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Abstract

This paper analyzes the macroeconomic adjustment process of the Korean financial crisis in a broad international perspective. In particular, the impacts of the crisis on GDP growth, inflation, current account balance, and employment are analyzed using a cross-country data set, which compiled 150 financial crisis episodes from all developing countries that have received conditional financial assistance from the IMF over the period from 1973 to 1994.

The cross country patterns show that GDP growth rates sharply drop with the eruption of a crisis but then recover quickly to the pre-crisis level in two or three years, showing a v-pattern of adjustment; inflation and current account deficit exhibit an inverse v-pattern, but they do not improve to the level of non-program period; employment growth is most sluggish in the recovery process compared with other macroeconomic variables.

We find that the Korean case is in general consistent with these stylized patterns. However, the degree of initial contraction and following recovery has been far greater in Korea than what the cross-country evidence predicts. Cross-country comparison indicates that both the export-oriented structure and the swift adjustment of macroeconomic policies contributed to the speedy adjustment of the Korean economy.

I. Introduction

It has already been two years since the Asian financial crisis that erupted in 1997 brought unprecedented economic and social distress to the Korean economy. No one had expected its initial impacts would be so severe as to throw the booming economy into a tailspin in such a short period of time. The GDP growth rate in Korea plummeted from the pre-crisis average of 7 percent to –5.8 percent in 1998, while the inflation rate rose from 4.5 percent to 7.5 percent. Only from the second half of 1998 did the Korean economy start to recover from the free-fall, but the recovery process has been no less drastic than its free-fall. The GDP growth rate in 1999 is expected to be 9 percent.

The purpose of this paper is to make an assessment and provide a summary of this speedy adjustment in Korea. In particular, we analyze the macroeconomic adjustment process of the Korean financial crisis in a broad historical and international perspective. This paper consults the records of all countries that have experienced a currency crisis and received conditional financial assistance from the IMF during the period of 1973 to 1994. From these cross-country data, we draw some stylized facts about the behavior of key macroeconomic variables such as GDP growth, inflation, current account, and employment growth during the adjustment period. Then we compare these stylized facts with the Korean cases.

Our cross-country analysis shows several regularities. For example, the growth rate of real GDP shows a v-pattern during the period bordering the crisis. In other words, it starts to fall precipitously even before the eruption of a crisis but then recovers to its pre-crisis

level rather quickly in two years after the initiation of IMF adjustment program. However, since the GDP growth rate does not leapfrog the pre-crisis level, the level of GDP remains permanently below its initial trend after the crisis.

Inflation rates and current account deficit seem to exhibit an inverse v-pattern even though their magnitude and recovery speeds are significantly slower than those of real GDP. On the other hand, employment growth is most sluggish in the recovery process compared with other macroeconomic variables. This implies that unemployment rates remain at a higher level for a long period after the crisis, even if output growth, inflation rates, etc., are restored to their pre-crisis level.

The macroeconomic adjustment process in Korea seems to be in general consistent with these stylized patterns. The economy shows a quick recovery of the GDP growth rate, while employment growth has been sluggish. However, the Korean case is in sharp contrast to the stylized patterns in that the degree of initial contraction and recovery from it has been far greater than what the cross-country evidence predicts. For example, the GDP growth rate in Korea plummeted from the pre-crisis average of 7 percent to –5.8 percent in 1998, and then is expected to reach 9 percent in 1999. The CPI Inflation rate rose from 4.5 percent in 1997 to 7.5 percent in 1998, and then fell to less than 1 percent recently. The harsh recession forced the current account to drastically improve from deficit to surplus in a year, changing from -1.8 percent of GDP in 1997 to 12.7 percent in 1998. Thus, the pattern of Korea's macroeconomic adjustment so far might be described as a Y, instead of v, pattern.

As we will discuss in section IV, we believe many factors contributed to this speedy adjustment in Korea. The origin and the nature of the shock, initial conditions, the

development of external environments, and the stabilization and structural adjustment policies taken must have as significant a consequence in the adjustment path as they did in the eruption of the crisis. Among them, this paper highlights two factors.

First, we believe the speedy adjustment in Korea was possible since the Korean economy is more open and private sector oriented than other crisis economies analyzed in our cross-country studies. As the economy is more export oriented, Korea can benefit more from devaluation after the crisis. Also, private sector's belt is more flexible to tighten than the government's, and the sharp fall of import and consumption was possible since the economy is more private sector oriented. The concurrent reversal of current account position in turn helped to restore foreign investors' confidence and the stability in exchange rate market.

Second, the macroeconomic stabilization policies as well as structural reform programs had a significant consequence in the adjustment path in Korea. After the onset of the crisis, implementation of financial restructuring in conjunction with tight macroeconomic policies reinforced the contractionary effects of the latter and exacerbated the degree of a credit crunch. From the middle of 1998, however, the swift change in the policy stance toward expansion was an important force behind fast recovery. Striking the right balance between accommodative macroeconomic policies and structural reform is a tough challenge during the crisis period. But the Korean government somehow managed it successfully in the middle of 1998 and we will argue that the external environment partly contributed to its success. The cross-country evidence based on the previous crisis episodes also supports our assessment: it shows that the country's export expansion and expansionary macroeconomic

policy are highly correlated with the prompt post-crisis recovery.

The paper is organized as follows. In section II, we briefly explain the methodology for our cross-country analysis and present some stylized facts about key macroeconomic variables. Section III reviews the recent macroeconomic development in Korea and compares them with the stylized patterns from the cross-country analysis. Section IV attempts to make preliminary assessments on what caused such a speedy adjustment process in Korea.

II. Cross Country Evidence

In order to compare cross-country adjustment processes from a crisis, one needs first to identify when a crisis erupted in each country. In the literature, many methods have been applied in identifying a currency crisis. For example, the degree of currency depreciation is used as a benchmark in Frankel and Rose (1996). In Kaminsky and Reinhart (1999), Radelet and Sachs (1998), and Sachs, Tornell and Velasco (1996), other additional variables such as losses in foreign reserves and reversal in capital accounts are often combined with the exchange depreciation rate to identify the crisis.

Different from their approach, however, this paper uses the initiation of the IMF stabilization program as a benchmark and compares the adjustment processes of program countries with those in non-program countries. Since not every crisis-hit country receives financial assistance from the IMF and IMF financial programs can start even before the eruption of a crisis or with significant delay after a crisis, our method does not exactly analyze

the adjustment process before and after financial crisis. However, using the initiation of IMF financial programs as a benchmark can have several merits over the conventional methods.

First, the severity of crisis and thereby the adjustment process must be incomparably different between the country that has to rely on conditional financial assistance from the IMF and the country that is classified as crisis-hit since its currency depreciates by more than one standard deviation from its historic mean. Also, IMF financial program itself can change the nature and the speed of adjustment processes. Therefore, we believe it is more informative to compare the Korean case with those of the countries that have experienced a currency crisis and received conditional financial assistance from the IMF.

II. 1. Methodology

A number of previous studies have tried to assess the effects of IMF programs and the financial crisis based on cross-sectional country data. The methodology for evaluating IMF programs can be classified into four categories: the "before-after" approach; the "control group" approach; the "modified control group" approach; and "comparison of simulation" approach.[1] The first and most popular method is the "before-after" approach, which compares performance during a program with that prior to the program. It uses non-parametric statistical methods to evaluate whether there is a significant change in some essential variables over time. Therefore, while easy to employ and seemingly objective, this approach often gives biased results due to the assumption that had it not been for the

[1] For discussions on the methodology of evaluating the effects of the IMF programs, see Khan (1990); Killick

program, the performance indicators would have taken their pre-crisis-period values.

The “control group” methodology attempts to overcome some of the limitations of the “before-after” approach. Here, the behavior of key variables in the program countries is compared with their behavior in non-program countries (a control group). Thus, it implicitly assumes that only the imposition of the IMF program itself distinguishes the group of program countries from the control group. In particular, the external environment is assumed to affect program and non-program countries equally.

The third methodology is the “modified control group” approach, which consists of regressions that control for differences in initial conditions and policies undertaken in program and non-program countries. That is, this approach identifies the differences between program and non-program countries in the pre-program period, and then controls these differences statistically in order to find out the isolated impacts of the programs in the post-reform performance.

Different from the other three approaches outlined above, the "comparison of simulation" approach does not try to evaluate program effects from actual macroeconomic performance of the program countries. Instead, it uses simulations of econometric models to compare the hypothetical outcomes of an IMF supported program with those of an alternative policy package.

A substantial body of research has adopted these approaches to assess the impact of IMF programs. In particular, since the primary purpose of the IMF program is to assist the member country in restoring a sustainable balance of payments, reducing inflation, and creating the

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(1995); Killick, Malik, and Manuel (1993); and Corbo and Fisher (1995), and Haque and Kahn (1998).

conditions for sustainable income growth, many studies focus on evaluating how successfully these primary macroeconomic goals have been achieved. According to an extensive survey by Haque and Kahn (1998), most studies indicate that the IMF programs lead to an improvement in the current account balance and the overall balance of payments. However, the studies provide very diverse findings, depending on their methodology and sample, about the impacts of the IMF program on growth and inflation.

II.2. Cross Country Patterns

Following the "before and after" approach and the "control group" approach, we examine the adjustment processes of all developing countries that received stand-by and extended arrangements of the IMF from mid-1973 to mid-1994. During this period, 88 non-OECD (Organization for Economic Cooperation and Development) countries received financial support from the IMF at least once; the total number of programs was 455.[2] In order to avoid "double counting" of economic crises or IMF programs, we pay special attention to programs that were continued from the previous years. That is, in our sample, a program is not regarded as an independent program if there has been another program started within 4 years before its initiation. In that case, that program is counted as a consecutive approval of previous programs and identified by the first year of the previous independent program. This procedure yields a total of 159 independent programs among 455 programs.

[2] The 455 programs approved during the sample period consist of 345 stand-by arrangements, 42 extended fund facility (EFF) arrangements, and 44 arrangements under structural adjustment facility (SAF) or enhanced structural adjustment facility (ESAF). The remaining 21 cases were combined programs of two or more arrangements.

For each program in our sample, we estimate the macroeconomic outcomes following the "before-after" approach, and then compare them to the average outcomes of non-program countries following the "control group" approach. We focus on four key macroeconomic outcomes: growth rate, inflation rate, current account balance, and employment. The changes in these variables are measured over the period of five years before and after the approval of an IMF program. We also construct a control group of "tranquil" observations. If a country had not been subject to any IMF program within a window of plus or minus five years surrounding a specific year, it is counted as a non-program country in that specific year. We use all these observations as our control group of non-program "tranquil" observations. We have not tried to control statistically for the differences between program and non-program countries as in the "modified control group" approach.

(1) GDP Growth Rates

The data set on the GDP growth rates consists of total 2,352 observations for the period of 1968 to 1994. The data between 1968 to 1972 are added to the sample to examine the behavior of growth rates during pre-crisis period. Among 2,352 observations, 150 observations correspond to independent IMF program years. The panel (a) of Figure 1 shows the behavior of the GDP growth rate at the onset of the IMF programs; in each of the preceding five years; and in each of the following five years. For comparison, we include a dotted straight line in the panel, which indicates the average GDP growth rate during the tranquil period that did not have an IMF program within a window of plus/minus five years.

We can clearly see that the growth rates show a v-type pattern during the period bordering the initiation of programs. The growth rates over the three to five preceding years are comparable to those of non-program periods. But thereafter the growth rate starts to decline sharply and reaches the trough one year prior to the initiation of programs. It is not hard to understand why the growth rate reaches the lowest point prior to the initiation of programs: it indicates aggravated economic conditions prior to the eruption of a crisis and the time lag between the eruption of a crisis and the introduction of IMF programs.[3]

At the trough, the growth rate of crisis-hit countries is about 2.5 percent lower than that of non-crisis economies. But the GDP growth rate recovers its non-crisis level quickly a year after the initiation of programs, i.e., about less than two years after the onset of a crisis.[4] However, the growth rate does not exceed its pre-crisis or tranquil period averages, indicating that the level of GDP remains permanently lower than its initial trend after a crisis. This v-type pattern of recovery and the speed are broadly consistent with the findings in Hong and Tornell (1999).

<Figure 1: Cross-Country Patterns>

(2) Inflation and Current Account Balance

[3] Considering the time lag, the year t-1, not the year t, in figure 1 is more likely to be the year in which a crisis erupted. Care must be taken to compare our results with others such as Hong and Tornell (1999) that use the onset of a crisis as a benchmark period for comparison.

[4] Our results show that GDP growth rate increases in the year of IMF program initiation. Some studies find that output growth rates declined in the program year and then subsequently recovered (Schadler et al., 1995 and Haque and Kahn, 1998).

Panel (b) and (c) of Figure 1 portrays the behavior of inflation rate and current account deficit over GDP. The data cover 2,211 observations for CPI inflation rate and 2,378 for current account deficit, of which 142 and 150 observations, respectively, correspond to IMF program years.

Inflation rate and current account deficit exhibit an inverse v-type pattern but their recovery processes are much slower than the recovery of GDP growth. Inflation rate and current account deficit increase prior to the eruption of a crisis or program initiation. The surge of inflation rate around the onset of a crisis can be related to both credit expansion preceding the crisis and sharp depreciation after the eruption of the crisis. Sharp depreciation increases domestic price of imported goods. On the other hand, the increase of current account deficit can reflect spending booms, currency overvaluation and the loss of international competitiveness prior to the crisis.

After the initiation of IMF programs, however, inflation rate and current account deficit decline gradually and recover their pre-crisis levels in three to five years following the crisis.[5] The tight macroeconomic policies of the IMF packages and the consequent high interest rates restore price stability at the cost of severe recession. Thanks to sharp currency depreciation and weak import demand, current account also improves after the eruption of the crisis. However, it is important to note that inflation rate and current account deficit do not improve to their level of the tranquil period: even three to five years after the program initiation, inflation rate and current account deficit remain significantly higher than those in non-program

[5] Schadeler et al. (1995) claims that the stabilization effects of IMF programs appear dependent on the exchange rate regime: in countries with nominal exchange anchors, which could add substantial credibility to the stabilization package, inflation rates fell dramatically from the first program year.

periods. In other wards, the IMF stabilization programs, though contributing to a short-run improvement in price stability and current account balance, did not produce fundamental changes for the program countries sufficient to lower their structural inflation rate and current account deficit. Thus, it is not surprising to find many recurring financial crises in some countries that had previously received IMF support.

(3) Changes in Employment

To analyze the effects of IMF programs on employment, we use data on manufacturing employment available from the World Bank's *World Tables*. Because employment data are less available than other macroeconomic variables, the data set becomes smaller, covering only 1,316 observations of which 79 observations correspond to IMF program years.[6]

Panel (d) of Figure 1 shows the behavior of annual employment growth rates. We can clearly see that employment growth rates in program periods are significantly lower than those in non-program periods reflecting aggravated economic conditions before and after a crisis. What is surprising, however, is the fact that the employment growth rates are deteriorating even in two years after the onset of the crisis and do not show any clear sign of recovery even five years after the crisis. The average employment growth rate is 2.8% in the program initiation year, which is only slightly higher than 2.6% in the preceding year. As

[6] We have excluded some extreme observations such that annual growth rate of employment is above 50 percent or below -50%. The results are essentially identical when these observations are included. Lee and Rhee (1999) analyze the adjustment processes of employment, real wage and income inequality before and after the initiation of the IMF programs using similar cross-country data. Because the paper counts a program as independent if there has not been another program started in 2 years before its initiation, instead of 4 years as in this paper, the sample size of independent programs is much larger than that of this study. However, the changing

programs proceeded, the employment growth rate falls to 2.2% in 2 years following the program and then fluctuates for the next three years without showing any sign of recovery.

Considering the strong surge of output growth, the relatively weak performance of employment growth after IMF programs is surprising. It implies that even after output growth rates, exchange rates, and inflation rates recover their pre-crisis levels, one cannot expect the same recovery for employment. We believe two factors cause the slow recovery of employment growth rates. First, in our related study, Lee and Rhee (1999), we analyze social impacts of the IMF programs and find that the adjustment process of the real wage growth shows a v-style pattern similar to the GDP growth. It declines in the year following the crisis but increase substantially following the second year after the program. The rapid recovery of insiders' real wage can delay the recovery of employment growth that in turn aggravates unemployment problem for outsiders.

Second, the slow recovery of employment, ironically, may be the result of labor productivity increases due to the adjustment program. After the crisis, program countries implement various structural reforms to enhance economic efficiency. Among them, increasing labor productivity by cutting over-employment is usually a primary objective. In other words, the reform has the same *short-run* effect as a laborsaving technology progress. Therefore, even after output demand returns to its pre-crisis level, labor demand is not fully recovered in the *short run*. Only after the beneficial effects of enhanced labor productivity have worked their way through the economy can employment growth rates be significantly increased. In any case, the weak performance of employment growth indicates that

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pattern of employment growth presented in that study is almost identical to the result in this study.

unemployment rates can remain at a higher level for a long period after economic crises and IMF programs. To that extent, care should be taken not to overdose stimulus packages in trying to recover pre-crisis level of employment growth or unemployment rate in a short period of time.

III. The Adjustment Process in Korea

In this section, we summarize the post-crisis macroeconomic adjustment in Korea and compare it with the stylized patterns drawn from the cross-country analysis. As we will explain shortly, the Korean case is in general consistent with the stylized patterns. The GDP growth rate, inflation rate and current account balance exhibit a v or inverted-v style adjustment process while the employment adjustment seems to be more sluggish as predicted by the cross-country evidence. However, the Korean case is in sharp contrast with the stylized patterns in that the degree of initial contraction and subsequent recovery has been far greater than what the cross-country evidence predicts.

(1) GDP Growth Rates

As can be seen in Table 1 and Figure 2, the economic slowdown during the crisis was dramatic. The real GDP growth rate dropped to -5.8 percent in 1998 from its pre-crisis average of about 7 percent. The magnitude of the economic slowdown was most visible in the drastic decline of the growth rates of investment and import, which dropped to -21 percent in

1998. Only the export (volume) growth is relatively less affected by the crisis in contrast to most other components of GDP.[7] Table 1 also shows that non-tradable sectors, such as construction, were hit harder than manufacturing sector which is presumably more trade-oriented since they cannot benefit from depreciation after the crisis.[8]

After the free-fall, the Korean economy has started to bottom out since the last quarter of 1998 and the speed of the recovery was no less drastic than its free-fall. The real GDP in 1999 is expected to grow by as high as 9 percent, overshooting its pre-crisis average of 7 percent. In particular, in the first half of 1999, the growth rates of import and private consumption are already higher than its pre-crisis level. Only construction investment is not showing strong performance yet.

In sum, the sharp fall and the rapid recovery of the growth rate in Korea is broadly consistent with the v-style adjustment pattern we have seen in cross-country analysis. However, the magnitude of initial contraction and the speed of recovery in Korea are in sharp contrast with the stylized pattern. The margin of the11 percent decline and then the 15 percent recovery of the GDP growth rate in a year are far greater than what the cross-country evidence predicts. The leapfrog of the growth rate over the pre-crisis level is neither expected from the cross-country pattern. Thus, the GDP growth adjustment in Korea might be described as a Y instead of v pattern.

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[7] In dollar terms, however, even exports recorded a negative growth, as the export prices (in dollars) declined by 27%.

[8] However, there is no clear difference between the growth rates of service and manufacturing sector. As pointed out by Hong and Tornell (1999), this can be due to the fact that the decline of the service sector was mitigated by the inflow of unemployed from other sectors despite the sharp fall of the demand for services (see Table 3).

< Table 1: Macroeconomic Adjustment in Korea >

< Figure 2: Macroeconomic Adjustment in Korea >

(2) Inflation and Current Account Balance

Inflation and current account balance in Korea show an adjustment pattern as quick as that of the GDP growth. As shown in Table 1, the CPI Inflation rate rose from 4.5 percent in 1997 to 7.5 percent in 1998, and then fell to less than 1 percent recently. The sharp depreciation after the onset of the crisis provided inflationary pressure. Together with the increase of import price, expected inflation soared since the market participants anticipated that the central banks of Korea would inject massive liquidity support to save the banking system. As a result, the inflation rates in Korea increased swiftly almost twofold by the first half of 1998, reaching 10 percent. However, from the second half of 1998, the inflation rates went down quickly due to severe economic slowdown and became lower than the pre-crisis level.

The current account balance also shows drastic adjustment speed. It improved from deficit to surplus in a year, changing from -1.8 percent of GDP in 1997 to 12.7 percent in 1998 and thereafter gradually declining to the current level of 8.4 percent. The improvement of the current account was forced by harsh recessions. It was mainly due to the decrease in import rather than the increase in export. Import declined by more than 36 percent in the first half of 1998 while the export growth remained stagnant. The adjustment process of inflation and current account in Korea is quite different from the stylized pattern in cross-country

analysis. The cross-country pattern shows that these variables are more slowly adjusted than the GDP growth rate. But the opposite seems to be the case in Korea. Inflation rate and current account balance improved immediately after the eruption of the crisis and passed their pre-crisis level well before the GDP growth rate started to bottom out.

(3) Changes in Employment, Unemployment and Real Wage

For the last two decades, Korea enjoyed virtually full employment prior to the crisis. The unemployment rates were remarkably low, at less than 3 percent during the 1990s. However, as shown in Table 1, the unemployment rate rose drastically after the crisis from 2.6 percent in 1997 to 6.8 percent in 1998. At the peak, the unemployment rate soared to 8.8 percent in February 1998. Even though the unemployment rate gradually declined thereafter, it still remains above 6 percent that is a very high level by pre-crisis standard. The sluggish adjustment of unemployment rate compared with other macroeconomic variables is consistent with the cross-country pattern.

For a more direct comparison with the cross-country study, Table 2 reports the employment growth. After the onset of the crisis, the year-on-year employment growth rate fell to -5.1 percent in April 1998 from 2.3 percent in April 1997. Also in the recovery, despite the 9.8 percent growth rate of real GDP in the second quarter of 1999, employment still does not show a sign of positive growth yet.

One important thing to note is that the crisis had diverse impact on employment growth across different groups. Table 2 exhibits employment growth rates by gender, age, and

schooling and show that the crisis hits hardest on marginal workers such as women, young workers, the less educated, recent school dropouts, and first-time job seekers. Their employment opportunities also seem to recover more slowly than those of primary workers. Between April 1997 and April 1998, employment declined by 3.8 percent among men, but by 7.1 percent among women. Young workers aged between 15 to 29 accounted for the lion's share of job loss, especially young female workers. Employment of those with no high school diploma fell by 14 percent in 1998 and 1.8 percents in 1999. On the other hand, the employment of college graduates increased by 9.4 percent in 1998 and 1.8 percent in 1999. The increase is not surprising, because it reflects the deterioration of job quality. Displaced college graduates are settling for jobs that used to be taken by high school graduates. We also see that employment of older workers— particularly older women who were more likely to be forced to accept early retirement—declined more than employment of primary workers. This pattern is consistent with the internal labor market hypothesis that marginal workers- young, female, less-experienced, less-educated workers- are likely to bear more of the burden of adjustment to external shocks than primary workers.

< Table 2: Employment Growth by Gender, Age, and Schooling in Korea>

Table 3 examines the changes in employment by industry, occupation, and work hours. It shows that there have been substantial retrenchments, especially in manufacturing and construction industries throughout the period. To a lesser degree, employment in retail and service sectors decreased after the onset of the crisis but then their employment started to

increase in the recovery process. On the other hand, the agricultural and fishery industries initially gained in employment in 1998 but lost the same magnitude in 1999. This implies that displaced workers and unsuccessful job seekers in the primary sector were involuntarily settling for inferior employment in the rural sector initially and then moved to the urban informal sector in the recovery. This pattern can be clearly seen in the drastic increase of unpaid family workers in 1997 and part time workers in 1998. No doubt, this trend increased underemployment and was not captured by the changes in official unemployment rates.

<Table3: Change in Employment by Industry Occupation and Work Specification in Korea>

Table 4 reports changes in the real wage in Korea. It is noteworthy that the growth rate of the nominal wage, which used to be about 10% per year, dropped sharply after the crisis. In 1998, the nominal and the real wage rate decreased by 2.5 and 10 percent, respectively. The freeze in nominal wages in Korea in 1998 was not due solely to the decline in labor demand after the crisis. It was also due to a temporary negotiation in the Tripartite Committee, which consists of representatives from the government, workers' and employers' organizations. Whether the Tripartite Committee can continue to accomplish its mission of creating social consensus in the future is very uncertain. But, following the recovery of the GDP growth rate, the nominal and real wage rates in Korea already started to increase rapidly from 1999. The recovery of the real wage growth rates soon after the

sharp initial fall is consistent with the cross-country pattern found in Lee and Rhee (1999) and it is a factor behind the sluggish recovery of employment growth.

IV. Assessment of the Adjustment Process

Since the recovery is still unfolding, it may be premature to make an assessment on the post-crisis adjustment process in Korea. Nevertheless, this section tries to make a preliminary evaluation on what factors contributed to the sharper contraction and the quicker recovery in Korea compared with the cross-country patterns.

We believe many factors contributed to the Y-pattern, instead of v-pattern adjustment in Korea. The origin and the nature of the shock, initial conditions, the development of external environments, and the stabilization and structural adjustment policies taken must have a significant consequence on the adjustment path as they did in the eruption of the crisis.

First, investors' panic must have played an important role. When foreign investors began to lose confidence in Korea, capital flows abruptly reversed. In the two-month period from October to December 1997, Korea experienced a sudden reversal of private capital inflows that amounted to about 2 percent of GDP. It is no wonder that this large-scale shift in financial inflows provoked deep contractions, huge depreciation and financial embarrassment. And the argument goes that once investors' panic calms down and foreign capital resumes to inflow the economy rebounds to its long-term trend. Though it is hard to deny the argument, we think the panic alone is not a satisfactory answer. For example, it

cannot explain uneven recovery among the East Asian countries. The panic elements and the magnitude of capital outflows were no less remarkable in Indonesia, Malaysia and Thailand than in Korea, but Korea has shown the most rapid and impressive recovery than the other Asian countries. Moreover, the panic argument does not explain what factors ignite and calm down investors' panic.

Second, the differences in initial conditions can be related to adjustment patterns. For example, the high leverage ratio of the corporate sector made Korea more vulnerable to sharp depreciation and interest rate increase. The rapid expansion of bank credit or pre-crisis investment and lending boom are another oft-cited initial conditions which are potentially important for post-crisis recovery (Sachs, Tornell, and Velasco (1996)). The weakness of legal institutions for corporate governance might have an important effect on the extent of exchange rate depreciation and stock market crash (Johnson, Boone, Breach and Friedman (1999)).

Third, the macroeconomic stabilization policies as well as structural reform programs must have a significant consequence in the adjustment path. After the onset of the crisis, implementation of financial restructuring in conjunction with stabilization policies reinforced the contractionary effects of the latter and exacerbated the degree of a credit crunch in Korea.[9] It is hard to deny that some period of tight macroeconomic policy and financial restructuring was unavoidable to stem capital outflows and to prevent depreciation-inflation spirals. However, their contractionary impacts were much larger than anyone, including the IMF, imagined. Starting in the middle of 1998, Korea geared its

[9] See Borensztein and Lee (1999) for the discussion of the nature of credit crunch, and Choi (1999) for the

macroeconomic policy stance toward expansion, cutting interest rates and expanding fiscal deficits and then it turned around toward a quick recovery. The pre-crisis average 3-month CD interest rate was 13 percent but it soared to 23 percent at the peak of the crisis in January 1998. Following the ease stance in monetary policy in the middle of 1998, it steadily declined and became lower than the pre-crisis level from August 1998. Like monetary policy, tight fiscal policy was initially tried after the crisis erupted, but the severity of the economic downturn made it necessary to expand fiscal stance. Prior to the crisis, budget deficit in Korea was negligible, but in 1998 it increased to -5 percent of GDP.[10]

The swift change in the macroeconomic policy stance was possible in part due to the favorable development of external and internal environments. The appreciation of Japanese Yen with and three consecutive cuts in US interest rates from mid 1998 allowed Korea to cut domestic interest rates substantially without destabilizing its exchange rates. Also, it was fortunate that Korea had maintained near balanced budgets prior to the crisis, which allowed accommodating more expansionary fiscal policy without incurring huge negative side effects.

Fourth, as argued in Cho and Rhee (1999), the quick response of the Korean economy was possible since Korea was more private-sector oriented than other countries. One of the origins of the Korean crisis is over-investment by private sector, not over-expenditure by public sector, and the adjustment of the private sector under the changed macroeconomic circumstances tends to be much quicker than that of the public sector. It is easy to see that

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detailed discussion of the process of corporate and financial restructuring.

the private sector's belt is politically easier to tighten than the government belt, and the sharp fall of import and consumption and the concurrent huge improvement of current account were possible in Korea since the economy is private sector oriented.

Fifth, the open and export-oriented economic structure also contributed to the Y-shaped recovery. As the economy is more export oriented, Korea could benefit more from devaluation after the crisis and the quicker improvement in current account balances in turn helped to restore foreign investors' confidence and the stability in exchange rate market.[11] Mexico is a good example showing that openness and private-sector orientation plays an important role in the path of adjustment to the crisis. In the 1982 crisis, Mexico was less open and more public sector dominated.[12] After the crisis, her current account balance improved due to severe recession but the change was not very fast. The current account balance was -7.9% of GDP in 1981, -3.8% in 1982 and 4.3% in 1983. The recovery of GDP growth rate was also slow but it dropped from 8.0% in 1981 to -0.6% in 1982 and to -3.2% in 1983. In contrast, in 1994 Mexico had a smaller budget deficit and became more open after the NAFTA was passed. In the 1994 crisis, The current account deficit also improved sharply within a year from -11% of GDP in 1994 to -0.6% in 1995. The real GDP growth fell from 4.5% in 1994 to -6.2% in 1995 but recovered quickly to 5.2% in 1996. This high sensitivity of market response was made possible because the economy became more open and private-oriented. Unless the economy is private-led and export-oriented, we

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[10] Lee (1999) and Cho and Rhee (1999) discuss the changes in monetary and fiscal policies in detail.

[11] Sachs (1985) discusses that East Asian countries, thanks to their more export-oriented industrial structure, were able to recover more quickly than Latin American countries in the early 1980s.

[12] In 1982, the import plus export share was only 21.3 percent of GDP in Mexico, but the ratio increased to 32.7 percent in 1996. On the other hand, the ration of government expenditure to GDP declined from 30

believe having current account surplus more the 10% of GDP as Korea did in 1998 would be virtually impossible.

To check the validity of our hypotheses, we exercise regression analysis using our cross-country data of previous IMF program countries explained in section II. We examine the role of the openness and macroeconomic factors in determining the post-crisis recovery. Our dependent variable is the magnitude of reversal in the average annual growth rates for country i between the crisis-hit period, P_1=[T-1, T] and the post-crisis period, P_2=[T+1,T+3], in which T indicates the year of the IMF-program initiation.

As for independent variables, we first include average export share and exchange rate depreciation rate in the crisis-hit period. Export share is included to represent the role of the initial openness on the pace of post-crisis recovery. The initial depreciation of exchange rate, which contributes to the increase in export and current account balance, is expected to have a positive effect on the speedy recovery. We also include the change of average export growth rates between the crisis-hit and the post-crisis period to see the association between export growth and GDP growth in the process of recovery. The other explanatory variables include the changes of general government consumption growth and of average real money supply growth rates between the crisis-hit and the post-crisis period. The fiscal and monetary policy variables represent the extent to which the government switches the stance of aggregate macroeconomic policies over the period following the crisis.

Table 5 displays the result of the basic regression that was applied to a total of 90 previous IMF program episodes during the period from 1974 to 1994. In order to control

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percent in 1982 to 16.1 percent in 1995.

the differences in country-specific factors prior to the crisis, we include the average growth rate over the pre-crisis period, P_3=[T-4, T-2], as an additional independent variable in column (1). In column (2), the average growth rate in the crisis-hit period, P_1=[T-1, T], is also included to control for the difference in the size of initial GDP contraction across country. Thus, the regression in column (2) investigates determining factors for post-crisis recovery of the GDP, instead of the reversal of GDP growth rate between the crisis-hit and the post-crisis period.

In column, we find a strong and statistically significant relation between the initial export share and the post-crisis growth rate, implying that countries with higher export share had larger increases in GDP growth over the period after the crisis. The coefficient for exchange depreciation also has a significantly positive sign for the change of growth rates, which is consistent with the prediction that the initial exchange depreciation, by promoting improvement in current account balance, contributes the post-crisis recovery. The test also finds a strong positive association between changes in export growth and GDP growth rates over the post-crisis recovery. All these findings from cross-country evidence seem to support the hypothesis that the quick response of the Korean economy was possible since Korea was more open and exported oriented. The evidence that the initial export share and exchange rate depreciation variables have significant impacts on the post-crisis GDP growth even with controlling the change in export growth may indicate that export-oriented economic structure and initial exchange depreciation contribute to the recovery through the channel other than export growth. For instance, an economy's open and export oriented structure and initial devaluation may contribute to the resumption of foreign

capital inflows after the crisis.

The result also confirms the strong association between macroeconomic policy stance and GDP growth over the period of adjustment in the crisis-hit economies. The coefficients on both the changes of general government consumption growth and of average real money supply growth rates are highly significant. This result is consistent with the view that the swift switch to expansionary policy indeed has an important impact on the speed of post-crisis recovery. However, the significant correlation between macroeconomic policy variables and GDP growth rates in the recovery period may just come from the reverse causality, running from GDP growth to policy change.[13]

In the column (2), where the average growth rate in the crisis-hit period is added as an additional explanatory variable, the initial export share variable becomes statistically insignificant.[14] However, the results for the other variables do not change and confirm in general that the export-oriented structure and the swift adjustment of macroeconomic policies play an important role in the speedy post-crisis adjustment in the crisis-hit economies.

V. Concluding Remarks

[13] When we add initial stance of macroeconomic policies, measured by average share of government consumption in GDP and real money supply growth rate over the crisis-hit period (P_1) as additional explanatory variables to the regression, they appear statistically insignificant.

[14] Hong and Tornell (1999), based on a sample of 103 countries that experienced currency crises during the 1980s and 1990s, document stylized facts about post-crisis adjustments. They distinguish between fast-recovering and slow-recovering economies and investigate why the two groups differ in their paces of recovery. Since their focus is more on post-crisis recovery, their results are more close to our results in column (2) instead of column (1); they do not find a significant role of initial share of export in determining post-crisis growth rate.

This paper compares the macroeconomic adjustment process of the Korean financial crisis to the stylized patterns we observe from the previous IMF program countries. Since the Asian crisis was so unexpectedly drastic, there existed a pessimistic view that the recovery may not be as rapid as that of Mexico and Argentina following the “tequila crisis” in 1994. Recent trends of various macroeconomic variables in these crisis-hit Asian countries, however, indicate that their case, particularly the Korean case, is consistent with the stylized patterns in the previous crisis episodes and in fact it shows very speedy adjustment shown in the tequila crisis.

In this paper, we argue that the quick adjustment of the Korean economy was possible since Korea was more open and private-sector oriented than other crisis-hit countries. In addition, the swift change of its macroeconomic policy stance toward expansion helped a quick recovery. The cross-country regression results also support that the extent of openness and accommodative macroeconomic policy contributed to the speedy post-crisis adjustment.

It is important to note, however, that a quick recovery from a crisis does not mean that the crisis is over. It is clear that expansionary macroeconomic policy and export growth do not necessary lead to an improvement in long-term competitiveness of the economy. As evident from many recurring financial crises in the countries that had previously received IMF support, a quick recovery from a crisis does not resolve the structural vulnerability of the economy that once made it susceptible to the crisis. Korea needs persistent structural reforms, including the financial and corporate sector restructuring, to prevent her from another crisis in future.

References

Borensztein, Eduardo and Jong-Wha Lee (1999),"Financial Crisis and Credit Crunch in Korea: Evidence from Firm-level Data," mimeo, IMF and Harvard University.

Cho, Yoon Je and Changyong Rhee (1999), "Macroeconomic Adjustments of the East Asian Economies After the Crisis: A Comparative Study," forthcoming in *Seoul Journal of Economics*

Choi, Bhumsoo (1999), "Lessons of Crisis Management from the Korean Experience," paper presented at the international forum on "The Korean Financial Crisis," the Center for International Development at Harvard University and the Harvard Institute for International Development, Cambridge, MA, U.S.A., Nov. 18-9, 1999.

Corbo, Vittorio and Stanley Fischer (1995), "Structural Adjustment, Stabilization and Policy Reform: Domestic and International Finance," in *Handbook of Development Economics*, ed. J. Behrman and T.N. Srinivasan, Elsevier Science B.V.

Frankel, Jeffrey A. and Andrew K. Rose (1996), "Currency Crashes in Emerging Markets: An Empirical Treatment," *Journal of International Economics*, 41, 351-366.

Haque, Nadeem Ul and Mohsin S. Kahn (1998), "Do IMF-Supported Programs Work? A Survey of the Cross-Country Empirical Evidence," IMF Working Paper, WP/98/169.

Hong, Kiseok, and Aaron Tornell (1999), "Post-Crisis Development of Asia," mimeo, Korea Development Institute.

Johnson, Simon, Peter Boone, Alasdair Breach, and Eric Friedman (1999), "Corproate Governance in the Asian Financial Crisis," mimeo, M.I.T.

Kaminsky, Graciela and Carmen M. Reinhart (1999), "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems, " *American Economic Review*, 89(3), 473-500.

Khan, Mohsin S. (1990), “The Macroeconomic Effects of Fund-Supported Adjustment Programs,” *IMF Staff Papers* 37 (2): 195-231.

Killick, Tony (1995), “Can the IMF Help Low-Income Countries? Experiences with its Structural Adjustment Facilities,” *World Economy* 18, June.

Killick, Tony, Moazzam Malik, and Marcus Manuel (1993), “What Can We Know About the Effects of IMF Programmes?” *World Economy*16, June.

Lee, Jang-Yung (1999), "Monetary and Fiscal Policies in Korea After the 1997 Crisis," paper presented at the international forum on "The Korean Financial Crisis," the Center for International Development at Harvard University and the Harvard Institute for International Development, Cambridge, MA, U.S.A., Nov. 18-9, 1999.

Lee, Jong-Wha, and Changyong Rhee (1999), "The Social Impacts of Asian Crisis," Occasional Papers 33, UNDP Human Development Office.

Perry, Guillermo, and Daniel Lederman (1999), "Adjustments after Speculative Attacks in Latin America and East Asia," mimeo.

Radelet Steven and Jeffrey Sachs (1998), “The East Asian Financial Crisis: Diagnosis, Remedies, Prospects,” *Brookings Papers on Economic Activity 2*.

Sachs, Jeffrey D. (1985), "External Debt and Macroeconomic Performance in Latin America and East Asia," *Brookings Papers on Economic Activity* 2.

Sachs, J. D., A. Tornell, and A. Velasco (1996), "The Collapse of the Mexican Peso: What Have We Learned?" *Economic Policy*.

Schadler, Susan, Adam Bennett, Maria Carkovic, Louis Dicks-Mireaux, Mauro Mecagni, James H.J. Morsink, and Miguel A. Savastano, 1995. *IMF Conditionality: Experience Under Stand-By and Extended Arrangements, Part I and Part II*, IMF: Washington D.C.

<Table 1> Macroeconomic Adjustment in Korea

	96	97	98					99	
	AVG	AVG	1Q	2Q	3Q	4Q	AVG	1Q	2Q
Growth	6.8	5.0	-3.6	-7.2	-7.1	-5.3	-5.8	4.6	9.8
P. Cons	7.2	3.2	-9.9	-11.2	-10.4	-6.9	-9.6	6.2	9.0
Invest	7.1	-3.2	-20.6	-23.7	-22.2	-17.9	-21.1	-4.3	4.9
G. Cons	7.7	5.8	1.3	-0.7	-0.6	-0.4	-0.1	-1.7	-2.6
Export	13.2	23.7	25.7	13.2	8.0	8.8	13.9	11.9	16.0
Import	14.8	-4.0	-27.2	-25.5	-25.9	-9.0	-21.9	27.4	27.4
Agriculture	6.7	6.5	6.2	-3.5	-7.0	-9.0	-6.3	-7.4	4.9
Manufacturing	6.8	6.6	-4.6	-10.4	-9.1	-4.7	-7.2	10.7	20.1
Service	7.8	5.4	-4.5	-7.4	-6.2	-3.4	-5.4	6.5	10.4
Construction	6.9	1.3	-3.9	-6.6	-10.1	-13.3	-9.0	-14.7	-7.9
CPI Inflation	4.9	4.5	8.9	8.2	7.0	6.0	7.5	0.7	0.6
CA/GDP	-4.7	-1.8	16.0	13.9	11.7	9.1	12.7	7.6	7.1
UE	2.0	2.6	5.6	6.8	7.4	7.4	6.8	8.4	6.6

Definition;

Growth: growth rate of real GDP, percent change over the same period in previous year.
P. Cons: growth rate of real private consumption, percent change over the same period in previous year
Invest: growth rate of real gross fixed capital formation, percent change over the same period in previous year
G. Cons: growth rate of real government consumption, percent change over the same period in previous year
Export: growth rate of real exports, percent change over the same period in previous year
Import: growth rate of real imports, percent change over the same period in previous year
CPI: consumer price index
CA/GDP: current account balance over (in case of quarterly data, a quarter of) annual GDP, percent
UE: unemployment rate, period average unless stated

Source; Bank of Korea, Korea National Statistical Office

<Table 2> Employment by Gender, Age, and Schooling in Korea

(units: thousand, %)

Age	April 1996	April 1997	April 1998	April 1999	Δ96/97 (%)	Δ97/98 (%)	Δ98/99 (%)
Total							
All	20,743	21,219	20,127	20,004	476 (2.3)	-1,092 (-5.1)	-123 (-0.6)
15/19	394	398	335	306	4 (1.0)	-63 (-15.8)	-29 (-8.7)
20/29	4,775	4,811	4,162	3,937	36 (0.8)	-649 (-13.5)	-225 (-5.4)
30/39	6,100	6,007	5,915	5,823	-93 (-1.5)	-92 (-1.5)	-92 (-1.6)
40/49	4,621	4,825	4,802	4,959	204 (4.4)	-23 (-0.5)	157 (3.3)
50/59	3,000	3,161	2,973	2,954	161 (5.4)	-188 (-5.9)	-19 (-0.6)
60+	1,852	2,017	1,939	2,025	165 (8.9)	-78 (-3.9)	86 (4.4)
Men							
All	12,349	12,446	11,976	11,817	97 (0.8)	-470 (-3.8)	-159 (-1.3)
15/19	151	150	137	141	-1 (-0.7)	-13 (-8.7)	4 (2.9)
20/29	2,528	2,513	2,178	2,041	-15 (-0.6)	-335 (-13.3)	-137 (-6.3)
30/39	3,969	3,867	3,841	3,776	-102 (-2.6)	-26 (-0.7)	-65 (-1.7)
40/49	2,836	2,893	2,912	2,960	57 (2.0)	19 (0.7)	48 (1.6)
50/59	1,819	1,910	1,805	1,782	91 (5.0)	-105 (-5.5)	-23 (-1.3)
60+	1,045	1,112	1,103	1,117	67 (6.4)	-9 (-0.8)	14 (1.3)
Women							
All	8,395	8,773	8,151	8,188	378 (4.5)	-622 (-7.1)	37 (0.5)
15/19	243	248	198	165	5 (2.1)	-50 (-20.2)	-33 (-16.7)
20/29	2,248	2,299	1,985	1,895	51 (2.3)	-314 (-13.7)	-90 (-4.5)
30/39	2,131	2,139	2,074	2,047	8 (0.4)	-65 (-3.0)	-27 (-1.3)
40/49	1,784	1,933	1,890	1,999	149 (8.4)	-43 (-2.2)	109 (5.8)
50/59	1,181	1,251	1,169	1,173	70 (5.9)	-82 (-6.6)	4 (0.3)
60+	807	904	836	908	97 (12.0)	-68 (-7.5)	72 (8.6)
Schooling							
No HS Diploma	7636	7913	6803	6682	277 (3.6)	-1110 (-14.0)	-121 (-1.8)
HS Diploma	9009	9009	8623	8538	0 (0)	-386 (-4.3)	-85 (-1.0)
College Diploma	4098	4297	4702	4785	199 (4.9)	405 (9.4)	83 (1.8)

Source: National Statistical Office, Korea, *The Economically Active Population Survey*,

<Table 3> Change in Employment by Industry Occupation and Work Specification in Korea

(units:thousand)

Industry	April 1997/ April1998 (% Change)	April 1998/ April1999 (% Change)
Agriculture/Fishery	216 (8.8)	-270 (-10.1)
Manufacturing	-619 (-13.7)	-17 (-0.4)
Construction	-392 (-19.3)	-211 (-12.9)
Utility/Trans./FIRE	11 (0.6)	-45 (-2.3)
Retail/Wholesale	-234 (-4.0)	23 (0.4)
Services	-66 (-1.5)	400 (9.2)
Occupation		
Prof./Administration	15 (0.0)	112 (3.0)
Clerical	-117 (-4.5)	-278 (-11.2)
Sales/Service	-103 (-2.1)	-11 (-0.2)
Operatives/Laborer	-1,072 (-13.9)	322 (4.8)
Farmers/Fishers	186 (7.9)	-266 (-10.5)
Work Specification		
Wage/Salary Workers	-1,041 (-7.8)	118 (1.0)
Regular Workers	-727 (-10.0)	-609 (-9.3)
Non-Wage Workers	-50 (-0.6)	-241 (-3.1)
Unpaid Family Workers	201 (10.5)	-186 (-8.8)
1 to 17 hours per week	47 (14.0)	180 (47.1)
18 to 35 hours per week	96 (9.0)	387 (33.4)
36 hours or More	-1,256 (-6.4)	-734 (-4.0)

Source: National Statistical Office, Korea, *The Economically Active Population Survey.*

<Table 4> Changes in Real Wage in Korea

	1997					1998					1999	
	1/4	2/4	3/4	4/4	Annual	1/4	2/4	3/4	4/4	Annual	1/4	2/4
Nominal Wage (All industries)	11.6	9.7	6.8	0.9	7.0	0.1	-1.2	-8.1	-0.4	-2.5	5.6	10.6
Inflation (CPI)	4.7	4.0	4.0	5.1	4.5	8.9	8.2	7.0	6.0	7.5	0.7	0.6
Real Wage Growth	6.9	5.7	2.8	-4.2	2.5	-8.8	-9.4	-15.1	-6.4	-10.0	4.9	10.0

Note: percentage change compared with the same period in the previous year.

Source: Korea Development Institute, *Monthly Economic Outlook.*

Table 5: Determinants of the Pace of Recovery from the Financial Crisis

A sample of the previous IMF program countries between 1974 and 1994

Dependent variable: Change of average GDP growth rates between crisis-period and post-crisis period

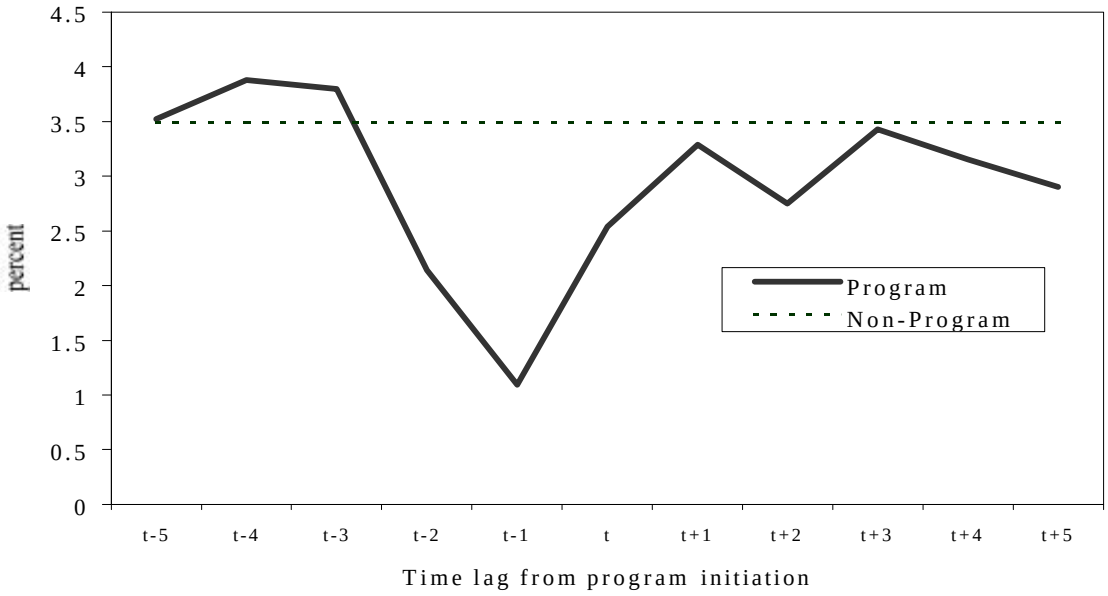
	(1)	(2)
Pre-crisis GDP growth rate(%)	0.323**	0.294*
	(0.185)	(0.110)
Crisis-period GDP growth rate (%)		-0.769*
		(0.027)
Export /GDP (%)	0.108*	0.027
average over the crisis period	(0.045)	(0.026)
Change in export growth rates (%)	0.108*	0.082*
between crisis and post-crisis period	(0.054)	(0.032)
Exchange depreciation (%)	0.066*	0.028*
average over the crisis period	(0.024)	(0.015)
Change of government consumption growth (%)	0.235*	0.126*
between crisis and post-crisis period	(0.059)	(0.025)
Change in real money supply growth (%)	0.019*	0.013*
difference between crisis and post-crisis period	(0.006)	(0.003)
Constant	-3.938	0.087
	(1.553)	(1.117)
R^2	0.38	0.75
No. of observations	90	90

Note: Robust standard errors reported in parentheses. Levels of statistical significance indicated by asterisks; *95 percent; ** 90 percent. Crisis-period includes the year of approval of an IMF program and the preceding year, P_1=[T-1, T]. Post-crisis period is the period over one to three years following the IMF program,

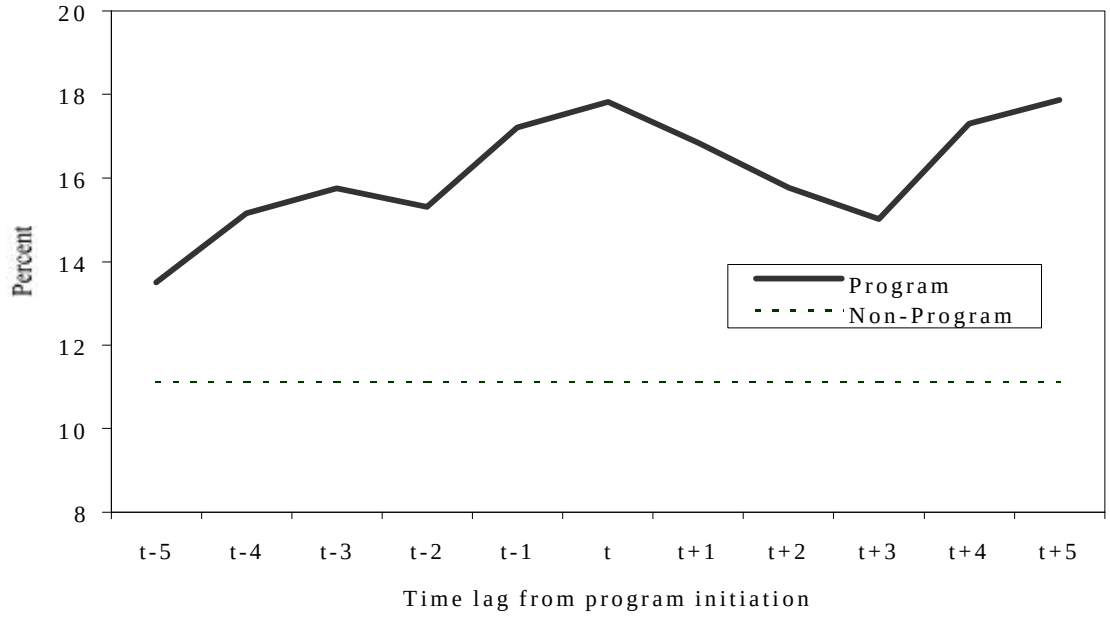
P_2=[T+1,T+3] and pre-crisis period includes four to two year preceding the initiation of the program, i.e. , P_3=[T-4,T-2]. T is the year of the initiation of an IMF-program.

Figure 1. Cross-Country Patterns

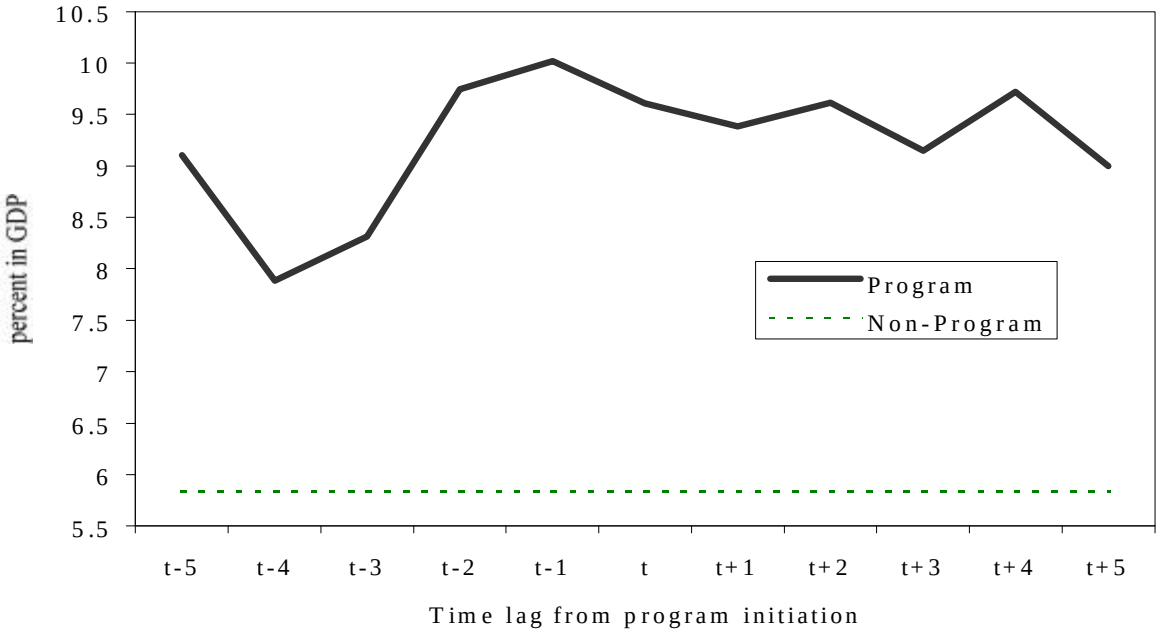
(a) Growth Rate



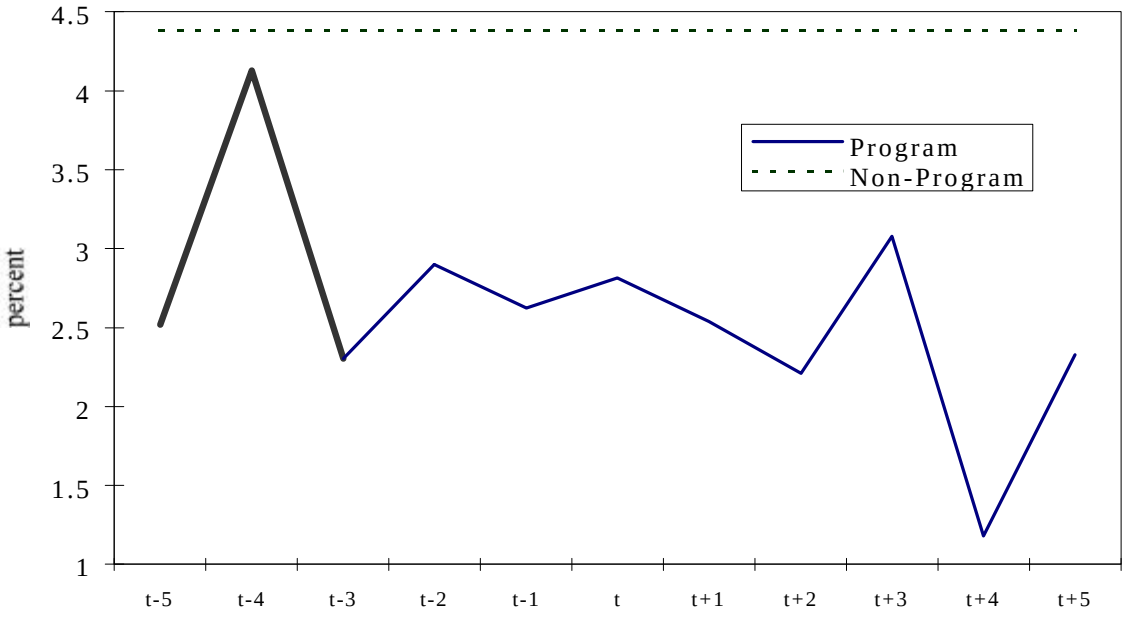
(b) Inflation Rate



(c) Current Account Deficit



(d) Employment Growth



< Figure 2: Macroeconomic Adjustment in Korea >