

Macro and Micro-Economic Policies in Financial Crises: Argentina 2000 and South Korea 1998

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Abstract

Modern nations depend upon foreign investment to fund industrial developments in the nation and to fund government infrastructure developments. Governments use foreign investment to principally fund government services, when the tax base of the country has been insufficient to balance the government budget. But deficits can continue to grow, year after year. When the annual government budget deficit becomes a significant portion of the annual revenue of an economy (GNP), then foreign investors lose confidence in a government's capability of continuing to finance its deficits. Investors stop buying government securities. The national currency exchange rate plunges. Local banks in a nation become insolvent. Bank runs occur as savers withdraw deposits from banks. Credit stops in a national economy, and businesses are unable to finance day-to-day production and pay wages. The economy plunges into a depression. Masses of people are unemployed. Property is lost. Families starve. Governments fall. The society descends into chaos. This occurred in the Asian Financial Crises, beginning in Thailand and spreading to other countries, including South Korea in 1997 and Argentina in 1999. Reviewing these cases, one can see that international financial institutions had neither correct economic models nor effective policies nor proper regulatory power -- to ensure that a global financial system was sound and also beneficial to economic growth in the nations of the world. And from this, one can see that IMF policies should have been instead focused not just on 'macro-economics' but also on the 'micro-economics' of each nation.

Keywords: Economic development, Financial crises, Macro & Micro-Economics

1. Introduction

Global competitiveness depends not only upon the capability of a nation to export products and to import needed resources but also to survive in a world of international finance. National financial crises are triggered internally by collapsing stock markets and inflation and externally by international fiscal crises. The Asian financial crisis in 1997-98 is a well-known and frequently studied, for example: (Blustein, 2003), (Sharma, 2003), (Sheng, 2009). It spread from Thailand to South Korea in Asia and then around the world to Russia and to Argentina. Then Russia was a special case, as it was in the midst of converting from communism to capitalism. But Argentina was capitalist country, and its experience in the global financial crisis can be usefully compared to the South Korea experience. The issue we examine is the proper relation of the global financial system to a nation's economic competitiveness.

2. Method

About the contemporary state of macro-economic theory, in 1997 Peter Boettke wrote: " F. A. Hayek's realistic economic theory has been replaced by the formalistic use of equilibrium models that bear little resemblance to reality. . . . The first casualty of the formalist revolution (in economics) was the historically and institutionally rich tradition of economics still evident in the 1930s. Case studies of particular industries, for example, had been common. After the development of econometrics, however, the case-study approach was discarded in favor of large-sample data analysis. The second casualty of the formalist revolution was what might be called "the economist's way of thinking," the defining characteristic of the discipline in both its classical and early neoclassical renditions. The best of the earlier economics combined an appreciation for the particularities of institutional context, with theory grounded in the generalities of choice under conditions of scarcity." (Boettke 1997)

Our method is to use historical cases of financial crises in order to analyze topologically the appropriateness of economic theory and international financial policies -- intended to ameliorate the crises but only deepened them. The

failure of International Monetary Fund policies during the Asian Financial Crisis has been studied and analyzed by several economists, including: Carmen Reinhart and Graciela L Kaminsky (Reinhart and Kaminsky, 2001), Joseph Stiglitz (Stiglitz, 2002), and Nagaire Woods (Woods, 2006). Here we add to their studies, a topological graphical approach of societal dynamics theory. (Betz, 2011) This approach has been applied to the analysis of the U.S. Great Depression. (Betz, 2013) With this topological approach, we wish to indicate clearly just why IMF theory and policy failed in the Asian Financial Crises of 1997-2000. Also we will compare the recovery from the resultant economic recessions in Argentina with South Korea. From this we will see the importance of contextual-dependence in macro-economic theories (with a micro-economic theory that can provide the contextual description of individual nations).

3. Asian Financial Crisis

From 1997 to 2000, several developing countries were hard hit by rapid changes in their international monetary exchange rates. This exchange-dynamics was accelerated by the entry of 'shadow banking' (U.S. mutual funds) investments in 'emerging markets'. Earlier in 1987, financial funds in the U.S. began investing \$8 million. By 1997, this investment had grown to \$8 billion; and there were about 1000 mutual funds investing in emerging markets. And in 1997, they began to pull out their money, triggering the financial crises. Also other Asian banks, particularly Japanese banks, had been extending short-term loans to foreign banks in Thailand, Indonesia, South Korea, Hong Kong, Taiwan; and these loans were not renewed in 1997. Paul Blustein wrote: "The dominant players in Asia were Japanese banks. . . . In all the emerging market combined, not just in Asia, the net inflows of private capital . . . soared to \$329 billion by 1996." (Blustein, 2003)

The first Asian 'emerging market' to financially stumble in July 1975 was Thailand. Blustein wrote: ". . . amid severe financial turmoil, the Thai government abandoned its long-standing policy of maintaining a fixed value for the baht against the U.S. dollar, and the baht was sinking fast. . . ." (Blustein, 2003) The term 'financial contagion' is used to indicate a financial crisis which spreads from one institution or country to another institution or country. The next country to which contagion occurred was Indonesia. Blustein wrote: "On October 8, 1997, . . . an IMF mission was dispatched to negotiate a program, including a substantial loan. . . . The Indonesian rupiah . . . was starting to drop sharply." (Blustein, 2003)

The third contagious country was South Korea in the fall of 1997. Carmen Reinhart and Graciela Kaminsky wrote: "People tend to think of 'hot money' as mutual funds, or hedge funds, which of course it is. But in Asia, bank lending was the key form of hot money. . . . As regards the propagation of shocks across national borders during the Asian crisis, the behavior of foreign banks, particularly Japanese banks that began drastically to curtail their lending to the affected Asian countries following the Thai devaluation, appears to have played a role in spreading the crisis, particularly to Indonesia, Malaysia, and South Korea. The large exposure of European banks to South Korea and their subsequent retrenchment further deepened the regional liquidity crunch." (Reinhart and Kaminsky, 2001)

The contagion in the Asian Financial Crisis continued to spread, reaching Argentina in 1997-2000. Paul Blustein wrote: "The collapse of the Argentine economy, which commenced a couple of weeks after the withdrawal of the IMF mission in early December 2001, was one of the most spectacular in modern history. . . . First came the scenes of people thronging the Plaza de Mayo banging pots and pans, and mobs looting shops and sacking government buildings all over the country . . . President de la Rúa was forced to resign on December 21. Then came the tragicomic spectacle of a succession of five presidents taking office over a mere ten days, ending on New Year's Day on 2002. . . . Like an engine that has seized up for lack of oil, the Argentine economy ground to a virtual halt. Additional restrictions on bank withdrawals led to a breakdown in the system by which people and businesses paid each other, and the bank credit that companies needed for day-to-day commerce dried up." (Blustein, 2005)

After the Asian Financial Crisis spread from affected nation to nation, each nation had then to recover from the economic depressions which the crisis had triggered. We look at two cases of recovery, Argentina and South Korea. South Korea quickly recovered, but Argentina did not. Why?

4. 1997-99 Asian Financial Crisis: Argentina

Argentina had not always been a country on an economic precipice. Independent from Spain in 1860, it had been a rich country, with fertile land and energetic immigrants from Europe. It exported agricultural products. But the 1930s world depression hit the country's exports, and then World War II occurred. The country was divided between the few wealthy people, who owned vast agricultural estates, and the city populations with unemployment. Argentina was not a manufacturing nation. Then a new president, General Juan Domingo Peron gained popularity by employing many Argentines in government services. Tariffs were erected against imports. The Argentine government controlled businesses through permits and license requirements and state ownership.

Using a topological approach to modeling economic contexts, we can graph this in **Figure 1**, as International Commodity Prices and Production, and Export-Import Balance and Wealth Distribution and Government.

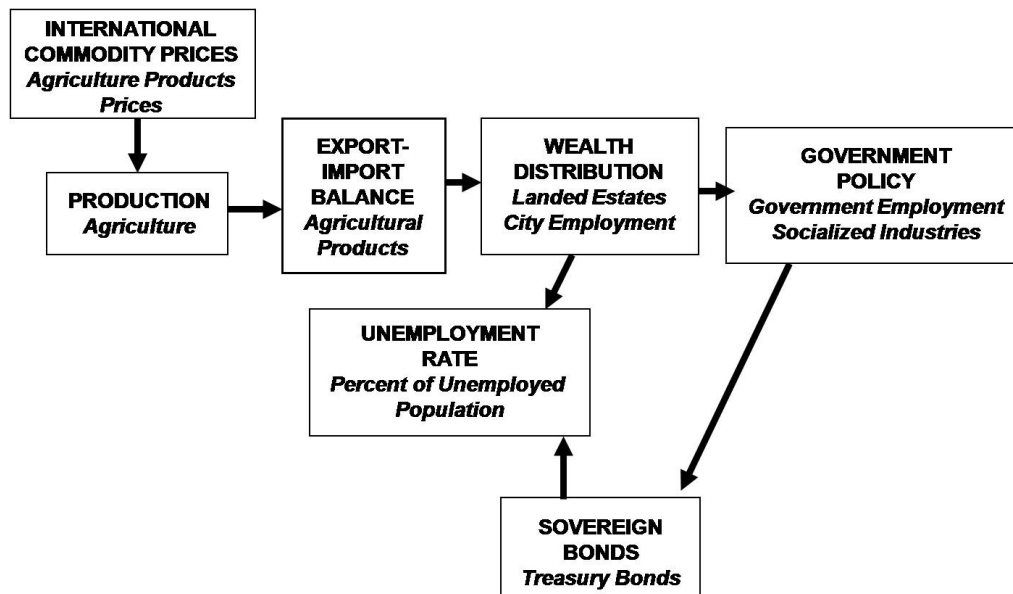


Figure 1. Connections to Fiscal Processes

In order to reduce the Unemployment Rate in the nation, the government employed people, using Sovereign Bonds to finance the Federal Deficits of the Argentine government. International Commodity Prices influence the profitability of exports of agricultural products. However because of farming technology in modern societies, agriculture does not create many jobs – primarily creating wealth for the persons (or corporations) who own the large estates. Government policies for full employment, which are predominantly agricultural, cannot depend upon the agriculture industry to provide full employment.

In 1955, the Argentine military removed Peron from office. This was the time of the 'Cold War', the war between capitalism and communism. In the Americas, Fidel Castro seized power in Cuba and became a communist dictator. Battles between the 'right wing' (capitalism) and 'left wing' (socialism) continued in Argentina, in class struggle between the wealthy and the working classes. In 1976 the military government arrested and killed many people, whom the military classified as 'left wing'. These missing persons were called the "disappeared people" (later estimated to be about eight thousand people). We can add this to Figure 2, as Government Control and Government Justice. In the ideology of a government, capitalism requires that industry be privately invested and owned. Justice of government should protect the rights of all individuals, with equal protection and law. In contrast, in the ideology of dictatorships, such as in communist governments, industry is state owned and controlled and individuals have no rights.

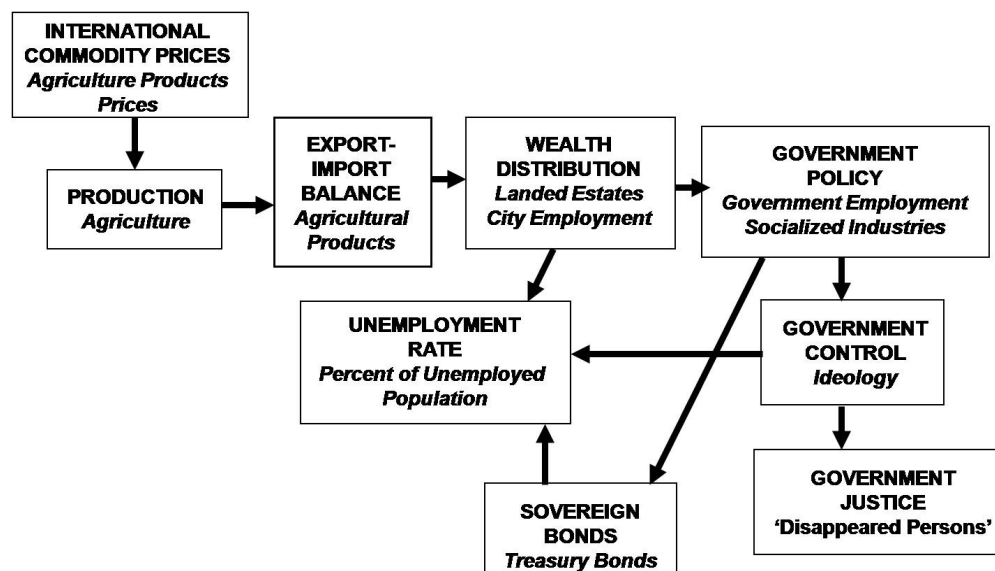


Figure 2. Connections to Fiscal Processes

Under the military rule, the government ran large national deficits in funding national projects and in financing the Falklands War. The country's industries were not internationally competitive and unemployment was likely near 20% (although official figures claimed much less). In 1982, the Argentine military lost a war with Britain over control of the Falkland Islands. Discredited, the military yielded power back to a civilian rule; and Raul Alfonsin was elected president in 1983. He established a National Commission on the Disappearance of Persons. In 1985, government officials of the Military Junta were put on trial. A new currency was introduced, the 'austral' and printed. Monetary inflation jumped from 10% to 20% per month -- spiraling out of control. In 1989, inflation was 200%. Riots occurred. President Alfonsin resigned his office, five months before the end of his term.

We can add all this to Figure 3: Government Budgets and the issuance of Sovereign Bonds impacted Monetary Policy of the nation. Also Government Revenue are the key inputs to a government budget. Taxes provide the income upon which governments operate, and corruption determines whether or not taxes are really properly collected. The disappeared persons on the chart are examples of the injustice in the government due to government ideology.

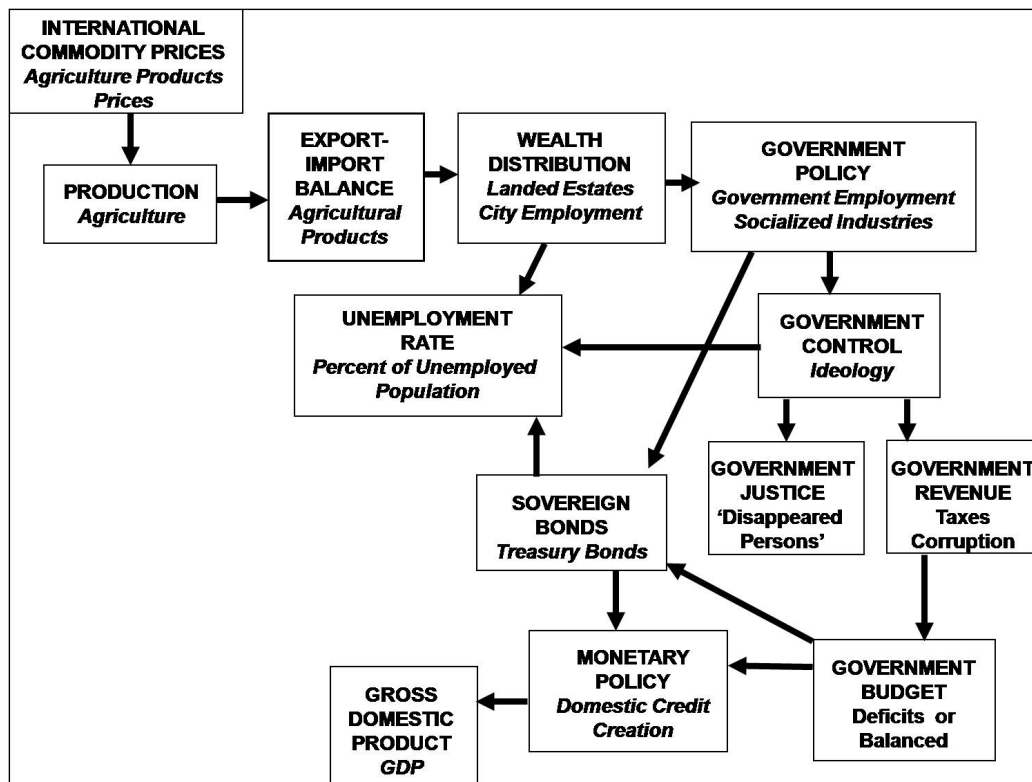


Figure 3. Connections to Fiscal Processes

The employment rate is one measure of the state of a national economy and the stability of a government. When unemployment rate rises above 20%, an economy is in the state of a recession and if the recession **lasts** more than two years, it is in a state of depression. Governments are not stable when employment rates go above 25% (and youth unemployment rises to 50%). Governments can fund deficits by borrowing money from national and foreign investors in the forms of treasury bonds. But the rate of interest of treasury bonds depends upon investor perception of the capability of the government to honor their bonds. Interest rates can rise under government policies because of monetary inflation. The Monetary Policy is expected to influence (control) the level of economic activity in a nation as its Gross Domestic Product (GDP). Government bonds become unsalable if the investment community anticipates a government default on their bonds. When taxes are insufficient to fund government services, then budget deficits occur. Also taxes are not collected when government officials are not diligent or honest.

In 1989, Carlos Menem (with the support of 'Peronists') won the election for president. Menem dismantled many trade barriers, reduced business regulations and began privatizations of state industries. He also established a fixed exchange rate of the Argentine peso to the U.S. dollar. In 1990, he had appointed Domingo Cavallo as Minister of the Economy, and Cavallo set the convertibility of the Austral to the Dollar at ten thousand to one. This ended the hyperinflation after 1990. The Argentine peso was reintroduced at a ratio of one to the dollar.

However, Argentina still had a large government debt, accumulated under Peron and the later military junta governments. But the fixed exchange rate of the peso to the dollar encouraged foreign financial institutions to sell Argentine bonds. And the new government continued financing the ever growing government debt with more government debt.

In July 2001, the government cut the salaries of civil servants and pensions by 13%. Strikes occurred across the nation. In August, the Government paid employees, not in money, but in IOUs. Unemployment rose to 16% (reaching 29% by December). Then the IMF refused to release the second loan payout of \$1.3 billion. Bank runs began, with Argentines withdrawing dollars from their banks. The government froze bank accounts for a year, allowing only \$250 a week to be withdrawn. Protests continued in the streets, and riots occur. On the 21st of December 2001, President Fernando de la Rúa resigned, fleeing by helicopter. Riots continue throughout December 2001. The head of the Argentine Senate assumed interim presidency on December 23 but resigned on December 30. Before he resigned, the Argentine government defaulted on \$132 billion dollars of its public debt (the majority of its debt).

Next on January 1, 2002, the Argentine Congress elected Eduardo Duhalde as president. On January 6, President Duhalde abandoned the peso-to-dollar convertibility. The peso exchange rate floated freely. But inflation returned, and unemployment continued to rise. The country was in the midst of a depression, throughout all of 2002 and 2003.

We denote this in Figure 4, where the International Financial Market had anticipated a major change in the Monetary International Exchange Rate as the end of the Argentine policy of the convertibility of the peso to the dollar and stopped buying Argentine treasury bonds. A ‘Central Bank Reserve’ is the amount of internationally-recognized money which a government national bank holds as an international-standard monetary reserve (e.g. dollars or gold or euros). When the International Financial Market stopped buying Argentine bonds, this created the Bank Runs on Argentine banks, which in turn triggered an Economic Depression, which in turn drastically drove up the Unemployment Rate.

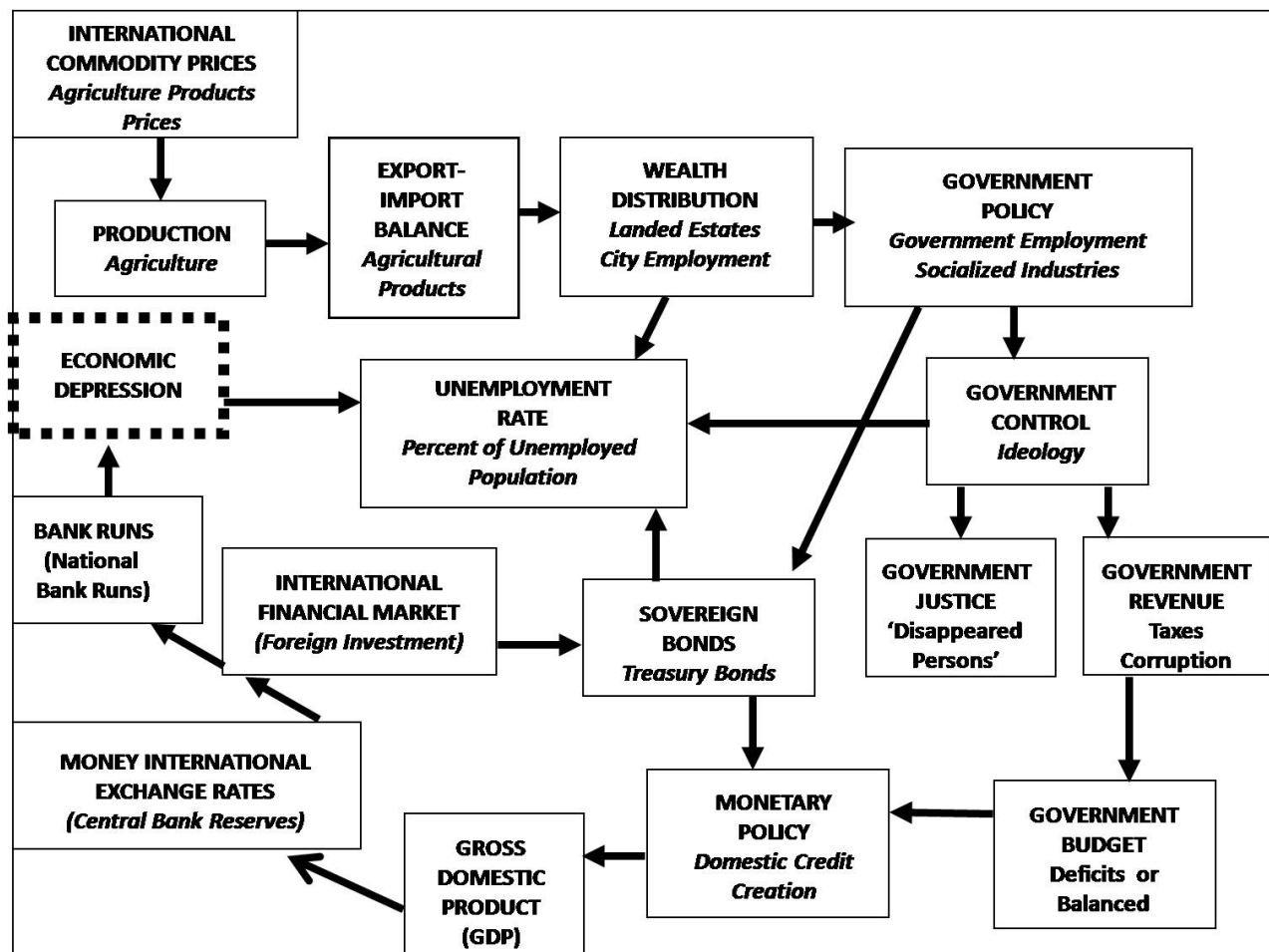


Figure 4. Connections to Fiscal Processes

As sketched in the diagram of Figure 4, we see that this is a complicated story; but it is a depiction of the micro-economic structure of Argentina, in the decade from 1991 to 2001. It is in such detail of the micro-economics of a nation that one must go to in order to understand the economic history of such a period. *Topological graph models can depict the detailed complications of the micro-economic structure of a society in a given period.*

What we will next see is that when the International Monetary Fund (IMF) tried to help out Argentina, its policies were not informed by such micro-economic detail. Instead the IMF officials based their policies upon a macro-economic theory which did not match the empirical context of Argentina. The IMF policies did not help in the Argentine crisis but only exacerbated it.

5. IMF Policy Model

The International Monetary Fund (IMF) negotiated with respective countries in the crisis to provide loans, intending to avoid financial collapses. But in each case, IMF conditions and loans to governments did not prevent financial collapse. Why not? To understand this, we review the fiscal model which IMF officials used to guide their policy decisions -- their macro-economic model -- called, by the IMF, the 'Polak Model'. Ngaire Woods wrote: "Early on in the life of the IMF, a particular model emerged . . . the Polak model. It offered staff a way to diagnose and prescribe conditions for any economy facing a balance of payments crisis. . . The original model required few data. It focused attention on a key variable that governments could control – domestic credit creation." (Woods, 2006)

In 1989 and 1998, J. J. Polak published his model, and his paper was reprinted later as collected essays. (Polak, 1989) (Polak, 1998) (Polak, 2005) The model consists of four equations:

(1) $I = kP$

Imports (**I**) are proportional (**k**) to GNP (**P**).

(2) $E - I = (\Delta R - C)$

Exports (**E**) minus Imports (**I**) are equal to (Change-in-Reserves (**ΔR**) minus Net-Capital-Inflow (**C**) of the non-banking sector).

(3) $\Delta M = k \Delta P$

Change-in-Money-Supply (**ΔM**) is proportional (**k**) to Change-in-Gross-Domestic-Product (**ΔP**).

(4) $\Delta R = (\Delta M - \Delta D)$

Change-in-Reserves (**ΔR**) equals (Change-in-Money-Supply (**ΔM**) minus Change-in-Domestic-Credit (**ΔD**).

The first equation is about imports (**I**) and exports (**E**) in a nation, asserting that:

Imports (I) are proportional to the total revenue (P) in a nation.

This is a questionable assumption. In a nation, what-is-imported and what-is-exported depends upon what-cannot-be-produced-in-a-nation (*Imports*) and what-can-be-produced (*Exports*). But what can be produced and what needs to be imported bears no relation to the total revenue. Instead, what-can-be-produced depends upon the industrial technology in a nation and the resources of a nation. In 1998, Argentina could not produce automobiles, but South Korea could. Argentina, with its vast grassy plains, could produce and export agricultural products; South Korea with limited resources for rice production could just feed its own people. In this way, macro-economics (big picture) depends upon micro-economics (detailed structure). Each country's economic structure (production, banks, companies, real estate, government budgets) was different and unique.

Argentina exported agricultural products (e.g. frozen beef), while South Korea exported manufactured products (e.g. semiconductor chips and automobiles). Argentina imported manufactured products, and South Korea imported oil and iron ore. Thus to keep Argentina running, employment in the agricultural products was vital to maintain. While to keep South Korea running, imports of oil and iron ore were vital. The macro-economic policies of IMF needed to differ for the two countries at the time, because of their different micro-economic contexts.

So the first equation ($I = kP$) was not true -- Imports (**I**) in a country was not directly related to the Gross National Product (**P**). More GNP could provide more money to purchase imports. But, as we saw in the different countries, the level of imports was heavily financed by foreign credit (by borrowing from international credit markets). It was excessive borrowing of money (foreign loans) which increased the level of national imports, far more than did their

GNP. Polak's first macro-economic assumption about imports and GNP was not historically correct in Argentina in the Asian financial crisis.

The second equation was also about imports (I) and exports (E) in a nation: $E - I = (\Delta R - C)$ This assumed that the difference between Exports (E) and Imports (I) depended upon changes-in-money-reserves (ΔR) in the central bank of the nation and upon the inflow of capital (C) into the non-banking sectors. Exports-Imports (E-I) increase as an increase in the national bank reserves and as a decrease in capital flows. Did in fact exports increase over imports when the central bank reserve of money increased in Argentina? No. In Argentina, exports depended upon the international price of beef products. When the price fell, Argentina exported more frozen beef; when the price rose, Argentina exported less. In Argentina, the difference of exports-to-imports bore little relation to the amount of gold held by the Argentine central bank. What the central reserves were related to was the exchange rate of the Argentine peso.

Also did in fact exports increase over imports when the capital flows to manufacturing investments decreased? No. Argentine commerce had not invested in manufacturing but in agriculture. But in South Korea, the opposite was true. Exports of manufactured goods increased when capital flows increased as investments in manufacturing.

This second equation ($E - I = \Delta R - C$) assumed that the difference between Exports (E) and Imports (I) depended upon changes-in-money-reserves (ΔR) in the central bank of the nation and upon the inflow of capital (C) into the non-banking sectors. This meant, for example, if a nation buys gold (or dollars) and companies in the nation borrow less in foreign loans, then exports will increase over imports. This assumption is about how a financially stronger country (with more gold and less foreign loans) could increase exports (or decrease imports). Certainly financial strength in a nation could increase exports – but only if that increase in reserves (i.e. gold) is used to invest in more manufacturing capability in the nation. Thus Polak's second macro-economic assumption is contextually dependent on how a country uses its wealth, upon is micro-economic structure.

For example, in the case of South Korea, inflows of foreign capital were financing manufacturing investments. Yet the decrease in capital flow did not increase exports but paralyzed the manufacturing sector, bringing about the economic collapse. In the case of Argentina, foreign capital inflows were going to finance government services and not to private manufacturing investments. So in both countries, a dependence of the difference of exports and imports had no direct relationship to increased central bank reserves and decreased foreign loans. This macro-economic assumption was not historically true in these two countries in which IMF used it as policy.

For the third equation $\Delta M = k \Delta P$, the assumption was that Change-in-Money-Supply (ΔM) is proportional (k) to Change-in-Gross-National-Product (ΔP). In Argentina, this was periodically not true. Governments inflated money, increasing the supply of money, without increased the GNP. Inflation impacted not the gross revenue of Argentina, but Argentina's exchange rate. Polak's equation does not distinguish between a real increase in monetary supply (productive expansion of money and credit in a national financial system) and an artificial increase through inflation. Obviously, Polak meant ΔM to be measured as real increase. And a real increase in money-credit can help increase GNP when the increase in money is invested in increasing manufacturing and services. But this also is contextually dependent, the micro-economics of how a nation uses its change in money to invest or not invest in expanding production. Polak's third equation was not true in Argentina, because the government inflated Argentine money by borrowing foreign money to finance huge and continuing government debt.

For the fourth equation ($\Delta R = \Delta M - \Delta D$), Change-Reserves (ΔR) did not actually equal the Change-in-Money-Supply (ΔM) minus Change-in-Domestic-Credit (ΔD). Domestic Credit froze up as banks stopped lending because of their insolvency. The central bank reserves did not increase at all; and instead the economy stopped. In all the countries of the Asian crisis, the empirical reality about Reserves of dollars (R) was quite different from Polak's assumption. Changes in reserves (ΔR) depended upon the exchange-rate-of-the-local-currency. Reserves were used by a central bank to defend a national fiscal policy of stability of local currency. In the earlier phases of the Asian crisis, the Thailand central bank had purchased baht with dollars to defend baht exchange rate. The Indonesian central bank had purchased rupiah with dollars to defend the rupiah exchange rate. The Korean central bank had purchased won with dollars to defend the won exchange rate. The Argentine central bank bought pesos with dollars to defend the peso exchange rate. Contrary to Polak's assumption, it was an exchange-rate fiscal policy which depleted national bank Reserves (not the changes in money-credit supply).

Ngaire Woods explained: "Crucially, it (the Polak model) linked a country's domestic economic policies to its balance of payments position. This opened the door for IMF conditionality (conditions for making an IMF loan to a country). . . . The starting point of the Polak model is what was known (in macro-economic theory) as the 'absorption approach' to the balance of payments -- that a country with a balance of payments deficit was absorbing

too many resources in consumption and investment, relative to what that country can produce. With a couple of simplifying assumptions, it will follow that a country which increases domestic credit too rapidly will encounter increasing balance of payments deficits reflected in a loss in central bank reserves. . . . On the basis of this analysis, when a country has a balance of payments deficit, the Fund's prescription focuses on reducing government spending, increasing taxes, and reducing domestic credit creation." (Woods, 2006)

The application of a uniform macro-policy by the IMF that ignored national micro-economic structural details did not help any of these countries -- but only deepened each crisis.

Empirically, any macro-economic model of an economy is contextually dependent upon the detailed micro-economic structure of that economy.

Why did Polak make these assumptions? One can only suppose that Polak's economic thinking traced by to traditional economic thinking, which had been earlier developed in 1800s in the industrial revolution in Europe (see, for example, Polyani, 1944). Economic thinking had been focused upon exports, because what industrial technology was doing then was producing too much product to be consumed locally. Industrialization is a business phenomenon which requires export of the large amount of product which industrial technology can produce in the factories.

Then English economic thinking had properly focused upon exports and imports. More exports -- good! More imports -- bad! A positive export-minus-import balance brought economic prosperity to the wealth in England; and a negative export-minus-import balance brought economic recession in England. Economic recession was bad because, capitalists lost wealth and labor was unemployed.

But economically what could be done to increase exports and decrease imports? The economic thinking then was to increase unemployment -- as a way to reduce labor prices thus reducing production costs and thus decreasing export products prices -- thereby increasing exports and profits. This was the solution, control over employment. Firing labor increased exports; and when exports increased, labor could be rehired.

Looking back historically, there was, in the 1800s, a micro-economic basis for the validity of this kind of economic thought -- in the industrialization of Europe. Then manufacturing automation was not yet a technology; it would occur later in the 1900s. In the 1800s, manufacturing machinery was the new technology. So back then, manufacturing machinery needed many people to run the machines, as industrial labor. Economically in the English industrial revolution, labor was a large part of production costs -- roughly 50% of production costs was in labor and 50% in materials. (Then the costs-of-production had not included the cost of factory investment, because manufacturing machinery was directly purchased and not financed by loans). Accordingly, since material costs could not be controlled by English capital, labor costs could, by increasing unemployment and making people more willing to work at lower wages.

But in the modern twenty-first century, labor costs in most manufacturing are no longer large costs. Labor costs are now around only 5% of direct production costs; while material costs are still high, around 35%, and overhead are the remainder of the 60% of direct costs. (The exception to this is the cost of labor in clothing assembly, as still labor costs there have been at least 35%, with material costs 35% and overhead 30%.) The difference in manufacturing costs between the nineteenth century and the twenty-first century has been in the technologies of manufacturing automation -- which had rapidly progressed all through the twentieth century. For this reason economic thinking about an industrialized economy in the 1800s has not been appropriate for modern economic thinking about present industrialization. The Polak model constituted economic thinking by IMF officials, which was 100 years out of date about technology.

The Polak model was aimed at increasing a national trade balance (increasing the ratio of exports/imports) -- all dependent upon a causal connection between export-imports and unemployment (unemployment created by reducing business through increasing taxes and reducing credit). But this was not true in Argentina. Argentine unemployment produced depression and government instability, but did not increase exports. The Polak model missed important parts of Argentine reality.

Also the IMF Polak model assumed that 'Monetary Policy' (which is the control of domestic credit creation) will directly influence 'Gross Domestic Product' (which is the total level of revenue generated annually in a national economy). This is an important assumption, which may or not be true. We saw this was not true of Argentina, as neither inflation nor deflation increased GDP. Argentine GDP was more influenced by the international commodity prices, since Argentina was an agricultural exporting nation. This was why, when applied to Argentina, the IMF Polak model resulted in bank runs and economic recessions. And this also had occurred earlier in Thailand, Indonesia, and South Korea.

- (1) *The IMF Polak policy model was seriously inaccurate in modeling economic reality.*
- (2) *The Polak assumption (that raising the unemployment rate directly stimulates increased exports) was seriously incorrect -- in explaining economic reality.*

To summarize, economic thinking that assumes laying-workers-off-to-reduce-production-costs-will-turn-around-an-economy is out of date. Unemployment may or may not reduce product prices, depending upon how major a factor is labor cost in production. In the twenty-first century, the major factor in the manufacturing costs is no longer labor wages but investments in automation. Most of the wage costs in industry now is in management salaries and bonuses and not in labor. Over the last century, automation has increasingly taken labor out of production effort and cost. Thus exports may or may not be increased, as labor wages are lowered by unemployment. Now there is no direct connection between increasing exports and increasing unemployment. Not in Thailand, Indonesia, South Korea, nor in Argentina. The basic assumption, in the traditional economic thought underlying the IMF Polak model, is no longer historically appropriate -- that increased unemployment will increase exports.

Ngaire Woods wrote: "In defining its craft, the IMF is heavily constrained both by its capacity and by the limits put upon it by its most powerful members. Within these constraints for a long time, the Polak model (and successive financial programming models) made life relatively easy for the Fund. . . . That said, financial programming was severely challenged during the 1980s as the IMF sought an appropriate response to the debt crises that afflicted so many developing countries. . . . The downside of professionalism for the IMF (and the World Bank) is that there is very little room for local knowledge. Local knowledge is messy, political, intractable, and very difficult to make judgments about." (Woods, 2006) But also 'local knowledge' provides the empirical detail about whether or not an abstract model really captures reality -- or misses it. Fiscal policy which is not modeled upon reality can do a great deal of social harm. Argentine citizens paid for the corruption of Argentine officials and for the incompetence of IMF professionals. Models, upon which policy is based, should capture societal reality -- completely and correctly.

The Polak model, which sounded nice when expressed in math symbols, was incorrect when expressed in historical reality.

Economic models are unreal, when based upon economic theory which is not empirically grounded in economic history.

Societal harm is done by the use of unreal policy models based upon flawed theory.

These conclusions have become widespread among some contemporary economists. We have quoted from Ngaire Wood's depiction of IMF policy in Argentina. Others, such as Joseph E. Stiglitz, have also re-examined IMF policies of the time: "Perhaps of all the IMF's blunders, it is the mistakes in sequencing and pacing, and the failure to be sensitive to the broader social context, that have received the most attention." (Stiglitz, 2002)

These mistakes derive from an incomplete theory about society (by some economists) that a society is mostly an economic system. Stiglitz wrote that the 'mistakes' of IMF consisted of: ". . . forcing (economic) liberalization before (societal) safety nets were put in place, before there was an adequate regulatory framework, before the countries could withstand the adverse consequences of the sudden changes in market sentiment that are part and parcel of modern capitalism; forcing policies that led to job destruction before the essentials for job creations were put in place; forcing privatization before there were adequate competition and regulatory frameworks." (Stiglitz, 2002)

This is an interesting list of necessary societal 'priors' (before's) for modern economic systems to properly function:

- adequate regulatory framework,
- adequate competition,
- safety nets for economic liberalization,
- policies for job creation rather than destruction.

But why were these societal-prior-conditions not recognized in the Polak policy model, upon which IMF officials had relied? Stiglitz wrote: "Many of the sequencing mistakes reflected fundamental misunderstandings of both economic and political processes, misunderstandings that were particularly associated with those who believed in market fundamentalism. They argued . . . that once private property rights were established, all else would follow naturally -- including the institutions and the kinds of legal structures that make market economies work." (Stiglitz, 2002)

The reason for this is that in societal systems, nothing is simply 'natural' as in the nature of physics -- where everything is naturally mechanistic, natural physical mechanisms. Instead, social things in society are not mechanistic but functional. The 'nature' in society is 'function' -- functional activities by individuals, by groups of people, by businesses, by governments. Societies are functional things and require many functional aspects, such as: leadership, integrity, justice, capability, ethics, power, technology. A properly functioning economy in a society requires a lot of societal-prior-conditions.

Why has this basic understanding about society not been pervasive in economics? Stiglitz wrote: "Behind the free market ideology, there is a model, often attributed to Adam Smith, which argues that market forces, the profit motive, drive the economy to efficient outcomes as if by an *invisible hand*. One of the great achievements of modern economics is to show the sense in which, and the conditions under which, Smith's conclusion is correct. It turns out that these conditions are highly restrictive. . . . Significantly, there are desirable government interventions which . . . can improve upon the efficiency of the market." (Stiglitz, 2002)

It is these 'desirable government interventions' which IMF policy got wrong. IMF did not push for the government: (1) to establish the proper 'safety nets for economic liberalization', (2) to establish an 'adequate regulatory framework', (3) to establish policies for job creation rather than destruction, and (4) to regulate commercial and financial institutions to achieve 'adequate competition'.

Stiglitz wrote: "If the crises had a familiar pattern, so too did the IMF's responses. If provided huge amounts of money . . . so that the countries could sustain the exchange rate. . . . It was thus, in part, a bailout to the international banks as much as it was a bailout to the country. The lenders did not have to face the full consequences of having made bad loans." (Stiglitz, 2002)

The economic justification of 'bailout to the international banks' was in the IMF conditions to 'reform' a country. Stiglitz wrote: "The IMF combined the money with conditions. . . . higher interest rates . . . cut backs in government spending and increases in taxes. The IMF would claim that imposing these conditions was the responsible thing to do. . . . The IMF programs, with all of their conditions and with all of their money, failed. . . . As a crisis progressed, unemployment soared, GNP plummeted, banks closed. . . . The crisis economies . . . were clearly threatened with a major downturn and needed stimulation. The IMF programs pushed exactly the opposite course. . . . Today, the IMF admits that the fiscal policy it recommended was excessively austere." (Stiglitz, 2002)

Thus the problem of correcting bad fiscal policies (which lead to too much government borrowing) does not lie in IMF policies of more loans and restrictive reforms during a crisis. Instead it lies with how a government handles a crisis and fixes its own financial and commercial system. We next examine this difference between Argentina's fiscal crisis and South Korea's fiscal crisis. South Korea fixed itself. Argentina did not fix itself. The IMF fixed nobody.

Societal prior-conditions for an effective economic system require that each society repair its own functioning – in a proper and patriotic partnership between government and commerce and within a capitalistic economy.

6. Comparing South Korea and Argentina Economic Crisis Management

We examine how the South Korean government and industry dealt with the crisis (fixed the prior problems existing in the Korean economy). South Korean reform set the stage for a rapid resurgence of economic growth. A decade later, South Korea was one of the leading economic nations in the world. While the Argentine economy eventually recovered, it did not grow as successfully. In 2013, South Korea was a globally competitive industrialized nation, while Argentina was still primarily an agricultural-exporting nation.

Yoon Je Cho summarized the Korean crisis: "The Korean economy faced a severe financial and currency crisis in November 1997 and started an IMF program in early December 1997. It fell into a deep recession, with real GDP contracting 67 % in 1998. The economy started a rapid recovery in late 1998, with growth rates of 10.7 % in 1999 and 8.8 % in 2000." (Cho, 2002) The economic decline was quick. But surprisingly, the economic recovery was quick. Rapid economic decline in a financial crisis is a standard pattern, but rapid economic recovery is not standard. To understand the uniqueness of the Korean recovery, we examine how the Korean partnership of government and industry set to work immediately to fix the crisis.

Kyu-sung Lee wrote: "In December 1997, domestic demand continued to contract sharply (and continued to contract during the first quarter of 1998). Activity in the construction sector spiraled downward, and imports of machinery and orders for domestically produced machinery slowed drastically. Wholesale and retail sales fell. Sales of consumer durables . . . dropped. . . . Production was slumping across the board. . . . At the same time, consumer prices surged and put enormous pressure on households. . . . Housing prices declined, and the real estate market was in a

severe downturn. Inflation was fueled mostly by spiraling import prices because of the weakening won. . . . The key determinant of inflation was the won/dollar exchange rate. . . . With corporate bankruptcies on the rise, unemployment surged beginning in December 1997 -- from 570,000 in November 1997 to 1,200,000 in February 1998.” (Lee, 2011, location 3711)

Kyu-sung Lee was the Minister for Finance and Industry in D. J. Kim’s government in 1988, and he participated in the formulation of government policies to contain the crisis and reform the financial and commercial infrastructure of South Korea. Central to handling the crisis was not IMF macro-economic policies but Korean government micro-economic structural policies.

Korean government policy focused upon both the macro- and micro-economics of Korea. Yoon-Je Cho wrote: “The initial crisis resolution strategy under the IMF program with Korea was composed largely of two parts: macroeconomic policies and structural adjustment measures (microeconomics). . . . The main goal of the (macroeconomic) policies was to stabilize the exchange market and to improve the current account. The main components of the structural reform policies were financial restructuring and the rapid adoption of global standards in financial supervision, accounting standards, disclosure requirements, and corporate governance. The main goal was to increase transparency and accountability in management and thus to improve economic efficiency.” (Cho, 2002)

How was this done? It was begun by the Korean government under the new President D.J. Kim, eliciting commercial cooperation by private firms in the reform of Korean economics. Kyu-sung Lee wrote about the five principles the President D. J. Kim imposed upon chaebols in order to gain government assistance in the Korean financial crisis of 1997-99: “In principle, corporate restructuring had to be undertaken by companies voluntarily. Financial companies were to enhance their business practices through strict evaluations . . . The theme running through the five principles of business restructuring was that companies must be managed on the basis of transparent and accountable practices in corporate governance, financial soundness and competitive business structure. The five principles were:

“First, business transparency had to be drastically enhanced. . . .”

“Second the cross-debt guarantees that chaebol-affiliated companies provided to each other had to cease, so as to ensure the financial independence of the companies in business groups and prevent one failing company from dragging down an entire business group

“Third, the fundamental financial structure of companies had to improve.

“Fourth, companies had to choose a core competence and strengthen their business ties with SMEs.

“Fifth, corporate management and dominant shareholders had to be had strictly accountable for their actions.” (Lee, Kyu-sung, 2011)

Now we can compare these Korean government’s reform principles (in Lee’s words) to Stiglitz’s list (of necessary societal-prior-conditions for modern economic systems to properly function) – comparing empiricism to theory:

Stiglitz -- adequate regulatory framework.

The Korean principle was: “First, business transparency had to be drastically enhanced. . . .” “Second the cross-debt guarantees that chaebol-affiliated companies provided to each other had to cease, so as to ensure the financial independence of the companies in business groups and prevent one failing company from dragging down an entire business group” “Third, the fundamental financial structure of companies had to improve.”

Stiglitz -- adequate competition.

The Korean principle was: “Fourth, companies had to choose a core competence and strengthen their business ties with SMEs. Fifth, corporate management and dominant shareholders had to be had strictly accountable for their actions.”

Stiglitz - safety nets for economic liberalization

This was not addressed initially in the Korean approach.

Stiglitz - policies for job creation rather than destruction.

This was not addressed initially in the Korean approach.

The Korean government principles in the crisis were aimed at two kinds of problems: *macroeconomics* to get the money and credit flowing again, and *microeconomics* to reform the structures of the financial and commercial institutions (for competence, accountability, effectiveness, transparency, competitive). (We note that the five

principles did not initially include principles about safety nets and job creation; but these were also to be later addressed.)

The interesting thing here is the connection between macroeconomics (government fiscal policy) and microeconomics of Korean infrastructure (businesses in an economy).

Unless the microeconomic infrastructure in an economy (its businesses) is -- competent, accountable, effective, transparent, and competitive -- the macroeconomic government fiscal policies cannot work.

Unless businesses pay taxes, governments cannot have balanced budgets to fund government services.

The government set the pace for the corporate restructuring. Lee wrote: “. . . the government decreed that review of the viability . . . of large companies and SMEs would have to be completed by the end of June (1998). . . . And 210 financial institutions . . . were directed to conclude restructuring agreements (with debtor companies) by June 25. . . . On June 18, creditor banks announced a list of 55 companies they judged to be nonviable (to be closed) along with a list of corporate debtors they considered distressed. . . . (Also) five banks were closed.” (Lee, 2011)

The government reviewed 210 of the Korean financial institutions (banks and others), with the review to be finished in six months (January to June in 1998). In June, the review recommended that five banks were to be closed and 55 banks to be restructured.

But this announcement of bank closures set off a second wave of the fiscal crisis in June: ““When the announcement of the closure of five failing banks was made on June 29, the business operations of the banks went into complete paralysis. . . .” (Lee, 2011)

During the crisis times and at the same time trying to reform an economy, the beginning of reforms themselves can trigger more crises. Lee wrote: “The government had again to act to keep the banking system operating. . . . The government ordered full cash payments for checks issued by the failing banks and the exemption of the bills and debt instruments of the customers of the banks from delinquency. . . . For seven banks that received conditional approval for turnaround, restructuring proceeded. . . . Also twelve banks, with capital ratios exceeding 8 percent, were allowed to merge (if they wished). The restructuring (of merchant banks and insurance companies) . . . was to be led primarily by the shareholders. . . . (But) the business licenses of fourteen merchant banks were revoked. The restructuring of insurance companies began . . . Seven life insurance companies and two non-life insurance companies were order to submit turnaround plans within a month. . . . On August 11, the FSC suspended the business of four life insurance companies. . . . (Lee, 2001, location 4827)

Ultimately, five commercial banks, fourteen merchant banks, and seven life insurance companies were closed. The others were ordered to restructure their finances to a sound fiscal basis. This was the effect of the first micro-economic reforms of Korean government policy. The restructuring by the government focused first on the financial sector, and this began to produce economic benefits. Lee wrote: “A first benefit . . . was the positive effect on the turnaround efforts of financial companies. . . . Second, as the soundness of the banking sector improved, the financial sector found some breathing room from the stifling credit crunch Third, . . . restructuring send a powerful message to foreign investors and analysts who had been skeptical of Korea.” (Lee, 2011, location 4867)

Along with reforming the infrastructure of the financial sector, reform of the industrial sector was simultaneously proceeding. Lee wrote: “The closure of the 55 nonviable companies was completed in June, and the government shifted the focus of restructuring to helping companies turn around their businesses. . . . In the restructuring, the top five chaebols . . . were reviewed on their agreements to improvement in financial soundness, For the other chaebols, the plan was to initiate, along with creditor banks, workouts aimed at turnarounds. (Lee, 2011) The companies had overextended their credit. Some chaebols held debt-to-equity ratios of 400-to-1. Normal global companies vary around 100-to-1. The chaebols agreed to reduce their debt load down to 200-to-1. The top five chaebols had sufficient access to funding to straighten up their finances. The remaining chaebols had to work with their banks to ‘work out’ (reduce) their debt. Fifty-five companies were closed.

But also the government had to attend to the problem of unemployment (Stiglitz-- **policies for job creation rather than destruction**). About this, Kyu-sung Lee wrote : “To minimize the loss of existing jobs, the government sought to boost the credit guarantees and funding for SMEs and thus help them restore business stability.” (Lee, 2010)

The rapid ‘turn-around’ of the South Korean economy from the Asian crisis occurred for two reasons. First, Korean industry and government had been building a strong export economy since 1963. This strong industrial basis could be reformed quickly, by strengthening existing micro-economic infrastructure. Second, the Korean government

formulated comprehensive and active policy to encourage the infrastructure reforms. We analyze the Korean economic reform event in the format of a societal perceptual space, Figure 10.13

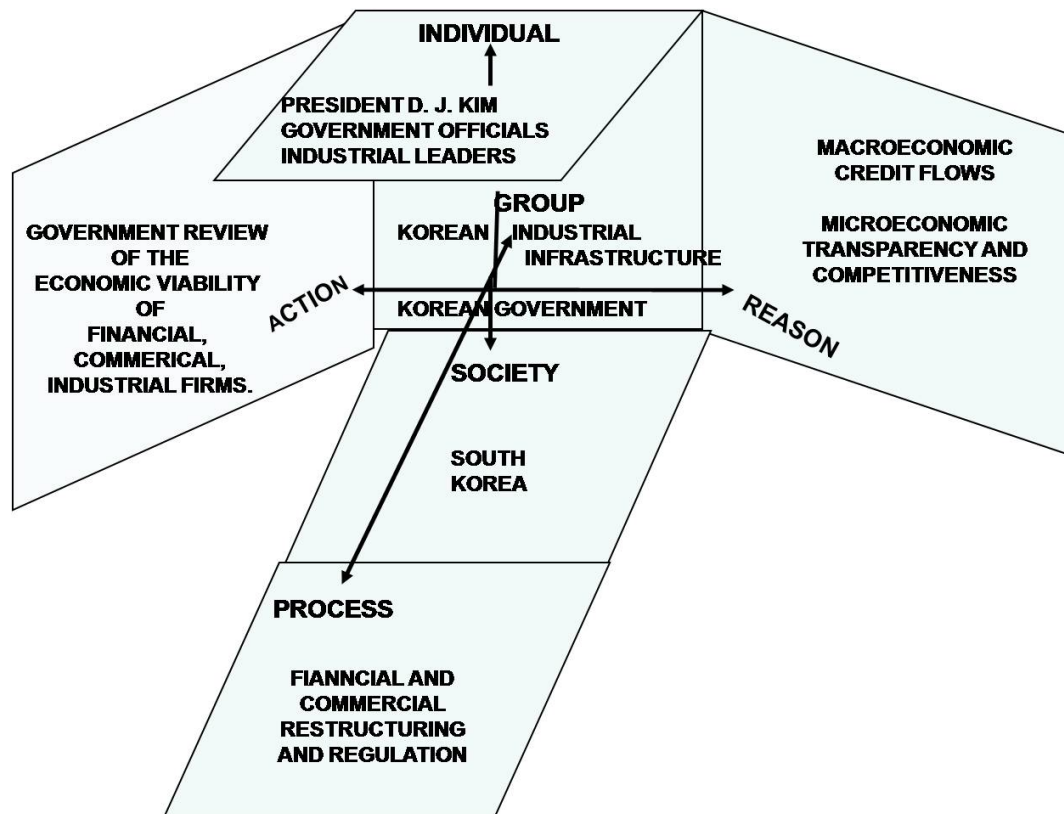


Figure 5. Perceptual Space of South Korean Financial Reforms in 1998

ACTION – The action in the event was an immediate government review of the economic viability of Korean firms in the financial sector (banks, insurance firms) and the commercial and industrial sectors (chaebol groups and SME businesses). The review determined which groups needed to improve their fiscal and governance operations.

REASON – The reasoning underlying government policy and commercial reform centered upon (1) macro-economic concerns of maintain credit flow and monetary stability in the Korean economy and (2) micro-economic concerns of firms in the economy operating with fiscal transparency and competitive effectiveness.

PROCESS – The process was government agencies' review of each firm in the Korean economic infrastructure, grouping these firms into classes of relative fiscal performance and imposing regulations upon performance and governance to restructure the firms into internationally competitive and responsible economic agents.

GROUPS – The involved were government agencies and Korean firms.

SOCIETY – The Republic of Korea was the society in which government and industry cooperated together to stabilize economic activity and continue national growth.

INDIVIDUALS – Individuals involved in the events were both government officials led by the President of South Korea, D.J. Kim, and private individuals as heads of the financial and industrial firms of South Korea.

Korea recovered rapidly because it had been building a manufacturing exporting economy; and a government-industry partnership acted together to re-regulated financial and commercial toward financial soundness.

7. Argentine Recovery

Argentine economic recovery was not so swift. Finally in 2004 and 2005, the Argentine economy began to recover, as cheap pesos made Argentine agricultural exports inexpensive. Edward Glaeser wrote: "In its pre-World War I heyday, Argentina thrived as a trading giant shipping beef and grain abroad. After World War II, formerly poor countries including Japan, Korea and Italy followed an export-led model to wealth. . . . But Argentina turned inward. Peronism was not only protectionist, but it also favored large state enterprises and significant regulation of the economy. Neither strategy had been particularly good for growth. Argentina's inbred banking system historically had

trouble weathering severe shocks. Decades of political instability made property rights insecure and investment unattractive. Argentina was cursed with bad policies that bear much of the blame for the country's problems. . . . The story of Buenos Aires is . . . a city surrounded by a vast, fertile hinterland. Buenos Aires grew as a center for transporting agricultural products east. The frigorificos, refrigerated ships, greatly increased its ability to ship beef. Clothing was also Buenos Aires's largest industry. " (Glaeser, 2009)

Ian Mount wrote: " Argentina may seem like one of the last countries on earth to offer lessons for dealing with economic malaise. Once the eighth-largest economy in the world, it steadily slid through the 20th century, thanks to decades of repressive dictatorships and inconsistent market experiments. This ended ignominiously in 2001, when it defaulted on \$100 billion in sovereign debt, plunging over half its 35 million people into poverty. . . . Since then, it has performed an economic U-turn. . . . Argentina is not without problems, but its recent economic record speaks for itself. The economy has grown by over 6 % a year for seven of the last eight years, unemployment has been cut to under 8 % today from over 20 % in 2002. The poverty level has fallen by almost half over the last decade. The streets of Buenos Aires are choked with cars as Argentines are on track to buy some 800,000 new vehicles this year. The wine mecca of Mendoza is full of high-end tasting rooms, hotels and restaurants offering regional haute cuisine. Plasma TVs and BlackBerrys have become household staples among the urban middle class. Argentina has regained its prosperity partly out of dumb luck. A commodity price boom has vastly benefitted this soy, corn and wheat producer." (Mount, 2011)

Mount also wrote: "But it has also prospered thanks to smart economic measures. The government intervened to keep the value of its currency low, which boosts local industry by making Argentina's exports cheaper abroad while keeping foreign imports expensive. It then taxed those imports and exports, using the money to pay for a New Deal-like public works binge, increasing government spending to 25 percent of G.D.P. today from 14 percent in 2003. As a result, the country has 400,000 new low-income housing units, as well as a long-delayed, 235-mile highway between the northern cities of Rosario and Córdoba. It has also strengthened its social safety net: the Universal Child Allowance, started in 2009 with support from both the ruling party and the opposition, gives 1.9 million low-income families a monthly stipend of about \$42 per child, which helps increase consumption. Because the amount depends in part on how often the child attends school, it is also likely to improve the country's long-term educational performance. The results have also paid off politically: President Cristina Fernández de Kirchner recently won about 50 percent of the vote in an open primary against nine other presidential candidates. . . . Of course, Argentina is far from perfect: the import and export taxes have scared away some foreign investment, while high spending has pushed inflation well over 20 percent. There are also problems with the way Argentina is run: corruption, government opacity, authoritarian tendencies, confiscatory taxes and a temptation to tweak unpleasant inflation statistics. . . . " (Mount, 2011)

8. Conclusions

In comparing the two crisis experiences of Argentina and South Korea, one can see that both a proper macro-economic theory and an accurate micro-economic context is necessary and empirically essential -- for the proper use of theory in fixing a national financial crisis.

In the Asian financial crises, international financial institutions did not have -- correct economic models, effective policies, nor proper regulatory power -- to ensure that the global financial system was sound and also beneficial to economic growth in the nations of the world. The macro-economic theory for international development was merely for improving export-import ratios without any national context. In reviewing both the IMF Polak model and the actual cases of Argentina and Korean experiences with IMF policy and their own recoveries from the 1998-99 recessions, we saw evidence for Boettke's criticism of a 'formalized macro-economic theory without context'. The IMF policies should have instead focused not just on 'macro-economics' but also on the 'micro-economics' of each nation -- *a macro-economics within a micro-economics context*.

The limit of this research is that this generalization (how macro-economic theories, such as the IMF Polak model, are contextually dependent for validity upon a context of a micro-economic depiction of an individual country) has been based upon only two empirical cases of a global financial crisis -- Argentina and South Korea. Accordingly, this provides very strong evidence for the contextual dependence of macro-economic theories but does not prove it. A methodological argument that all social theories are contextually dependent for empirical validity can be found in (Betz, 2010).

The IMF macro-economic policies focused only on increasing credit interest rates, closing banks, increasing taxes, reducing government expenditures, and increasing unemployment. In this way, IMF officials believed that exports would be automatically increased and imports automatically decreased and international monetary exchange rates

would be automatically adjusted. Markets need to be properly regulated to approach market perfection. Ideally 'markets' should be controlled by prices, set when supply meets demand in a market. But this happens in real markets, only under properly regulated conditions, such as: technological industrialization, no monopolies, safe products, honored contracts, no business fraud, no government corruption, etc. What the IMF economists should have been paying attention to were the 'restrictive conditions' that foster ideal markets – the 'priors' of effective economy, the microeconomic structure of a nation

Macro-economic theory, by itself, cannot explain national economic growth; micro-economic theory (as the detailed structure of industry and its proper relation to government) is also necessary both to explain and guide policies for economic growth.

For effective policy guidance, both are required: empirically-grounded macro-economic theory and contextually-detailed micro-economic explanation.

The Stiglitz conditions for markets to operate economically ideally in a country are: adequate regulatory framework, adequate competition, safety nets for economic liberalization, and policies for job creation rather than destruction.

To these, we can add that governments should collect sufficient taxes to fund the needed government services for a healthy societal infrastructure.

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