriented banks to lend (or the desire of highly indebted firms to avoid the risk associated with investment) is likely to be balanced by the positive relation between debt and investment emanating from the firm’s budget constraint. In Korea’s East Asian model, rising investment was accompanied by rising debt.

Model 1:

$$(\text{Fixed asset growth})_t = a + b^* (\text{profit rate})_{t-1} + c^* (\text{sales growth})_t + d^* (\text{debt ratio})_{t-1} + e$$

Profit rate (ordinary profit plus interest payments)

Debt ratio: debt / capital

Table 2 contains results for these same regressions in the immediate pre-crisis years of 1993-97 that are at the center of the dispute about the ultimate cause of Korea’s crisis. *Investment decision making in this period appears to have been even more tightly tied to economic ‘fundamentals’ than in previous decades.* R-squares are higher and the coefficients of profits and sales are not only reasonably consistent across regression models, they are more statistically significant than in Table 1. The two fixed-effects regressions fail the F-test, but this presumably indicates only that there were no significant and consistent inter-industry differences in investment behavior.

Table 1. Industry-Level Manufacturing Investment Regressions (1972-1990)

Dependent variable: fixed asset growth rate

	Simple OLS	OLS With year dummies	Panel: One- way Fixed effects	Panel: Two- way Fixed effects
Intercept	1.57 (0.74)	8.61 (1.43)	1.20 (0.23)	9.00 (1.39)
Profit rate	1.60*** (4.02)	1.02** (2.48)	2.30*** (5.47)	1.73*** (3.90)
Sales growth	0.21*** (4.20)	0.13* (1.93)	0.19*** (3.89)	0.10 (1.54)
Debt ratio	-0.03 (-0.26)	-0.04 (-0.35)	-0.06 (-0.46)	-0.02 (-0.17)
Adjusted-R square	0.192	0.300	0.311	0.479
# of observations	152	152	152	152

Note:

- 1) For all Tables: t-value in (): * implies significance at the 90% level, ** at 95% and *** at 99%.
- 2) The industry classification changes slightly after 1991.
- 3) For all Tables: Year dummies not reported.
- 4) Both panel tests pass the F- test at the 95% level.

While an exercise such as this is hardly definitive, it does suggest that manufacturing firms in the 1993-97 period were acting sensibly in their investment decisions according to standard criteria, and that there was no deterioration in the rationality of their investment decisions relative to preceding decades.

Table 3 covers the entire decade of the 1990s, including the sluggish early years, the fast growth middle years, the onset of crisis, the collapse of 1998 in the wake of the IMF takeover and the rebound of 1999-2000. The combination of such disparate sub-periods would be expected to yield incoherent regression results, but even here we find that investment continues to respond appropriately to independent variables. It seems likely that the efficiency of the real-sector allocation process must have deteriorated to some extent in the chaotic final years of the period, but even in this turmoil, the investment process as represented in this model appears to be operating effectively – an indication of the underlying strength of the resource allocation system.

Table 2. Industry-Level Manufacturing Investment Regressions (1993-1997)

Dependent variable: fixed asset growth rate

	Simple OLS	OLS with year dummies	Panel: One-way Fixed effects	Panel: Two-way Fixed effects
Intercept	-4.77 (-1.23)	-7.50** (-2.01)	-6.44 (-1.11)	-9.04 (-1.59)
Profit rate	1.62*** (3.98)	1.72*** (4.29)	1.48*** (2.90)	1.67*** (3.05)
Sales growth	0.49*** (5.52)	0.64*** (6.39)	0.30*** (2.74)	0.43*** (3.06)
Debt ratio	0.00 (0.30)	0.00 (0.51)	0.01 (1.40)	0.01 (1.34)
Adjusted-R square	0.319	0.403	0.462	0.532
# of observations	105	105	105	105

Note: Panel regressions did not pass the F-test.

Table 3. Industry-Level Manufacturing Investment Regressions (1991-2000)

Dependent variable: fixed asset growth rate

	Simple OLS	OLS with year dummies	Panel: One-way Fixed effects	Panel: Two-way Fixed effects
Intercept	1.32 (0.47)	-5.52* (-1.82)	-3.91 (-0.81)	-7.49 (-1.65)
Profit rate	1.03*** (4.80)	0.95*** (3.67)	1.22*** (4.03)	1.07*** (3.60)
Sales growth	0.23*** (3.87)	0.33*** (5.10)	0.15** (2.17)	0.25*** (3.05)
Debt ratio	0.01 (1.45)	0.00 (0.50)	0.01 (2.11)	0.00 (0.90)
Adjusted-R square	0.121	0.308	0.192	0.395
# of observations	210	210	210	210

Note: Panel with one-way fixed effects did not pass the F-test.

Firm-level investment in the mid 1990s

Since we only have access to firm-level data for the 1990s, we cannot do cross decade comparisons. Table 4 analyses the investment behavior of all firms listed on the Korean stock market from 1993-97. (The data source is National Information and Credit Evaluation, Inc.)¹³ This is the period in which, according to neoliberals, Korean firms became disastrously inefficient. Yet the coefficients of both the profit rate and sales are of the correct sign and are statistically significant at the one percent level in all four regressions. *There is no evidence of irrational investment decision-making processes here.*

Model 2:

$$(I / K)_t = a + b * (Profit/K)_{t-1} + c * (Sales/K)_t + d * (Debt/K)_{t-1} + e$$

- I: gross increase of capital stock
- K: the capital stock in the end of the former period
- Profit: operating profit in the former period
- Sales: sales in the current period
- Debt: debt in the former period

Table 4. Firm-level investment regressions for all listed firms (1993-1997).

Dependent variable: $(I / K)_t$

	Simple OLS	OLS with year and industry dummies	Panel: One-way Fixed effects	Panel: Two-way Fixed effects
Intercept	0.23*** (22.83)	0.32*** (10.40)	-0.14 (-0.84)	-0.18 (-0.12)
Profit rate	0.18*** (7.12)	0.21*** (7.69)	0.19*** (3.89)	0.18*** (3.59)
Sales/K	0.01*** (4.56)	0.01*** (3.31)	0.08*** (9.58)	0.08*** (9.82)
Debt ratio	0.02*** (-3.55)	-0.01 (-1.34)	0.04*** (3.09)	0.04*** (3.21)
Adjusted-R square	0.038	0.073	0.415	0.411
# of observations	3415	3415	3415	3415

Note: Both panel tests pass F-test.

The regressions represented in Table 5 address the issue dealt with by most econometric studies of investment performance in Korea – the difference in investment efficiency between chaebol and non-chaebol firms. Our results show a somewhat different investment response pattern for firms associated with the top-30 chaebol groups. Profitability loses significance for these firms, while sales become even more important than in Table 5. The standard interpretation of these results should be that investment by chaebol firms was more responsive to efficiency signals and less finance constrained than non-chaebol firms – *an interpretation quite flattering to chaebol firms*. But if we consider profitability to be, at least in part, an efficiency index, we might conclude that chaebol firms pursued market growth (as represented by S/K) with less regard for short-term efficiency than non-chaebol firms.

The truth may contain elements of both interpretations. We know that the operating profitability of the top-30 chaebol was rising rapidly from 1992 through 1995 and that of the dominant top-5 chaebol was rising spectacularly in 1994 and 1995 (Krueger and Yoo 2001, Table 6). Chaebol firms were likely to have extrapolated this trend to generate optimistic longer-term market growth expectations. If so, they probably responded by trying to maintain enough capacity through investment spending to sustain or raise their market share in the oligopolistic industries their key firms operate in. The unexpected export shock and profit rate fall of 1996 thus hit chaebol firms hard, leaving them with large unfinished investment projects that would be too expensive to pull the plug on. As noted in section IV, the “necessitous” investment needed to complete the projects probably caused total investment to fail to fall in 1997 as rapidly as the profit rate, leading to a weak relation between the two variables. Moreover, since the export orientation of chaebol firms is larger on average than that of non-chaebol firms, it was primarily the bigger chaebol firms that responded to the huge upsurge in export sales in the mid 1990s by accelerating investment at a pace even faster than the rise in the profit rate.

Table 6 shows the results of regressions for all non-chaebol firms. The coefficients on sales are quite significant (though not as large as in Table 5), but in contrast to chaebol firms, profitability is significant at the one percent level in three of the regressions. This difference again creates a problem of interpretation. Given Korea’s pre-crisis financial system, it may be that non-chaebol firms were finance constrained in a period with strong incentives to invest while chaebol firms were not. Or it might mean that they were more responsive to short-term efficiency signals.

Table 5. Firm-level investment for firms in the top 30 chaebol (1993-1997)Dependent variable: $(I / K)_t$

	Simple OLS	OLS with year and Industry dummies	Panel: One-way Fixed effects	Panel: Two-way Fixed effects
Intercept	0.27*** (11.60)	0.43*** (6.90)	-0.09 (-0.65)	-0.06 (-0.47)
Profit rate	0.16* (1.84)	0.16 (1.55)	-0.01 (-0.70)	-0.06 (-0.49)
Sales/K	0.06*** (4.37)	0.09*** (4.84)	0.13*** (3.39)	0.13*** (3.58)
Debt ratio	0.06*** (-3.81)	-0.07 (-3.17)	0.07 (1.64)	0.06 (1.36)
Adjusted-R square	0.088	0.208	0.449	0.475
# of observations	406	406	406	406

Note: Both panel regressions pass the F-test.

Table 6. Firm-level investment for non-chaebol firms (1993-1997)Dependent variable: $(I / K)_t$

	Simple OLS	OLS With year and industry dummies	Panel: One-way Fixed effects	Panel: Two-way Fixed effects
Intercept	0.22*** (19.91)	0.27*** (7.55)	-0.12 (-0.74)	-0.19 (-1.13)
Profit rate	0.18* (6.90)	0.22*** (7.69)	0.22*** (4.21)	0.20*** (3.83)
Sales/K	0.01*** (4.38)	0.01*** (2.74)	0.07*** (8.94)	0.08*** (9.25)
Debt ratio	0.02*** (-3.36)	-0.01 (-1.02)	0.03 (2.41)	0.04*** (2.73)
Adjusted-R square	0.039	0.068	0.406	0.411
# of observations	3009	3009	3009	3009

Note: Both panel regressions pass the F-test.

The econometric evidence presented here supports the following conclusions. 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. The all-firm regressions confirm the mid 1990s efficiency conclusion of the industry regressions. There is some evidence 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 that they 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.¹⁴ We do not rule out the possibility that the chaebol over-reacted to some degree to the positive investment incentives, but we see no evidence that the overall real-sector resource allocation process was dysfunctional.

VI. 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. The Korean political system had achieved only partial democracy after the late 1980s. 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. In December 1997 Jeffrey Sachs claimed that with appropriate IMF support “Korea could probably have got by with a modest slowdown in growth, no credit crunch, and a realistic time horizon to complete its needed financial reforms” (*Financial Times*, “IMF is a power unto itself,” December 11, 1997).

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, largely in response to changes brought on by its previous successes -- 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). 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. An economic collapse was the sine qua non of the US-IMF strategy. If the neoliberal powers had 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, whether defined within or outside the neoliberal paradigm, requires a semblance of economic normalcy. But neoliberal policies are so destructive to the perceived interests of the majority of the population, particularly in the years immediately following their implementation, 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. It is the role of the IMF ‘doctors’ to administer essential but distasteful medicine to cure sick countries when their own government lack the courage to do so, he said. “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). Thus, radical neoliberal restructuring cannot be achieved through democratic processes in normal economic times.¹⁵ 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. Sachs commented that “The people most affected by these policies have little knowledge or input. In Korea, the IMF insisted that all [three] presidential candidates immediately “endorse” an agreement that they had no part in drafting or negotiating – and no time to understand” (*Financial Times*, “IMF is a power unto itself,” December 11, 1997).

In October 1998, Martin Feldstein called attention to a statement by IMF Director Michel Camdessus that “the Asian crisis was a ‘blessing in disguise’ because it gave the IMF the leverage to force structural policy changes *that the national governments would not otherwise accept.*” Camdessus’ statement, Feldstein said, “is a remarkable confession of the arrogance and inappropriateness of the IMF policies” (*Wall Street Journal*, “Focus on Crisis Management,” October 6, 1998, emphasis added). Barry Bosworth argued that the IMF “used the [Asian crisis] to force these countries to adopt its own agenda” (1998, p. 83). 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).

The sequence of events leading to the IMF takeover in Korea in December 1997 followed a well-established pattern. Pressure had been exerted on Korea for decades by G7 nations, the IMF and World Bank, and multinational banks and corporations to try to force the country to liberalize domestic finance and open its borders without restriction to imports, foreign direct investment and money capital inflows. 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)

When the crisis first hit, Korea’s government did not want to accept the IMF’s extreme demands. 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.” In addition to insisting that the government accept radical neoliberal restructuring before any funds were released to them, 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. In response to these pressures, the government made many promises to liberalize over the decades, but it did very little actual liberalizing. However, it finally succumbed to rising pressure in the late 1980s and 1990s.

Liberalization led to the financial crisis of 1997. This is a typical sequence: partial liberalization in a state-guided developing economy almost always leads in time to a serious currency and financial crisis. When this happens, the IMF and World Bank, with the support of G7 governments, tell the local government and the public that they will lend the country the foreign exchange it needs to survive the crisis, but only if the government agrees to all their terms. Should the government refuse to sign the IMF agreement, ‘well-informed’ observers

predict a total collapse of the economy. *The key link is this process is the claim that the crisis occurred because the economy was 'broken' or structurally dysfunctional and will self-destruct unless the IMF is allowed to take over and put a neoliberal economy in its place.* To avoid this expected catastrophe, IMF conditionality is accepted by the government and imposed on the public.¹⁶

Two things distinguished Korea in 1997 from other countries in the developing world that have fallen under IMF domination. First, the series of IMF agreements imposed on Korea were perhaps the most radical economic transformation ever attempted by the international financial institutions – “extreme structural conditionality” in the IMF’s own words. Second, Korea was not a stagnating ‘banana republic,’ but one of the most successful developing countries in the world. 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. It needed reform within the tradition of the Korean model through democratization and modernization, not its destruction and replacement with a neoliberal model. 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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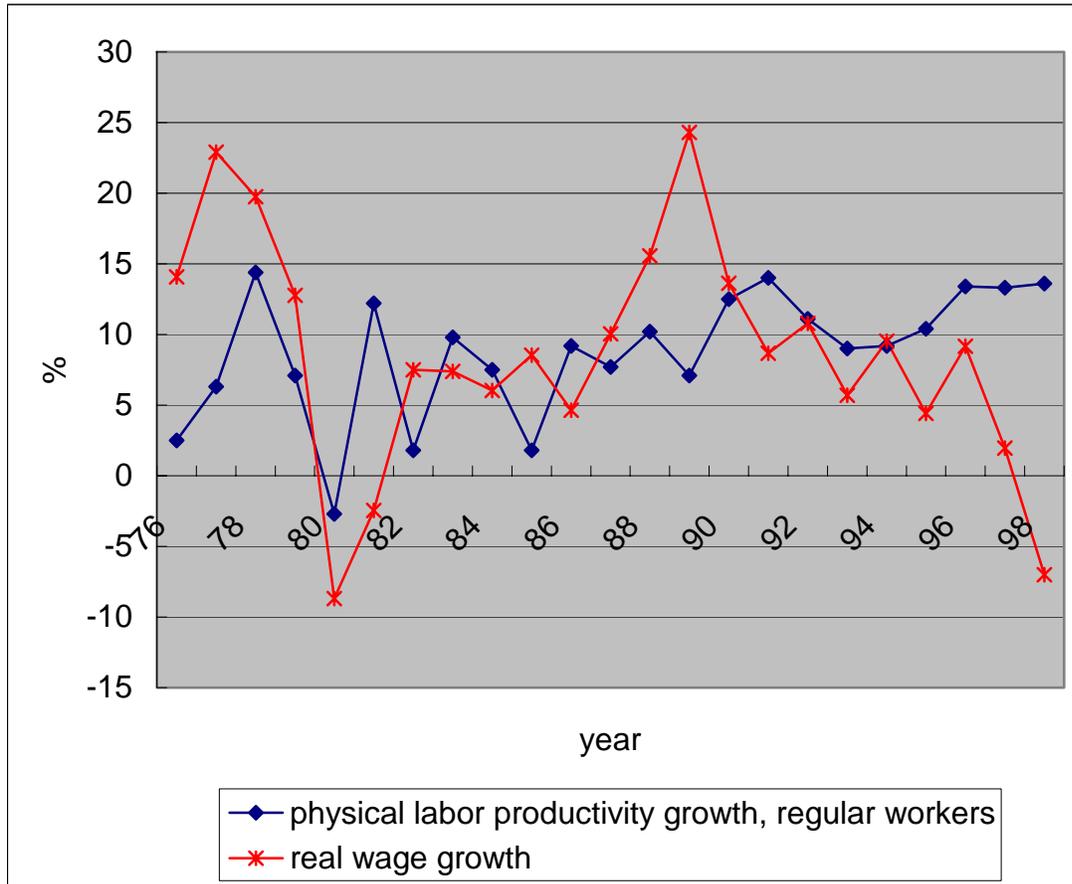
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GRAPH APPENDIX

Graph. 1. Real hourly wage growth vs. labor productivity growth in the manufacturing sector

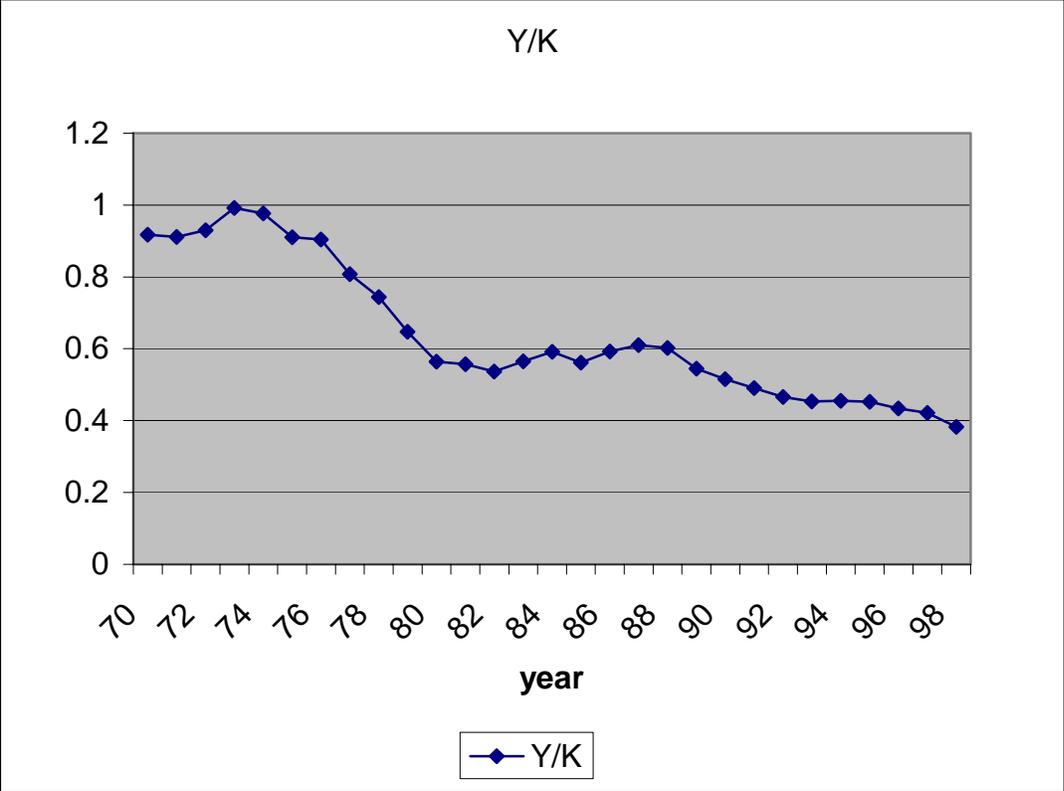


Source: Korea Productivity Center, NSO (National Statistics Office).

Note:

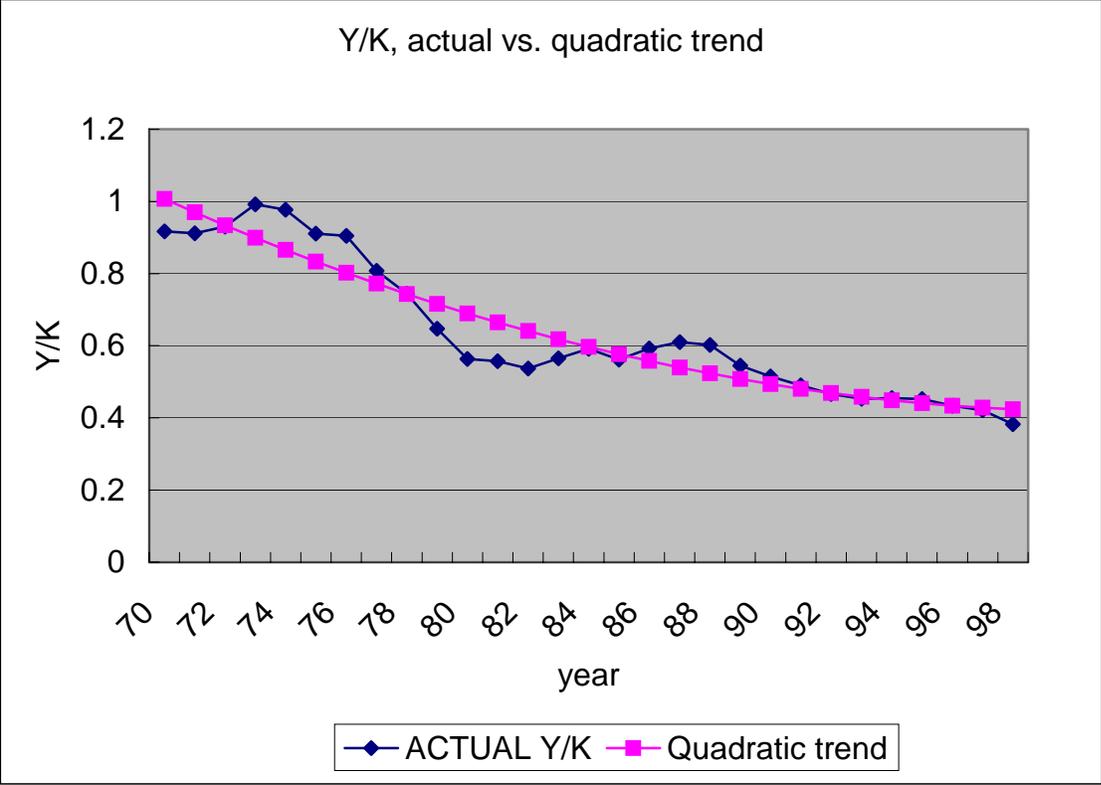
- 1) Based on new data release from Korea Productivity Center.
- 2) For regular workers, in firms with more than 10 workers.
- 3) Using CPI growth rate from NSO.

Graph 2. Capital productivity in Korean manufacturing sector



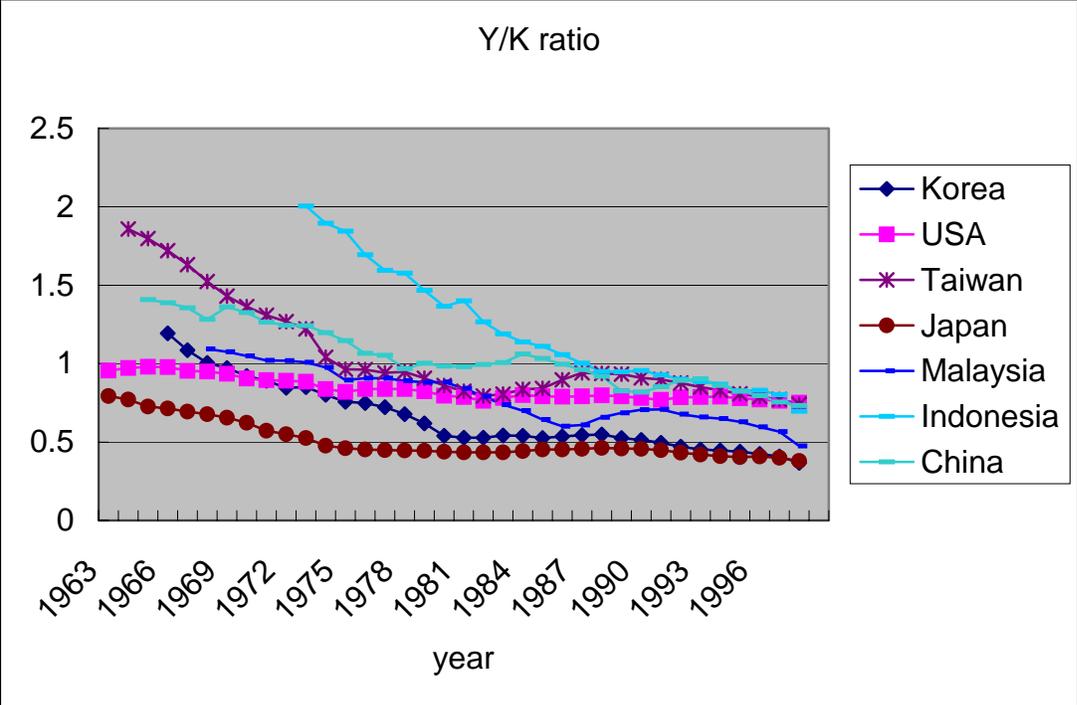
Source: KDI (Korea Development Institute), 2001 and national accounts

Graph 3. Actual Y/K ratio and quadratic trend



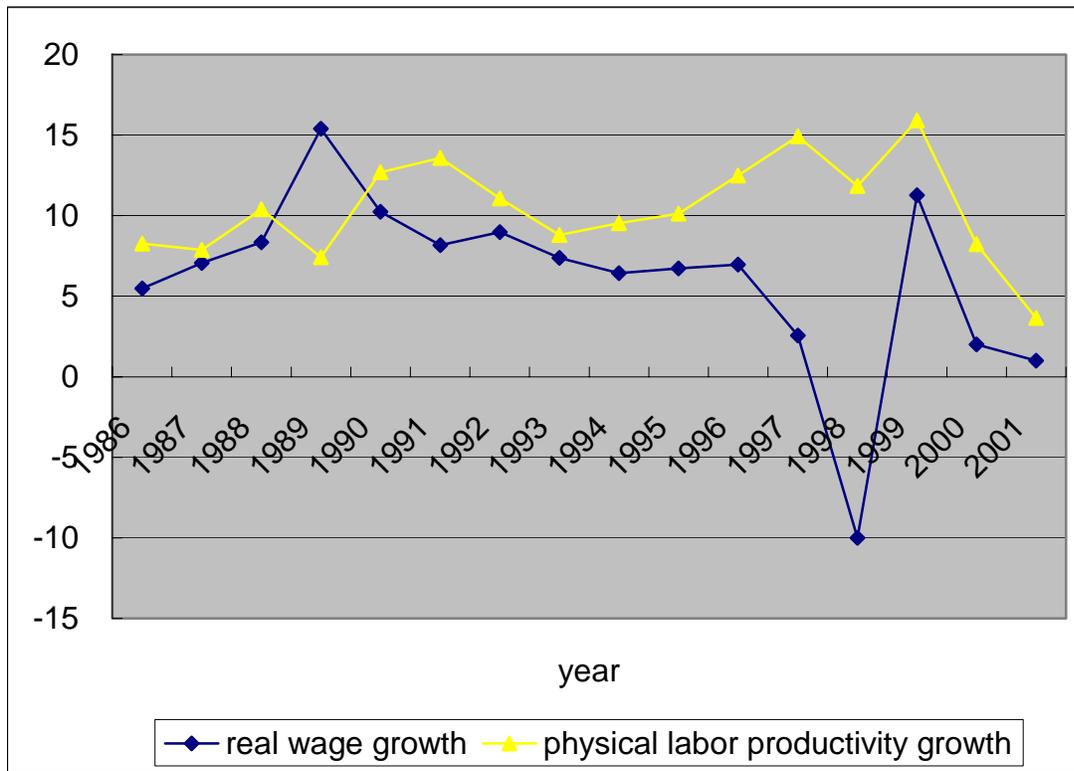
Source: Ibid.

Graph 4. Y/K ratio in countries



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

Garph. 5. Real wage growth and labor productivity growth in all sectors

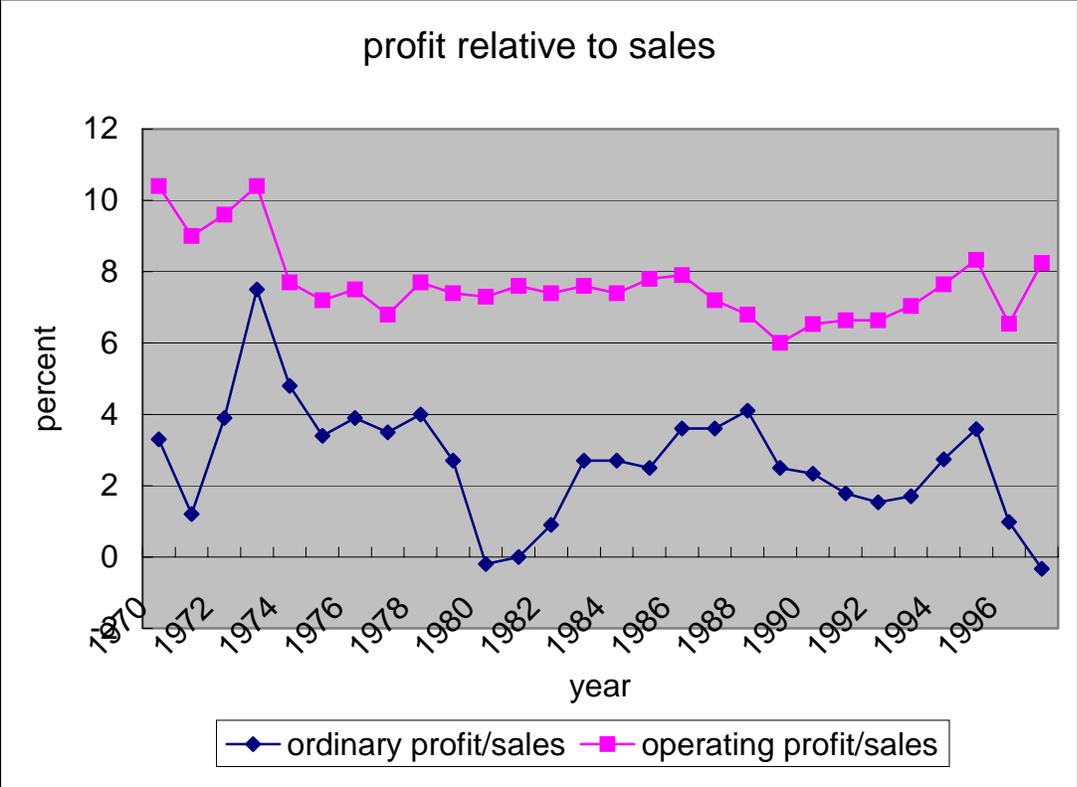


Source: wage from MOFE (Ministry of Finance and Economy), CPI growth from NSO, and productivity from Korea Productivity Center

Note:

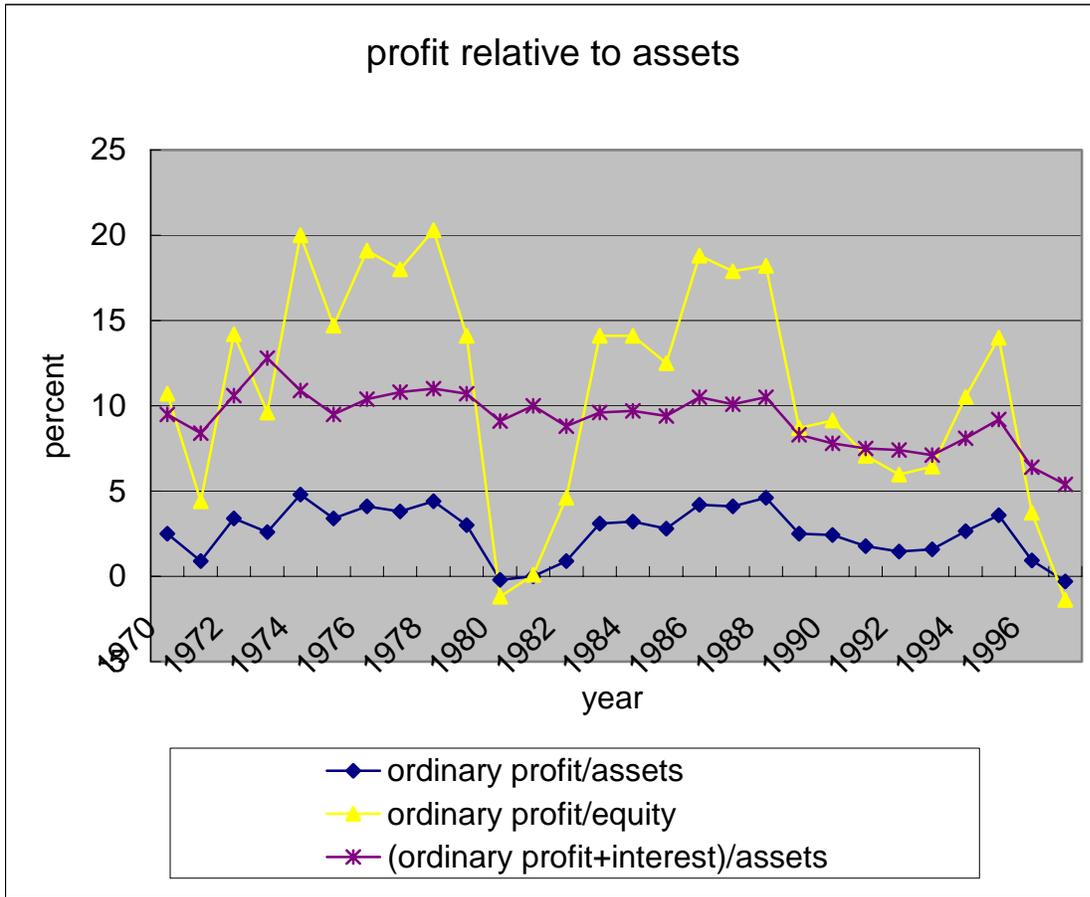
1) Physical labor productivity growth for all workers.

Graph 6. Profit to sales ratio in the manufacturing sector.



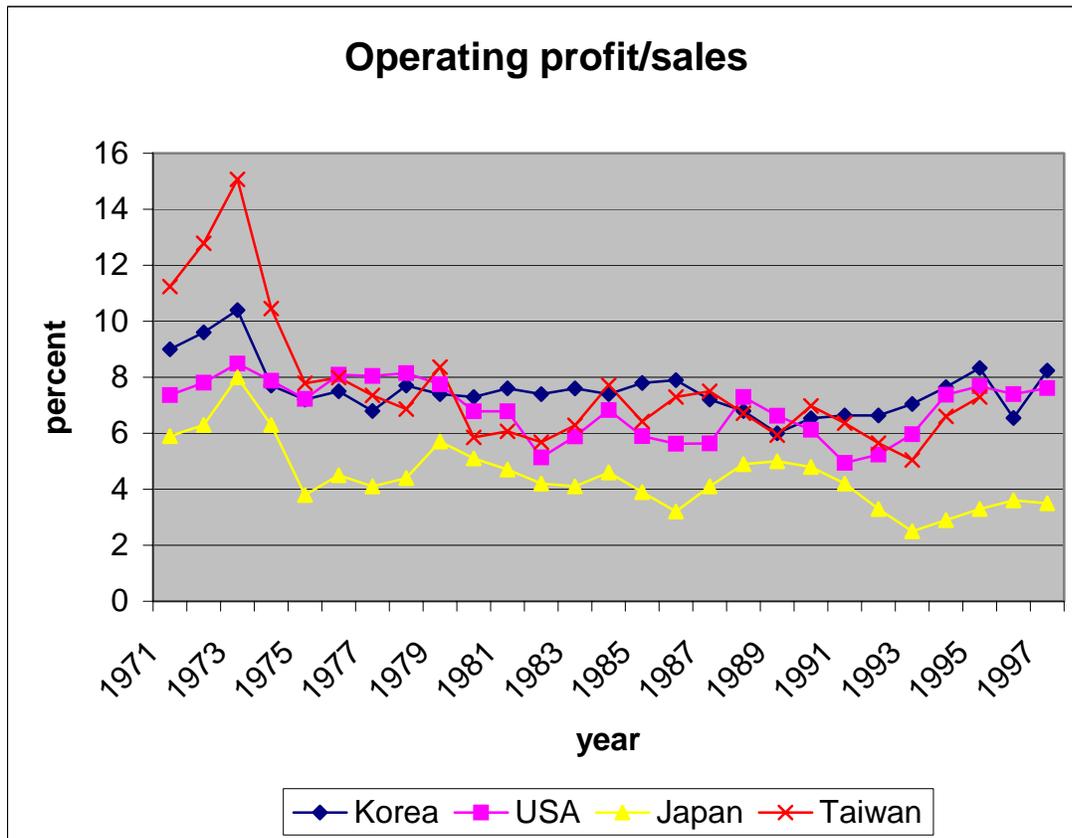
Source: BOK. Financial Statements Analysis, various years.

Graph 7. Profit relative to assets



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

Graph. 8. 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)

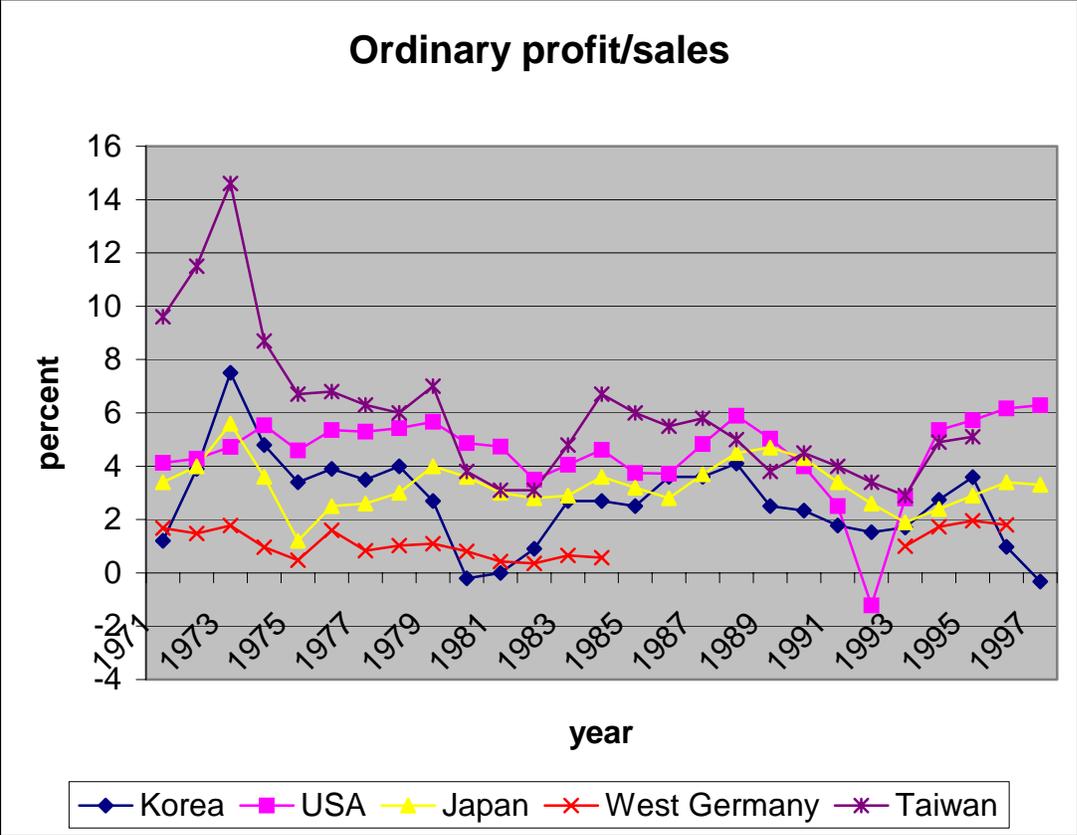
West Germany: Statistisches Bundesamt, Wirtschaft und Statistik (in Deutsche), 1981. 12

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. 9. Ordinary profit/sales in countries

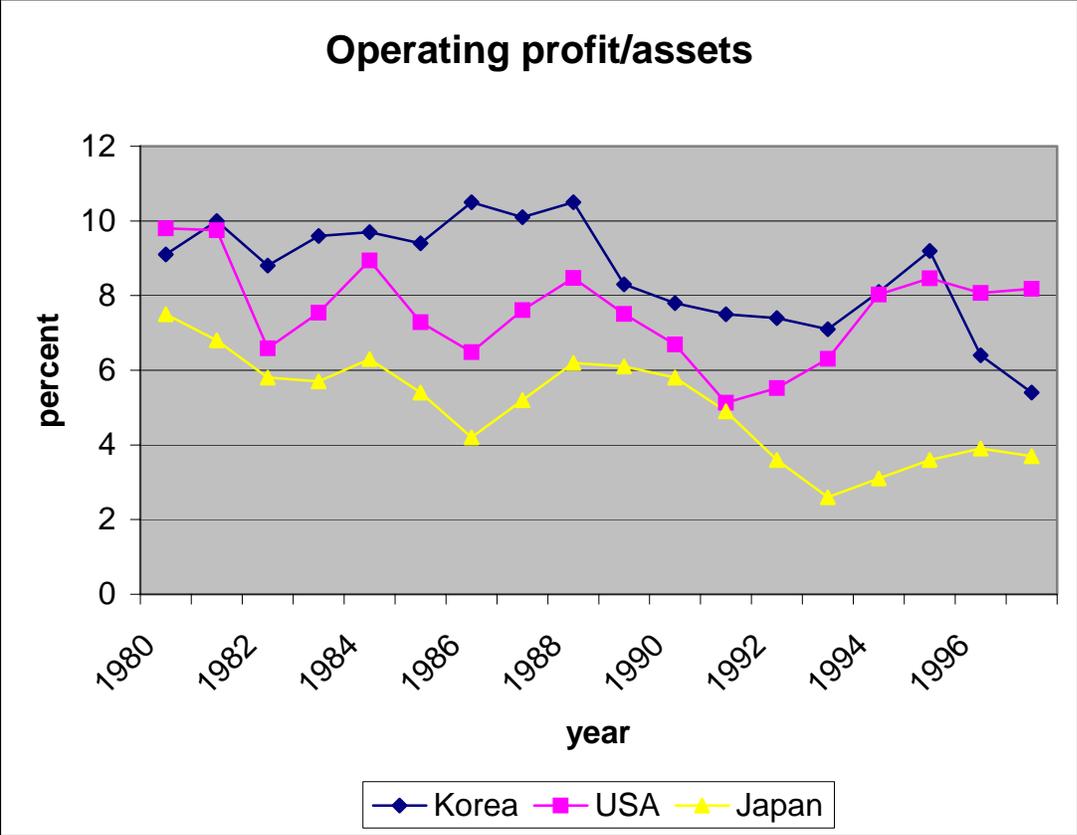


Sources: Ibid.

Note:

1) For USA, using net profit

Graph. 10. Operating profit/assets in countries

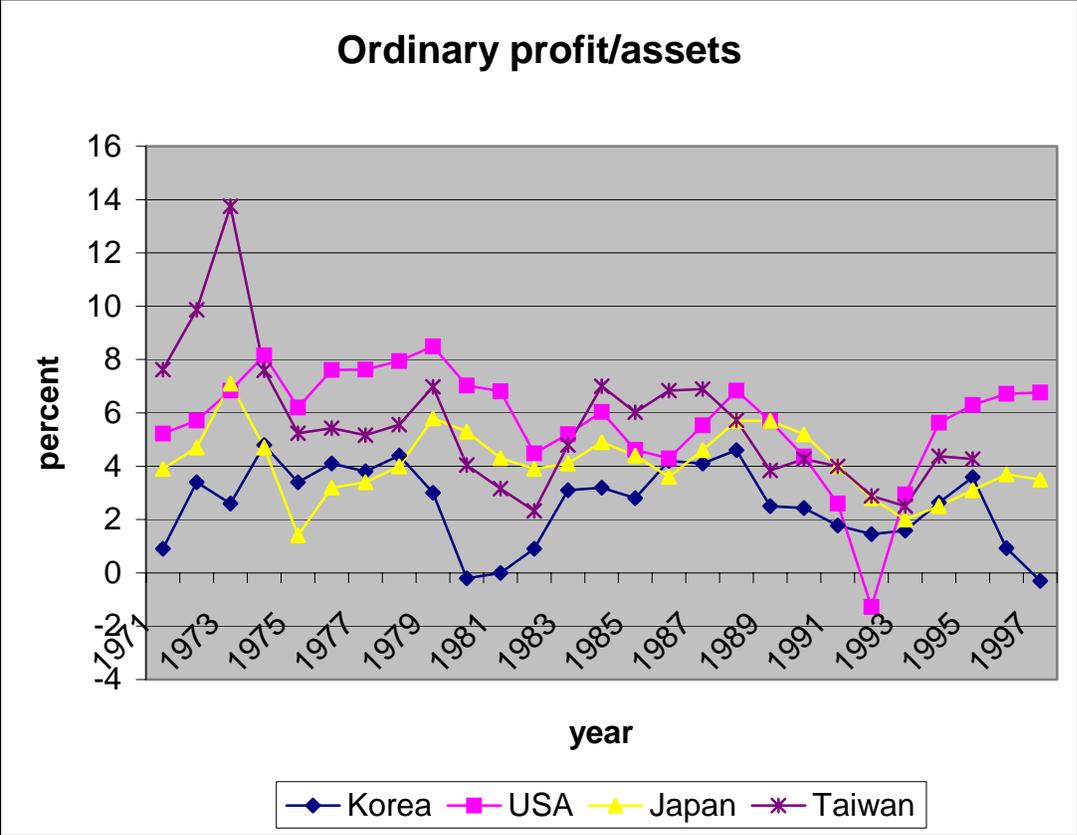


Source: Ibid.

Note:

1) Ordinary profit plus interest payment for Korea

Graph. 11. Ordinary profit/assets in countries



Source: Ibid.
 Note:
 1) Net profit for USA.

ENDNOTES

¹ Jeffrey Sachs put it this way: “In the early 1990s, the international investors wanted a way to share in the Asian bounty, so they pressed Thailand, South Korea and other countries to open their capital markets” (*Far East Asian Review*, “Missing Pieces,” February 25, 1999).

² One cannot help but wonder whether Greenspan’s belief that free-market economies are immune from over-investment remains intact after the buildup of massive excess capacity that followed the investment boom of the late 1990s in the US.

³ This phenomenon of rapidly rising consumer credit has spread across East Asia. For example, consumer credit in Thailand grew 40% from 2001-2002 (*New York Times*, “Has Thailand Recovered From 1997?,” July 25, 2003, p. A12).

⁴ We refer to the IMF agreements with Korea as a “takeover” for two reasons. First, the Korean people were given no opportunity to accept or reject them. If they had been given such an opportunity, rejection was near certain. Second, the candidates for the presidency in the election of December 1997 were under extreme pressure from the US to agree to the IMF’s demands unconditionally.

⁵ See Crotty and Lee 2001 for a proposal for economic reform in post-crisis Korea.

⁶ Only countries such as China, Taiwan and India, that maintained effective control of their capital accounts, remained relatively unscathed.

⁷ See Crotty and Lee 2002 for a discussion of the politics of radical restructuring.

⁸ 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.

⁹ A number of analysts consider the East Asian crisis to be but one manifestation of an emerging crisis in the global neoliberal economic system. See Brenner 2002 and Crotty 2000 and 2003.

¹⁰ 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.

¹¹ The dramatic rise in the rate of unemployment and the attacks on labor demanded by the IMF and supported by President Kim after December 1997 led to a collapse in the wage share of value-added to less than 42% in 1999.

¹² 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.

¹³ Outliers are excluded from the regressions.

¹⁴ Regressions that include cash flow or cash in stock (the short-term liquid assets of the firm) yield qualitative results similar to the regressions shown here.

¹⁵ The imposition of radical neoliberal restructuring is likely to meet less popular resistance in countries that have suffered from a long period of economic stagnation.

¹⁶ In the case of Korea, the US and IMF had a willing ally in President-elect Kim Dae Jung. The peculiar role played by Kim is described in Crotty and Lee 2002.