Labor shares and financial crises

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Abstract

The paper offers a preliminary investigation on how the distribution of income between labor and capital is affected by financial and banking crises. Using an international panel-data of the share of labor in GDP, several stylized facts emerge:

- *the labor share usually falls sharply following a financial crisis, recovering only partially in subsequent years;*
- *the labor share has been trending down in most regions over the past two decades.*

The paper also tries to make sense of these regularities. The stylized facts strongly suggest that labor is not simply a bystander that is hurt unintentionally by financial crises, but rather, that there is an intimate relationship between financial crises and distribution, with an important role for distributional changes in leading to a resolution of a financial crisis. I outline a model of financial crisis dynamics that incorporates a temporary overshooting in the labor share as a mechanism for the allocation of accumulated social losses and the resolution of a public debt overhang. I also speculate on the reasons behind the fall in labor share in the last two decades.

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1. Introduction

An accepted common-sense proposition in the toolkit of the traditional economist is that the labor share in output does not vary much in the short and medium terms -- the so-called Bowley's Law.[1] This leads among other things to relate closely social issues with broad economic developments. If the labor share is a constant, poverty would more or less rise and fall with the economy. In such an environment, the impact of financial crisis on various segments of the population would depends largely on relative price in the goods market with typically quite random distributional consequences along capitalists/workers lines. Partly as a result of this mode of thinking, poverty concerns are dealt with with the use of "band-aid" policies, while the macro-economic choices for the stabilization of crises made outside any distributionally-sensitive framework.[2] Yet, the relevance of labor for stabilization is attested by the multitude of stories -- especially those recounted by political scientists – that place the conflict between labor and other stake-holders over the sharing of the burden required by stabilization at the center of their analysis of financial crises. For the economist concerned with poverty reduction, a better understanding of the role labor plays in financial crises is an important part of building-up a better understanding of the type of macro-policies that can reduce poverty, since labor is the main asset held by the poor. Finally, recent discussion of globalization has brought out the fear that increased competition and globalization would lead to a race to the bottom, although the mechanisms involved remain mysterious.

In this paper, I try to offers answers to some of these questions by looking at the trajectories of the labor shares in a large sample of countries and over the last three decades and by exploring what the evidence may mean on how to bring labor into the discussion of financial crises -- how they are stabilized, and why they erupt in the first place.

[1] For early expositions and discussions, see Keynes (1939), Phelps and Hart (1952), Solow (1958).

[2] The literature on stabilization is very rich, and has been reviewed recently by Calvo and Vegh (1998) and Fisher, Sahay, and Vegh (1999). Unfortunately, the labor aspect is missing from these discussions.

We know relatively little about the historical evolution of labor shares in developing countries. There has been various recent studies in the OEDC. These studies do not focus on financial crises, but on short term linkages between exchange rate fluctuation and unemployment.[3] One notable exception is the work of Olivier Blanchard (Blanchard 1998) who focuses instead on the medium run, and relates the relative decline of the labor share in most of the OECD countries during the eighties to the adoption by firm of labor saving techniques in reaction to inflexible labor market conditions following the oil shock of the 1970s. To my knowledge however, there has been no systematic study of the behavior of labor shares in developing countries, and no special focus at all on the behavior of labor shares following financial crises. This is probably in part the result of the suspicion that in standard macro data-sets, this variable would be imprecisely measured and ridden with biases. The most damming perhaps is that the official data, when it exists, tends to measure only the formal sector, especially for poorer countries. This kind of data also does not allow one to separate price and quantity effects.

While recognizing these difficulties, I nevertheless take a close look at a large panel of countries that have experienced financial and banking crises. My hope is that the results are large enough and consistent enough to be persuasive, in spite of the possible weaknesses of the data. I focus this preliminary investigation on the labor share in GDP, the part of value added that is paid to labor -- as opposed to the share in GNP, income, or consumption -- because this measure is derived directly from enterprise accounts and is this likely to be more precise. In addition, this variable is available for many more countries and periods than the shares of income. This variable describes to a large extent the productive side of the economy, and the effects of industrial relations. The share of labor in national income, and how it is affected by financial crisis, could be quite different. For example, financial crisis reduce the value of money holdings, and to the extent that the poor is less well insured against inflation (or faces larger transaction costs), its income will suffer proportionally more from inflation. Similarly, labor's consumption shares could move more or less than the labor share in GDP, depending on the kind of changes that take place in consumption prices, and the share of tradables in the consumption basket. In addition, our measure of the share of labor is pre-tax: the

[3] For the OECD, see Atkison 1999; On the U.S, see Campa and Goldberg (1998); Goldberg and Tracy (1999); Gourinchas (1998); Krueger (1999).

labor share in income would be larger in countries where government programs are able to redistribute income towards labor and where the tax system is more progressive.

I will not focus in this paper on decomposing changes in the labor share between changes in quantity and price, as in the recent literature focused on the experience of the U.S . Presumably, those will have different effects in the short term. If wages are inflexible, a profitability shock will lead to unemployment in the short term, before market forces slowly work at lowering wages. This is likely to affect the dynamics of the labor ratio: reductions in wages are likely to reduce the labor share, but there are no strong reasons to suppose that the ratio will be affected by unemployment – except over the medium term, and to the extent that firms will chose more capital intensive techniques.

Before getting started, it is useful to think about the meaning of the complementary measure, the share of capital.[4] By construction, the two add up to one. The share of capital includes the payments made by producers to local and foreign banks. It may appear bizarre that capital shares would rise after a crisis. Clearly, firms' profits suffer from the recession that typically follows and the typical hike in interest cost. But even when the firms owners lose all the equity they hold in the firm, this may simply end up being a transfer to their banks if their loans are in a sense more "senior" than the payment to their workers, and so, the overall payment to capital could shrink by less than the payment to labor. Similarly, during a financial crisis, there is often a reversal of capital flows, with capital rushing out and foreign creditors refusing to renew short term credit lines and asking instead for net repayments. These repayments have to be financed, and will reduce the share of GDP going to either labor, domestic capital, or both.[5]

The paper is organized as follow. Section 2 takes a close look at the behavior of the labor ratio following financial crises. Section 3 tries to make sense of the findings by exploring the conceptual links between financial crises (and their resolution) and labor's welfare. Cuts in public sector wages can be easily related to the budget and macro instability. The role of the private sector's labor market during financial crisis is more tricky. I argue that the main mechanism by which private sector workers contribute to the bailing out of financial capital goes though the effect of lower wages on the value of the

[4] Recent studies focusing on firms' profitability include Poterba (1997), Blanchard (1998).
[5] However, in our data, we do not discriminate between domestic and foreign capital.

implicit or explicit guarantees extended by governments to banks and large firms, since typically, some of these end up being socialized. Section 4 looks at the longer time-trends in the labor ratios and asks whether there are long term forces pushing the labor share down, with crises simply precipitating the decline, or whether it is the crises themselves that result in lower labor shares.

2. Evolution of the labor shares after financial crises

We start by looking at the evidence. I take the labor share in GDP from the National Accounts published regularly by the United Nations.[6] The data set covers 135 countries, but it is spotty for several countries. For example, the data is incomplete for Brazil and Argentina, two countries that have had recurrent financial crises. The data set extents from 1975 to the mid 1990s.

I define financial crises as broadly as possible, following Frankel and Rose (1995)[7], as a year where the nominal exchange rate (defined in domestic currency to dollar) depreciates by more that 25 percent between the beginning and end of the calendar year. I use IMF data on annual exchange rates -- market rate, period average -- when it exists, or official rate period average otherwise. The focus on the yearly data eliminates many occurrences of large monthly devaluation that are followed by reversals, but which do not show up as large yearly averages. This gives us 216 crisis in all. I also keep track of banking crises, which I take from Caprio and Klingebiel (1996) and from Lindgren, Garcia and Saal (1996). There are over 78 of those for Caprio and Klingebiel and 41 for Lindgreen and alii. All in all, and given the limitations of the UN data-set, we end up with only 67 financial crises (and 18 financial and banking crisis) for which reasonable time series for the labor share exists (i.e, more than half of the data is available): 25 in Latin America, 15 in Africa, 4 in MENA, 7 in Asia, 16 in the OECD.

A cursory look at the time-path of the labor share for all these countries suggests that in most cases, the labor share falls at the beginning of a crisis and only partially recovers later. The case of Mexico is a case in point (see figure 1). There are three financial crisis in our sample, in 1977, during 1982-88, and in 1994. In all cases, this is followed by a steep decline in the labor ratio, followed by a partial recovery (not yet

[6] Compensation paid to resident and non-resident households in current local currency units, divided by GDP, in local currency, both from the UN Table103.

[7] For a monthly based definition of financial crises, see Kraay (1988).

apparent in the case of the 1994 crisis). Note that the 1994 crisis is preceded by a strong rise in the ratio during 1991-94.

A typical trajectory of the labor share after a crisis is drawn in figures 2. I compute various simple measures of the evolution of the labor share after a crisis starts (see definitions in figure 2) for the countries where the labor share drops. In particular, I compute the extent of the initial loss and the following recovery (a and b respectively, both computed in percentage points of current year GDP), the length of the periods of fall and recovery (alpha and beta), and the total losses experienced by labor over the episode (A, B – see figures 2). I will refer to the period (alpha+beta) as the distributional crisis period, to differentiate it from the financial crisis period. I also measure the financial crisis period as the number of consecutive years during which the exchange rate depreciates by more than 25 percent (n). These computations are reported in table 1 of the appendix for individual countries, and the regional averages are in table 1.

In making those computations, I follow simple rules of thumb consistently. The period of decline (alpha) is simply measured from the year when the crisis starts and until the ratio bottoms up. The period beta is taken from that bottom as the ratio starts recovering, and until it stops rising (i,.e, until a period when it stabilizes of fall).

Of course, these measures do not apply in all cases. But surprisingly, they work almost always:

- We have only 5 cases in the sample where the labor share rises after a financial crisis. They are: Israel 1976-86; Greece 1981; Indonesia 1979 and 1983; and Sri-Lanka 1978. Closer inspection reveals that for Indonesia, the issue is simply one of timing (the ratio actually collapses in 1984). In the other cases, the exceptions are real. For Israel and Greece, they are possibly related to the large subsidies these countries have received from the US and Europe to support their stabilization efforts.
- In 15 cases in our sample, labor shares end up higher at the end of the distributional crisis episode, compared to the beginning of the financial crisis. In three of the cases (Turkey 78-89, Chile 72-78, and Dominican 85-88), this new height of the share is broken by a deeper collapse amid a new crisis. In two cases (Colombia 89-91, Zimbabwe 1985), the occurrence is within a small after-shock to a much larger previous crisis. We do include all these cases in the regional averages.

Overall losses over a crisis episode

Let us first look at the gross fall (a) in table 1.a. The gross loss (i.e, before the usual partial recovery) averages about 6.12centage points of GDP *per crisis*, with wide variations across the regions, from 2.3 points (in Asia) to 6.72 points in Latin America, and 6.7 points in the OECD, 5.9 points in Africa, and 4.2 points in the Middle East and North Africa. In 36 cases, the gross loss per crisis exceeds 5 points. These figures are surprisingly large – labor shares average 40 to 50 percent of GDP world-wide, and so, variations of 5 points or more represent a more than 10 percent drop in labor incomes – at fixed GDP. In absolute terms, the losses could be much larger if GDP also decreases, as happens usually during crisis. For example, if over the crisis, GDP goes down by 10 percent, then the overall reduction in labor income would be in excess of 20 percent.

The net, or permanent fall (a-b) tends to be smaller, but still sizable. It averages about 3 percentage points of GDP *per crisis*, and is highest in the OECD (4 points), followed by Latin America (3.8 points), and Africa (2.6 points). In 22 cases, the net loss per crisis exceeds 5 points. Moreover, these declines occur within a relatively short time (alphs+beta=6 years on average for the sample; see table 1.c).

Crises occur more than once in some countries, and so, their accumulated effect tend to be larger over the whole sample period. We compute the net effect of crises *per country* over the length of the sample (about 30 years) as the sum of the net drops in the labor share over the various crises experienced by each country. On average, the labor share in crisis countries has dropped permanently by 4.5 points of GDP over the past three decades. These accumulated (net) figures are especially large in Latin America, at 7.4 points of GDP on average per crisis country, with each country averaging two crises over the past 30 years – this actually exclude the most recent crises.

Overshooting

The next characteristic I try to measure is the extent to which the labor share overshoots before coming back. This seem to be a feature of our sample. True, we should get some overshooting almost by construction, since we are looking at the behavior of the ratio from a minimum point on. However, if the ratio was following a random walk, the average length of the recovery would be 1 on average. Instead, the average length of the recovery per crisis is 2.8 years in Latin America and the OECD, with a world average of 2.4. And in 37 out of the 62 cases where the labor share drops following a crisis, there is a recovery of 2 years or more. Moreover, the length of the overshooting seems to be

longer when there is also a banking crisis, with an average length of 3.25 years world-wide. It is also worth noting that the length of the periods over which the labor ration falls (alpha) corresponds closely to the length of the financial crisis itself (n). This holds in all regions except the OECD, where financial crisis tend to be short (2.4 years), while distributional crises (alpha+beta) tend to have longer duration (average of 6 years per crisis).

The length of the crisis is especially relevant when there is a transitory drop in the labor share, since these add up to larger total losses. We attempt to measure the accumulated labor losses, and the accumulated subsequent recovery. We use a simple measure by adding the points of GDP lost in each period, over the period under consideration. In table 1, the variable A indicates the accumulated permanent losses until the end of the dip, while B measures the accumulated transitory (see figures 2 and note (A) in table 1).

The area A+B therefore measures the total loss during the distributional crisis episode, and it is a measure of the total effect of crises on labor during the crisis period per say. Its size is staggering, which goes a long way in explaining why workers fear financial crises so much. The world average is 27 points of GDP per financial crisis, and 38 percent per banking crisis. When accumulated over crises, it appears that Latin American workers have lost an accumulated 59 points of GDP on average over time during crises. In some cases, the accumulated losses are around or over 90 points (Chile, Mexico, Zambia, Turkey).

Only part of the accumulated loss is permanent. But a part of the loss, represented by the area B, is transitory, akin to a one-shot transfer from labor to capital. Later, we will argue that this transfer is a proof that transfers from labor to capital are an important mechanism to stabilize the financial system by recapitalizing it at labor's expense after the occurrence of a negative shock. The accumulated transitory loss to labor averages nearly 9 points per crisis world-wide, with a height of 11.3 points in average in Latin America. It is especially large in the case of banking crisis, averaging 17.6 points per crisis world-wide (and 21.6 points per banking crisis in Latin America). In 6 crises, this transitory transfer exceeded 30 points of GDP.

Labor shares and crisis

A final issue of interest is the relationship between the fall of labor shares and financial crises (as opposed to the reverse relation discussed above). Clearly, there are

many cases where the labor share has dropped without requiring a crisis: the experience of the OECD is telling in this dimension. But rarely do we see *large* reductions in labor shares outside of crises. A simple way around this question is to look at the type of environment where labor shares fall by more than a certain proportion. When the threshold is put at 3 points of GDP, drops of more than this occur 38 times in our sample in the case of Latin America, and of these, 27 where during periods of financial crisis. Of the remaining 11 cases, 7 occurred in countries that do not have an owned own currency, i.e., not prone to financial crises as we defined them. And one case is in Venezuela, during an oil boom.

3. A conceptual discussion of the evidence

This admittedly very cursory look at an imperfect data-set does however reveal three unsettling empirical regularities:

- labor shares show a strong tendency to fall during financial crises, and often by a lot;
- there is often overshooting, implying that large but transitory transfers from labor to capital take place over a few years;
- in most cases, the recovery is not total and episodes of crisis bring a net loss to labor.

I defer a discussion of the last observation to the next section where I investigate the medium term trends in labor shares. Here, let us concentrate on the crisis episodes.

What are the connections between financial crises and the labor share? One can almost sum up the literature on financial crisis with references to money and financial markets alone, with some rare discussions of the relationship with the real side, and almost no discussion on the impact on labor. Financial crises are runs out of a domestic currency and into international reserves, out of fear of future inflation (Krugman 1979). They are situation where governments have lost access to credit markets, since otherwise, they could borrow externally to boost reserves, or issue bonds at adequate interest rates to wipe out the excess liquidity (Calvo, 1997). A financial crisis typically occurs when a shock, external or internal, makes an initially high public debt situation (explicit or implicit) unsustainable. Sharply higher world interest rates led to the 1982 (mainly Latin, but also African and Asian) debt crisis. In the more recent Asian crisis, it was the fear of massive governments bail-outs of a bankrupt private sector that led to a perceived loss of

public sector creditworthiness.[8] The Russian and Brazilian crises are more closely linked to mounting fiscal deficits. In general, crises are consequently resolved when public sector creditworthiness is regained. The adjustment mechanisms that deliver this include default, debt reduction, reductions in expenditure, or increases in taxes and revenue (in addition to fixing the governance system of the enterprise and banking systems, if those are perceived to be the culprit of an unsustainable build-up in debts). It is also generally accepted that the inflation tax alone cannot generate sufficient resources to lead to equilibrium when the debt overhang is large,[9] especially when financial capital is mobile, or can insure against risks by going short term, or getting denominated in foreign currency. [10] To illustrate these points, focus first on the debt crisis of the 1980s, since many of the crises in our sample belong to this variety. The crisis hit around 1982 when US interest rates shot up, leading to loss of creditworthiness by over-indebted public sectors, mainly in Latin America.[11] The debt crisis was characterized by a reversal of external finance and tough bargaining between governments and foreign creditors, with the private sector somewhat on the side-line. Governments then faced two macro-economic imbalances: how to generate the foreign exchange needed to service foreign debts, and how to generate the fiscal resources to buy the foreign exchange from the private sector. Real devaluation could take care of the first problem. The fiscal problem however proved less tractable. To generate the fiscal resources and operate the needed internal transfer, governments resorted initially to the inflation tax, and subsequently to direct taxation, privatization, and lower spending. The financial crises were related to money creation (or fear of), with central banks trying to surprise money-holders with unexpected inflation. Ultimately, the money tax did not generate the bulk of the revenues, and costly stabilization were put in place, followed by a combination of deep fiscal adjustment, reforms, and debt reduction agreements financed by the IFIs.

[8] There are differing views on the role of a weak structure vs. bad equilibria, although this debate is really about degrees – bad equilibria occurring more often in economies with loose private financial capital where the structure is weak to start with -- the controversies being mainly about how weak they have to be to precipitate a possible crisis, and whether they are vicious circles that could be avoided with good policies. See Obstfeld 1995, and Furman and Stiglitz 1998.

[9] Dooley, 1998, makes the point forcefully.

[10] As a result, the existence of large amounts of short term debt and debt denominated in external currencies exacerbate financial crises. See Rodrik and Velasco (1999); or Kaminsky, Lizondo and Reinhart (1998).

[11] These countries had borrowed heavily from international commercial banks to smooth out the effects of the oil shock and defer adjustment.

The financial crises related to the more recent varieties of private failures has also been explained in a similar "monetarist" fashion, albeit with an added level of complexity.[12] Here, it the failure of private firms, commercial banks, and financial companies – presumably in response to a massive loss of confidence – that bring down the house. The link to public finance and the fear of inflation is through expectation of future bail-outs. In order to avoid bank runs caused by the perception of massive private losses, the state is expected to guarantee banks' deposits, and perhaps even to be tempted to bail out foreign capital (as recently in Korea and Indonesia, where the state has ended up guaranteeing private sector external debts). Through this mechanism, private losses become socialized, and we are back to the problem of the state trying to find ways to "digest" an overhang of social losses, with all the related financial instability. Until the "social" debt is reduced, there is a debt overhang, the financial markets will fear that the governmetn will be tempted to use the inflation tax, and there will be tendencies for the emergence of runs out of local banks and out of the currency, driven by the fear of banking failures and the inflation tax.

These stories can conceptually lead to negative effects on the poor even in the absence of changes in the distribution rules. We know that the poor tend to be more hurt by inflation because they have low access to the financial sector (Ferreira, 1991), and that public spending on the poor has been typically cut sharply during adjustment. Moreover, stabilization-generated recessions hurt labor incomes, and, through the multiplier effect, have negative consequences on the non-traded sector where the poor are predominant. But essentially, these stories are not about distribution, and they do not conform with the prevalent view among political scientists that characterize the "lost decade" of Latin America as one of conflict over the distribution of adjustment costs between capital and labor. Indeed, there is no reason in these fiscal stories to expect the labor share to drop as precipitously as it did.

How then is the labor market linked to the need for fiscal adjustment? In the case of crisis that are clearly led by public sector problems, the likely story could be simple enough – public wages can take the brunt of the fiscal adjustment. That this has happened in many countries is attested by the low wages paid by countless governments in Latin America and elsewhere. To get a sense of whether magnitudes are right, take the typical

[12] Corsetti, Pesenti, and Roubini (1999) present a model of private sector led run on the currency; Burnside

case of a Latin public sector with a wage bill of 10 to 20 percent of GDP. If real wages end up cut by a quarter (after many years of distributional fight and financial instability), this would then generate fiscal savings of 2 to 5 percent of GDP per year. In most cases, governments paid out no more than 2 percent of GDP in net flows a year to their foreign creditors. This leaves up to 3 percent of GDP in net annual savings, more than what has been gained by debt service reduction with the Brady deals.[13]

The above story is however not complete yet as it says nothing about the welfare of labor in the private sector. In the Latin case, the total reduction in the labor share over the overshooting period adds up to over 30 percent of GDP (the average A+B from table 1), and the arithmetic above suggests that it is unlikely that all of this was achieved from the public sector alone. And in East Asia, most of the action must have taken place in the private sector. So it is likely that the labor share also fell in the private sector. But so what? Even if private wages fell – and we would expect then to, at least over time, as lower real wages and retrenchment in the public sector start putting downward pressures on the labor market -- how would that help resolve the public sector debt overhang? Can those gains be internalized by the budget in ways that strengthen the public sector balance sheet?

The answer is yes when the state feels compelled to bail out various sections of the private sector if they risk failure. In particular, crises leading to large losses in private enterprises translate into large losses in commercial banks balance sheets, which could lead to runs on deposits and a collapse in output and living conditions. The connection can arise in the two directions: public sector led crises can have a contagion effect on the private sector when the cover of deposit insurance is perceived as not credible anymore; and private sector crisis can lead to public sector difficulties and financial crisis when the banking losses are so large as to burden the state with an unsustainably high implicit debt. Let us examine each in turn.

Conceptually, it is possible that the loss of public sector creditworthiness would lead to the erosion of the value of deposits guarantee, and thus could trigger a banks run. Whether this happens or not in practice is intimately related to perceptions about the seniority of claimants. During the crises of the 1980s, the issue was whether domestic depositors or foreign lenders would be paid first. Governments tried to protect their

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Eichenbaum and Rebelo (1998) measure the implicit deficits implied by the banking failures.

banking sectors by effectively making foreign loans junior to domestic deposits – the external creditors were few, and repayments were the result of a tough bargain that aimed at protecting the domestic financial system (for private external debts, governments typically bargained on behalf of their private borrowers). This Chinese curtain worked to some extent in isolating the banking system, although there were several large banking failures in Latin America (table 2).

That private sector difficulties can lead to a loss of public sector creditworthiness and a run on the banks and the currency has been demonstrated in the recent Asian crisis. In these recent crises, the external creditors have been harder to isolate (a la Latin debt crisis) because they were more numerous, their instruments were more market-based, and thus, there was less room for coordination (which explains the difficulties in managing to "bail in" external creditors). Imagine that a negative external shock is leading to large losses by private firms, and by implication, to the banking system. Assume that deposits are fully guaranteed. The additional public liability would increase country risk and the domestic interest rate, thereby raising the cost of servicing corporate debts and exacerbating the effect of the shock. Moreover, if (or when) the public sector creditworthiness constraint is reached, a run out of banks and out of the domestic currency would ensue, resulting in the collapse of the financial system and a consequent collapse in output. This would hurt both (fixed) capital and labor (financial capital could escape to some extent, especially in the absence of capital controls).

The link between the fortunes of the public and private sectors (through the banking sector and deposit guarantees) provides a potentially important channel from the private labor market to contribute to the resolution of financial crises. Faced with the prospects of an imminent financial crisis, a well organized labor movement could come forward and willingly propose to accept wage cuts that are deep enough to restore firms profitability and avert a bankruptcy of the banking system, under the principle that a small share of a larger pie is better that a large share of a small pie. Fast adjustment in Korea was built on this type of agreement between the government and the labor union, stressing wage restraints and labor retrenchment. When such cooperation is not forthcoming, the state may chose to intervene in the wage-setting process to impose restraint. For example, stabilization in Mexico in the end of the 1980s had to await the

[13] These are computed in Diwan and Claessens (1992).

"Pacto" where organized labor accepted lower wages within a foreign finance debt reduction cum domestic reforms package. Similarly, heterodox stabilization in Brazil froze wages. Market mechanisms can presumably lead to similar solutions, with firms facing hard budget constraints tempted to cut wages and employment. But typically, the working of the labor market is simply too slow to avert a crisis – it provide a way out only after a protracted distributive fight, especially in countries where social cohesion is low.[14]

4. Long term trends in labor shares

The preceding sections argued that the behavior of labor is intimately related to the resolution of financial crises. That labor ultimately becomes the shock absorber of the economy is in itself quite a surprising finding since the role of shock absorber has traditionally been associated with capital, not labor. But how about the cause of crises? Can they be due to labor resistance to change? The analysis above does imply this in some minimal sense, since it is the unwillingness of capital *and* labor to accept ex-ante to bear the costs associated with these shocks that leads to distributional and hence financial crises. But it is not clear whether the real cause of crises is random shocks, or phenomena associated more closely with labor, and in particular, with changes in the international division of labor.

The empirical observations of section 2 also suggest that after a crisis, there is a permanent fall in labor shares. This of course could be spurious, with positive shocks occurring later compensating (as in the case of Mexico, 1990-94), so that overall, labor shares remain stable in the long run. But other possibilities exist. This section looks at the long term trends in labor share and explores three hypotheses:

- that crises are often due to an unsustainably high initial level of the labor share;
- that crises are often due to unexpected shocks, but that the resolution of financial crises changes the regime in which labor conditions are negotiated, leading to a permanent decline in the labor share;
- that there is a secular fall in labor shares, with crises simply precipitating the fall.

[14] There is one more policy tool which we did not consider here, capital controls. This allows governments to trap financial capital at home, and thus, to have it bear a larger burden of the adjustment costs in through financial repression. The cost to labor is then delayed to the future since controls tend to reduce current investment.

These claims are not easy to examine empirically because we do not understand very well the determinants of the labor shares. For one thing, these shares show enormous dispersion among countries – Dani Rodrik has noted the same with respect to wage levels (Rodrik 1998). Let us then start by focusing on the time path of the labor shares, and ask what theory (and past studies) tells us about their expected evolution through time.

The long term trajectories of labor shares are displayed in figure 3. Here we only look at regional averages for the main regions of the world – the OECD, Sub-Saharan Africa, Asia, the Middle East and North Africa, Latin America. As a result, our evidence is at best tentative, and further exploration of the data at a country level would be necessary to firm up some of our findings.

The average ratio for the whole world (not weighted) rises fast in 1970s, but it then fluctuates sharply within a narrow band (between 46 and 49 percent of GDP), and with no clear trend. This would bolster the proposition according to which more mobile capital has shifted the burden of adjustment to labor, but that on average, labor shares have remained stable. The story has been told before (see for example Rodrik, 1999, or World Bank, 1995), and it goes as follows. Because of its greater mobility (plus innovation in financial markets that allow capital to insure against exchange rate shocks), capital is increasingly better able to shield itself from the costs of adjustment, and as a result, labor becomes the residual claimant on the economy. This however does not mean that the share of labor need to fall, simply that its risk profile of labor income changes.[15]

Further decomposition into regional trends turns out to be more revealing however. In most regions, the labor share has been clearly falling, and fast, since the early 1980s, after some rise earlier on. Let us review figure 3 more carefully.

A first striking feature is the sharp drop in labor shares in OECD countries. Further exploration shows that, as noted recently by Blanchard (1998), the labor share has been falling over the past two decades in OECD. By our measure, it drops from an average of 54.4 percent of GDP in 1975, to about 49.3 percent in 1995. Continental Europe, Australia and New-Zealand experience similar trends. But in the US, the UK, and Canada, the share fluctuates a lot, but does not show a clear trend downwards. Blanchard traces this to the oil shock of the early 1970s, the lower corporate profitability that ensued, and importantly, to the introduction of labor saving techniques by firms that

aimed at improving profitability in spite of labor market rigidities. Our data can support this hypothesis, since many countries in Continental Europe faced a crisis typically early in the 1980s, followed by slow and continuous downward movement of the share without further crises. The exceptions here are the more recent crises in the Nordic countries.

In the other regions, the labor share also trended down over time, and especially after the 1970s, although the decline is not as pronounced as in Europe in all the regions. (The data is too spotty after the early 1990s to have meaningful averages for the more recent period). In Latin America, a region that is very prone to financial crises, with waves in the early 1980s, the path is somewhat similar to Europe, with a rising trend reaching a maximum of 44.5 percent in 1982, followed by a decline that bottoms up at 38.9 in 1991. In Africa too, the labor share rises in the early 1980s before collapsing, falling from a height of 37.1 percent of GDP in 1975, to about 30 percent in 1988. In Asia, labor shares rise until the mid-1980s, reaching 55.2 percent of GDP in 1982, and then fall afterwards, but later than in the other regions, reaching 53.2 percent in 1989, before starting to rise again until the early 1990. The Middle East follows oil prices closely: labor shares initially rise fast with the oil boom (from 33.3 percent of GDP in 1976 to 44 percent in 1986, at the height of the oil boom). The transition to market in the post-communist countries is too recent to provide useful data.

The results for the developing regions are more surprising that those for the developed world, as theoretical considerations would suggest that labor shares should rise with development and with the liberalization of trade and financial markets in capital poor countries.

- A large literature has described the incentives of self-employed individuals to move away from the informal market and self employment and towards the formal labor market as development proceeds. At a macro level, an important determinant of this would be the level of per capita income. We would thus expect a trend towards rising labor shares in poor countries as they develop. There is a strong cross-country support for such a proposition in our data-set – see figure 4.
- Conceptually, trade and capital market liberalization should have similar effects in capital poor countries. The accepted theoretical wisdom is that trade opening leads to higher wages in poorer countries (and lower return to capital), and lower wages in

[15] But since labor is unable to insure, and is likely to be quite risk averse, this situation is likely to lower its

richer countries, in accordance with the Hecksher-Ohlin theorem. Several empirical studies have shown that the rule seemed to apply in the developing countries undergoing trade opening in the 1960s and 1970s (for a review, see Woods 1995).

- The liberalization of capital markets in capital poor economies is also thought to work in the same direction by reducing the scarcity value of domestic capital and reducing interest rates.

Since many of the developing countries in the sample have grown and have liberalized trade and capital markets, the generally declining labor ratio trends suggest that some other forces are strongly pushing the ratio down. What could those forces be? As suggested above, there are three candidates: high initial labor shares; mobile capital with increased volatility and hystirisis in the labor markets; and secular forces pushing the labor share down.

The hypothesis of high initial labor shares proving ultimately unsustainable and leading ultimately to a collapse is to some extent supported by the regional evidence. In all the regions, the labor share did rise before the first wave of crises in the 1980s, although the magnitudes and exact timing differed. Similarly, the more recent Asian and Latin crises were also preceded by rises in the labor shares. One would need to look more carefully at the country evidence, and at earlier periods before being more conclusive. But there are several signs that favor this conclusion. It is instructive in this regards to separate the countries of each region into two groups – those who experienced at least one crisis, and those who did not have any crises. The figures show that in several cases, countries that did not have crises experienced a slower growth of the labor ratio in the 1970s. This is especially apparent in the OECD, in Latin America, and the Middle East. Also, the country figures show that in several Latin countries where the labor did not drop "sufficiently" in the early 1980s suffered large drops amid severe crises afterwards (e.g. Peru).

This evidence is however far from conclusive. High labor ratios may have been consistent with the world of the 1970s, characterized by low interest rates. Most of the first wage of crises with large falls in labor share occur after the debt crisis of the early 1980s, itself caused by the interest rate shock of 1982.[16]

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welfare.

[16] This crisis found many countries highly leveraged on international loans, often accumulated to delay adjustment to the oil shocks of 1973-79.

But a simple explanation based on shocks only (oil, interest rates) is not fully convincing either. The drop of the shares in the 1980s is large in almost all regions and does not reverse soon afterwards in spite of the sharp fall in interest rates and oil prices that characterized the mid-1980s. One possibility is that as in Europe, the drop of the share was due to a regime change in the wage determination process that reduced sizably the bargaining power of labor, leading the labor share to remain low once it felt. This possibility finds additional support when comparing the trajectories of labor shares in the 1980s for the crisis and the non-crisis countries. In *all* regions (and especially in the OECD), the labor share remained higher in the non-crisis countries after the end of the 1980s.

The hypothesis of increased "globalization" over time is also credible at first look. We can observe that the labor shares of non-crisis countries fall as well in most regions after the mid-1980s. The story would go as follows: financial liberalization, or simply the increased mobility of capital, allied with the relative immobility of labor, is leading to a race to the bottom, with mobile capital, whether financial, or embodied in investments by MNCs, increasingly in a better position to put workers around the world in competition with each other.

But until sharper tests are conducted, the race to the bottom story is undistinguishable from a "moral hazard" story, which is linked to the recent move to market and the greater reliance on competitive and open financial markets in LDCs. With poor regulatory systems in place, fast liberalization has in many countries may have led to the growth of misguided loans of poor quality, leading to the more frequent occurrence of financial crises that end up with labor bailing out financial institutions.

5. Summary, implications, research issues

Current analyses of currency crises suffer from a form of schizophrenia. On the one hand, the crises are analyzed in monetary terms, with the main focus on the inflation tax, or on expectations of future inflation tax as the main action capturing both the headlines and the attention of analysts and economists and it is also a well accepted fact that ultimately, the inflation tax generates only a small share of the adjustment needed to reach a new stable equilibrium. On the other, a huge but separate body of literature has

studied the debilitating effects of crises on labor welfare and on poverty. However, the two literatures have been separate and do not come together easily.

Our analysis, albeit very preliminary, suggest instead that the behavior and welfare of labor, and thus the developments on the poverty front, are intimately related to both the resolution and genesis of financial crises. The story that emerges is one where crises are means for societies to "digest" social losses by distributing them among various groups. These losses are implicit government liabilities that cannot be made good on anymore, sometimes threatening the solvency of the financial system. Perhaps because labor is less mobile than capital, it ends up forced to bear a large share of these asset losses (in the sense of transferring parts of its income to another group). There is strong evidence of this happening. Crises are resolved when workers end up bearing large costs that resemble bail-outs of (financial) capital. We estimate that the total losses to labor, from the beginning to the end of a crisis, amounts on average 20 percentage points of GDP.

It is also possible that labor is intimately involved with the occurrence of crisis, although how is not clearly established. We find that while there is some recovery in the years following the crisis in the labor share in GDP, the recovery is only partial. We also find that labor shares have been trending down for the past two decades in most regions of the world. There can be several explanations. Crisis may be connected to a race to the bottom, generated by increased globalization, or by financial openings that were ill managed. Earlier crisis may have also been generated by unsustainably high labor shares of the 1970s, some of which were driven by inward looking populist development strategies. But it also seems that the declining long terms trends in the labor shares is related to changes in the labor setting regime that follows a crisis.

Clearly, this paper raises more issues than it answers. The evidence presented here does however suggest the importance of developing a new research agenda that would look more carefully at the forces, institutions, and the politics that determine labor incomes before and after financial crisis. An important issue concerns the existence and magnitude of a hypothesized "profitability" effect, whereby lower wages are required to recapitalized a bankrupt private sector when the public sector credit-worthiness constraint is also violated.

The analysis, if confirmed by future studies, has several important policy implications.

First, the analysis suggests that the poor and labor have in high stake in financial stability and a strong governance of the financial system, since expansions may benefit others (Krugman's "nephews") while blow-outs hurt them hard.

Second, if there was an important corporate effect, as hypothesized here, this would have important implications for the work-outs of financial crisis. In particular, if these labor-based work-out take a few years to produce the kind of transfers needed to shore up the private sector (and public creditworthiness), then fast work-out that sever quickly the links between bad firms and their banks and that fail to internalize these gains are not a useful mechanism to stabilize the economy and exit the crisis.

Third, the analysis has implications for the choice of an exchange rate regime. If currency devaluation and inflation are important mechanism to reduce labor's bargaining power and real wages, then small and vulnerable economies would want to retain the ability to devalue, and thus, the use of a national currency (rather than move towards a dollarized economy or a currency board). Also, the analysis suggests that in socially fragile situation, there may be an important role for capital control in imprisoning financial capital and allowing better sharing of the burden of adjustment (although this is likely to be at the cost of lower future output).

Finally, the long term consideration that were discussed suggest that much bolder initiatives may be required on both the international financial architectural front and on the wage setting mechanisms at home if it was perceived that a continuation of the slide in labor shares threaten global social stability.

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TABLE 1. MEASURES OF AVERAGE LOSSES FOLLOWING FINANCIAL CRISES

1.a) ANNUAL LOSSES[(A)]

(Non-weighted average of percentage points of GDP, relative to level of the ratio before the crisis)

		Loss of C/GDP (a)	Rise of C/GDP (b)	Net loss of C/GDP (a-b)	Yearly loss of C/GDP (a/α)	Yearly rise of C/GDP (b/β)	Net yearly loss of C/GDP (a-b)/(α-β)
LAC	per crisis	6.72	3.41	3.86	2.37	1.30	0.95
	per cntry	12.93	5.51	7.42	4.56	2.10	1.82
AF	per crisis	5.92	3.73	2.69	2.13	2.02	0.64
	per cntry	6.83	4.04	3.10	2.46	2.19	0.74
MENA	per crisis	4.20	2.13	2.08	2.33	1.55	0.44
	per cntry	4.20	2.13	2.08	2.33	1.55	0.44
ASIA	per crisis	2.30	1.20	1.10	1.31	0.52	0.21
	per cntry	2.30	1.20	1.10	1.31	0.52	0.21
OECD	per crisis	6.70	2.88	4.01	1.19	1.13	0.53
	per cntry	7.73	3.36	4.63	1.38	1.32	0.61
WORLD	per crisis	6.12	3.12	3.35	1.93	1.39	0.70
	per cntry	8.24	3.90	4.51	2.60	1.73	0.94
	Banking Crisis	6.48	4.92	2.11	1.86	1.76	0.47

1.b) TOTAL AND TRANSITORY LOSSES[(A)]

(Non-weighted average of percentage points of GDP, relative to level of the ratio before the crisis)

		Permanent Loss (A)	Transitory Loss (B)	Total Loss (A + B)
LAC	per crisis	25.41	11.36	30.88
	per cntry	41.04	18.35	59.39
AF	per crisis	23.16	5.88	18.99
	per cntry	26.05	6.37	21.91
MENA	per crisis	9.15	4.31	13.46
	per cntry	9.15	4.31	13.46
ASIA	per crisis	9.79	1.72	9.06
	per cntry	9.79	1.72	9.06
OECD	per crisis	32.23	11.01	38.21
	per cntry	32.23	12.84	44.08
WORLD	per crisis	24.85	8.89	27.53
	per cntry	29.70	11.11	37.10
	Banking crisis	29.29	17.68	38.50

1.c) DURATION OF DISTRIBUTIONAL AND FINANCIAL CRISES[(A)]
(α, β and n in years.)

		Duration of losses of C/GDP α	Duration of rise of C/GDP β	Duration of the financial crisis n	Number of crisis and countries N
LAC	per crisis	3.32	2.81	3.48	25
	per cntry	6.38	4.54	6.69	13
AF	per crisis	2.60	1.92	2.00	15
	per cntry	3.00	2.08	2.31	13
MENA	per crisis	2.33	1.33	2.00	3
	per cntry	2.33	1.33	2.00	3
ASIA	per crisis	1.75	2.25	1.25	4
	per cntry	1.75	2.25	1.25	4
OECD	per crisis	5.87	2.79	2.40	15
	per cntry	6.77	3.25	2.77	13
WORLD	per crisis	3.61	2.47	2.65	62
	per cntry	4.87	3.09	3.73	46
	Banking crisis	3.83	3.25	3.22	18

(A) Calculations of parameters

- **Calculations of (a) and (b), see also figures 2**

Let

- $(C/GDP)_{t0}$ the value of Compensations/GDP the year of the beginning of the crisis (or the year just after).
- $(C/GDP)_{min}$ the minimal value of C/GDP observed after a crisis. $(C/GDP)_{min}$ is sometimes the last observation we have in our database, sometimes the last observation before an other financial crisis (in these cases, b=0) or the "true" minimal value before a rise of C/GDP.
- $(C/GDP)_{max}$ is the last rising value of Compensations/GDP, either because it is the last observation in our data base or because an other crisis follow or also because we observed an other fall of C/GDP

then:

$$(a) = (C/GDP)_{t0} - (C/GDP)_{min}$$
$$(b) = (C/GDP)_{max} - (C/GDP)_{min}$$

- **Calculations of α and β**

If

t_0 is the first year of the crises (or the year just after),
t_{min} the year when we observe $(C/GDP)_{min}$ and
t_{max} the year when we observe $(C/GDP)_{max}$,

then:

$$(\alpha) = t_{min} - t_0 + 1$$
$$(\beta) = t_{max} - t_{min} + 1$$

- **Calculations of (A), (B) and (A+B)**

- If b < a and b > 0 (see figure 2-a.), then

$(B) = \sum_{t=t0}^{t=t_{\max}} \left(C/GDP\right)_{t\max} - (C/GDP)_t$

For all the positive values of $\left(C/GDP\right)_{t\max} - (C/GDP)_t$

and

$(A) = \sum_{t=t0+1}^{t=t_{\max}} \left(C/GDP\right)_{t_0} - (C/GDP)_t - (B)$

(A+B) is simply = (A) + (B)

- If b > a and a > 0 (see figure 2-b.), then

(A) = 0 and

$(B) = \sum_{t=t0}^{t=t_{\max}} \left(C/GDP\right)_{t_0} - (C/GDP)_t$

For all the positive values of $\left(C/GDP\right)_{t\max} - (C/GDP)_t$

(A+B) = (A) + (B) = (B)

- If b = 0 (see figure 2-c.), then

(B) = 0

$(A) = \sum_{t=t0+1}^{t=t_{\max}} \left(C/GDP\right)_{t_0} - (C/GDP)_t$

(A+B) = (A)

Remark:
(a-b) is the average value of (a-b) witch is not equal to the difference between average (a) and average (b) because we don't have the same number of observations for (a) and (b). The same is true for (a/α), (b/β), (a-b)/(α-β) and (A+B).

TABLE 2. MEASURES OF LOSSES FOLLOWING BANKING CRISIS

(as a sub sample of financial crises - 17 countries and 18 crises)

Countries	Date of the currency crisis	Permnt Loss	Transit. Loss	Loss of C/GDP	Growth of C/GDP	Nb. Of years of loss	Nb. Of years of rise	Total losses	Net Loss	Curren. Crisis duratn
		(A)	(B)	(a)	(b)	(α)	(β)	(A)+(B)	a-b	n
CHILE*	1972-78	97.76	37.27	2.90	6.28	4	3	135.03	-3.38	7
CHILE*	1982-83	19.23		9.35		3		19.23	9.35	2
COLOMBIA*	1984-86	26.22	0.81	5.94	0.33	3	3	27.03	5.61	3
COSTA RICA*	1981-82		38.00	10.39	11.47	3	8	38.00	-1.08	2
ECUADOR*	1983-84	30.72	2.25	7.96	1.44	3	2	32.97	6.52	2
MEXICO*	1982-88	27.55	59.47	10.62	8.50	6	7	87.02	2.12	7
PERU*	1988-93	80.41	8.25	11.43	5.36	6	4	88.66	6.07	6
VENEZUELA*	1984	15.10	5.52	8.18	2.47	2	2	20.62	5.71	1
CONGO (CFA)*	1981		25.14	6.29	14.38	4	2	25.14	-8.09	1
KENYA*	1993		1.34	1.34	2.84	1	2	1.34	-1.50	1
SOUTH AFRICA*	1984-85	3.97	0.67	1.78	3.31	2	1	4.64	-1.53	2
TANZANIA*	1987-90	15.63	0.98	6.38	0.98	3	1	16.61	5.40	4
JORDAN*	1989	3.54	3.63	2.49	1.60	3	1	7.17	0.89	1
PHILIPPINES*	1983-84	8.42	3.97	2.17	1.93	1	3	12.39	0.24	2
FINLAND*	1991-93	29.98		7.95		5		29.98	7.95	3
SPAIN*	1981	35.47	21.01	6.59	3.54	8	7	56.48	3.05	1
SWEDEN*	1991	16.11	2.01	5.66	1.85	5	1	18.12	3.81	1
TURKEY*	1978-89		72.61	9.25	12.39	7	5	72.61	-3.14	12
Average	**per crisis**	**29.29**	**17.68**	**6.48**	**4.92**	**3.83**	**3.25**	**38.50**	**2.11**	**3.22**
Average	**per country**	**31.55**	**17.68**	**6.86**	**4.92**	**4.06**	**3.25**	**40.77**	**2.24**	**3.41**

ANNEX

TABLE 1. MEASURES OF LOSSES FOLLOWING FINANCIAL CRISES

Countries	Date of the crisis	Permnt Loss	Transit. Loss	Loss of C/GDP	Growth of C/GDP	Nb. Of years of loss	Nb. Of years of rise	Total Loss	Net losses	Crisis duratn
		(A)	(B)	(a)	(b)	(α)	(β)	(A)+(B)	a-b	n
Latin, Central America and Caraibes										
CHILE*	1972-78	97.76	37.27	2.90	6.28	4	3	135.03	-3.38	7
CHILE*	1982-83	19.23		9.35		3		19.23	9.35	2
COLOMBIA*	1984-86	26.22	0.81	5.94	0.33	3	3	27.03	5.61	3
COLOMBIA	1989-91		1.46	0.72	2.11	2	2	1.46	-1.39	3
COSTA RICA*	1981-82		38.00	10.39	11.47	3	8	38.00	-1.08	2
COSTA RICA	1991	6.26	2.18	3.20	1.11	1	2	8.44	2.09	1
DOMINICAN REP.	1985-88		9.87	2.77	3.79	4	2	9.87	-1.02	4
DOMINICAN REP.	1990-91	10.10		5.53		2		10.10	5.53	2
ECUADOR*	1983-84	30.72	2.25	7.96	1.44	3	2	32.97	6.52	2
ECUADOR	1986-93	39.00	4.36	9.12	1.78	6	1	43.36	7.34	8
HONDURAS	1990-91	11.34	2.71	5.20	2.71	2	1	14.05	2.49	2
HONDURAS	1994	15.38		7.22		4		15.38	7.22	1
JAMAICA	1978-79	11.17	9.84	5.18	0.06	2	4	21.01	5.12	2
JAMAICA	1984-85	36.26	1.90	9.16	1.06	6	2	38.16	8.10	2
MEXICO	1977	11.92	1.42	4.23	1.42	4	1	13.34	2.81	1
MEXICO*	1982-88	27.55	59.47	10.62	8.50	6	7	87.02	2.12	7
PARAGUAY	1984-89		30.42	7.63	8.26	6	6	30.42	-0.63	6
PERU	1976-86	27.49	12.31	9.45	4.87	3	4	39.80	4.58	11
PERU*	1988-93	80.41	8.25	11.43	5.36	6	4	88.66	6.07	6
TRINIDAD & TOB.	1986	39.93	1.14	12.82	1.14	4	1	41.07	11.68	1
URUGUAY	1972-79	10.71	1.84	7.19	1.84	1	1	12.55	5.35	8
VENEZUELA*	1984	15.10	5.52	8.18	2.47	2	2	20.62	5.71	1
VENEZUELA	1987	1.49	1.67	2.42	1.67	1	1	3.16	0.75	1
VENEZUELA	1989-90	8.41	5.86	6.08	3.99	2	2	14.27	2.09	2
VENEZUELA	1993-94	7.10		3.42		3		7.10	3.42	2
Average	**per crisis**	**25.41**	**11.36**	**6.72**	**3.41**	**3.32**	**2.81**	**30.88**	**3.86**	**3.48**
Average	**per cntry**	**41.04**	**18.35**	**12.93**	**5.51**	**6.38**	**4.54**	**59.39**	**7.42**	**6.69**
Sub-Saharan Africa										
BOTSWANA	1985	5.39	1.29	3.98	1.29	1	1	6.68	2.69	1
BURKINA-F CFA)	1981		0.34	0.33	3.33	1	3	0.34	-3.00	1
BURUNDI	1984		2.29	1.10	2.75	1	3	2.29	-1.65	1
CAMEROON(CFA)	1981		6.08	2.93	4.25	3	4	6.08	-1.32	1
CONGO (CFA)*	1981		25.14	6.29	14.38	4	2	25.14	-8.09	1
KENYA*	1993		1.34	1.34	2.84	1	2	1.34	-1.50	1
NAMIBIA	1984-85	36.52	31.99	12.45	8.41	6	4	68.51	4.04	2
NIGERIA	1986-89	21.98	0.14	7.37	0.14	3	1	22.12	7.23	4
SIERRA LEONE	1983-87	16.04	0.59	8.59	0.59	2	1	16.63	8.00	5
SOUTH AFRICA*	1984-85	3.97	0.67	1.78	3.31	2	1	4.64	-1.53	2
TANZANIA	1984	8.82		4.67		3		8.82	4.67	1

Countries	Date of the crisis	Permnt Loss	Transit. Loss	Loss of C/GDP	Growth of C/GDP	Nb. Of years of loss	Nb. Of years of rise	Total Loss	Net losses	Crisis duratn
		(A)	(B)	(a)	(b)	(α)	(β)	(A)+(B)	a-b	n
TANZANIA*	1987-90	15.63	0.98	6.38	0.98	3	1	16.61	5.40	4
ZAMBIA	1983-86	99.43		25.73		6		99.43	25.73	4
ZIMBABWE	1983	0.62	3.83	4.14	3.83	1	1	4.45	0.31	1
ZIMBABWE	1985		1.74	1.68	2.37	2	1	1.74	-0.69	1
Average	**per crisis**	**23.16**	**5.88**	**5.92**	**3.73**	**2.60**	**1.92**	**18.99**	**2.69**	**2.00**
Average	**per cntry**	**26.05**	**6.37**	**6.83**	**4.04**	**3.00**	**2.08**	**21.91**	**3.10**	**2.31**
Middle East And North Africa										
ALGERIA	1989-91	23.79	7.96	8.73	3.45	3	2	31.75	5.28	3
IRAN	1993-94	0.12	1.33	1.39	1.33	1	1	1.45	0.06	2
JORDAN*	1989	3.54	3.63	2.49	1.60	3	1	7.17	0.89	1
Average	**per crisis**	**9.15**	**4.31**	**4.20**	**2.13**	**2.33**	**1.33**	**13.46**	**2.08**	**2.00**
Average	**per country**	**9.15**	**4.31**	**4.20**	**2.13**	**2.33**	**1.33**	**13.46**	**2.08**	**2.00**
Asia & Pacific										
INDONESIA	1987	3.30	1.12	1.73	0.85	2	2	4.42	0.88	1
KOREA, REP.	1980		0.99	0.66	1.43	1	2	0.99	-0.77	1
MYANMAR	1975	17.64	0.81	4.62	0.59	3	2	18.45	4.03	1
PHILIPPINES*	1983-84	8.42	3.97	2.17	1.93	1	3	12.39	0.24	2
Average	**per crisis**	**9.79**	**1.72**	**2.30**	**1.20**	**1.75**	**2.25**	**9.06**	**1.10**	**1.25**
Average	**per cntry**	**9.79**	**1.72**	**2.30**	**1.20**	**1.75**	**2.25**	**9.06**	**1.10**	**1.25**
OECD and Western Europe										
AUSTRALIA	1985	4.83	3.94	2.84	1.89	4	2	8.77	0.95	1
BELGIUM	1981	44.56	4.58	8.39	2.42	8	2	49.14	5.97	1
DENMARK	1981	9.23	5.82	3.46	2.16	6	2	15.05	1.30	1
FINLAND*	1991-93	29.98		7.95		5		29.98	7.95	3
FRANCE	1981	32.82	4.60	5.31	1.50	8	4	37.42	3.81	1
GREECE	1983-84		0.31	0.31	1.22	1	1	0.31	-0.91	2
IRELAND	1981	102.73	2.63	12.82	1.45	9	4	105.36	11.37	1
ITALY	1981	25.49	3.46	4.26	1.05	8	2	28.95	3.21	1
NETHERLANDS	1981	25.80	5.08	6.74	2.19	5	2	30.88	4.55	1
PORTUGAL	1977	28.21	3.48	8.01	1.83	3	2	31.69	6.18	1
PORTUGAL	1982-84	41.11	22.48	9.20	4.72	7	4	63.59	4.48	3
SPAIN*	1981	35.47	21.01	6.59	3.54	8	7	56.48	3.05	1
SWEDEN*	1991	16.11	2.01	5.66	1.85	5	1	18.12	3.81	1
TURKEY*	1978-89		72.61	9.25	12.39	7	5	72.61	-3.14	12
TURKEY	1991-96	22.63	2.11	9.68	2.11	4	1	24.74	7.57	6
Average	**per crisis**	**32.23**	**11.01**	**6.70**	**2.88**	**5.87**	**2.79**	**38.21**	**4.01**	**2.40**
Average	**per cntry**	**32.23**	**12.84**	**7.73**	**3.36**	**6.77**	**3.25**	**44.08**	**4.63**	**2.77**

TABLE 2. ECONOMETRIC ANALYSIS OF THE IMPACT OF FINANCIAL CRISES ON LABOR'S SHARE

We measure the effect of financial crises on labor's share. For that purpose, we use panel data for labor's share of 46 countries between 1975 and 1995. A dummy captures financial crises; two other dummies capture distributional crises.

The dependent variable "C" is the ratio Compensations/GDP

"D" is a dummy for the financial crises; it is equal to 1 during the crisis and 0 otherwise

"DD" is a dummy for the downward sloping interval of the labor's share during the distributional crisis. It is equal to 1 during the α periods and 0 otherwise

"DDD" is a dummy for the upward sloping interval of the c-ratio during the distributional crisis. It is equal to 1 during the β period and 0 otherwise.

"GDPC" is the GDP per capita (PPP, current international $, GDF & WDI database).

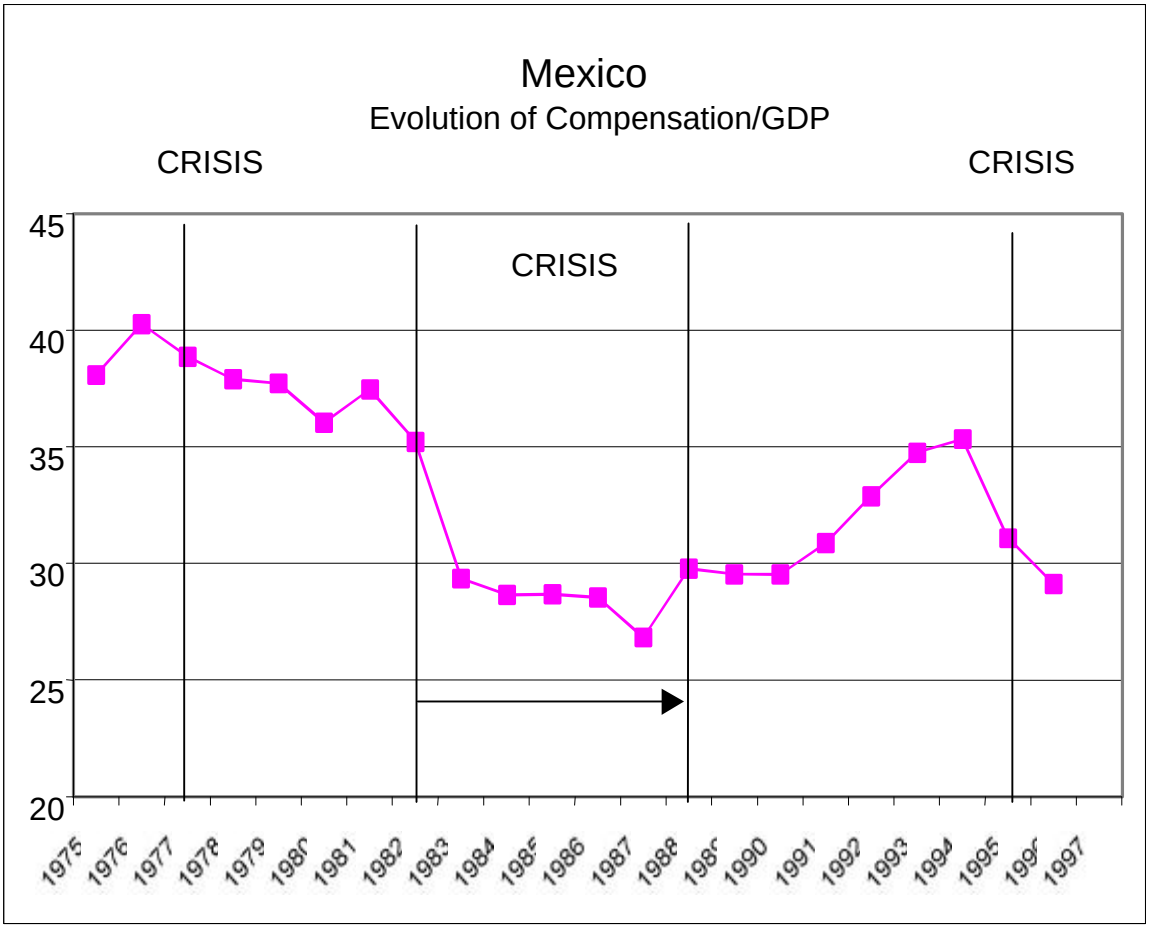
We use an AR specification in order to avoid the serial correlation problem. Doing so we underestimate the coefficients of the dummies.

Results

	During the financial crisis (n)		During the first part of the distributional crisis (α)		During the second part of the distributional crisis (β)	
	1st reg.	2nd reg.	1st reg.	2nd reg.	1st reg.	2nd reg.
D	-1.51	-1.08	-	-	-	-
DD	-	-	-1.58	-1.58	-	-
DDD	-	-	-	-	1.09	0.92
GDP per capita	-	-1.67E-05	-	1.41 E-05	-	-1.30E-05

Only coefficient of GDP per capita during the first part of the distributional crisis is not significant, all other coefficients are significant at 1% level.

FIGURE 1


Mexico
Evolution of Compensation/GDP
CRISIS
CRISIS
CRISIS
45
40
35
30
25
20
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997

FIGURES 2

Figure 2-a.

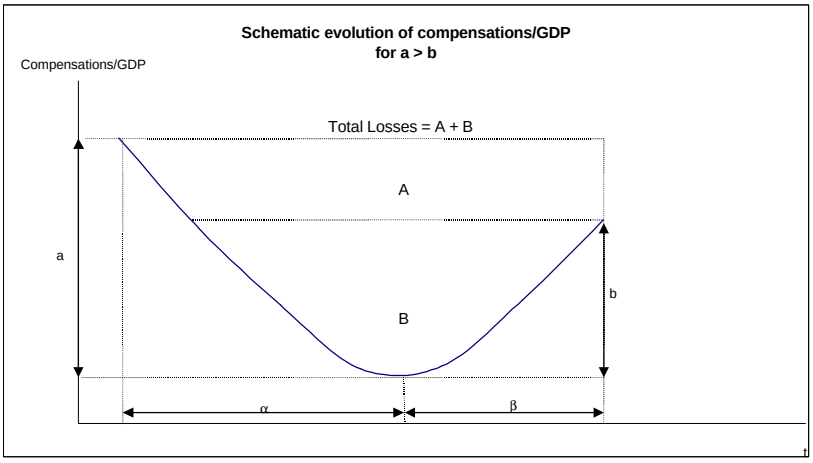


Figure 2-b.

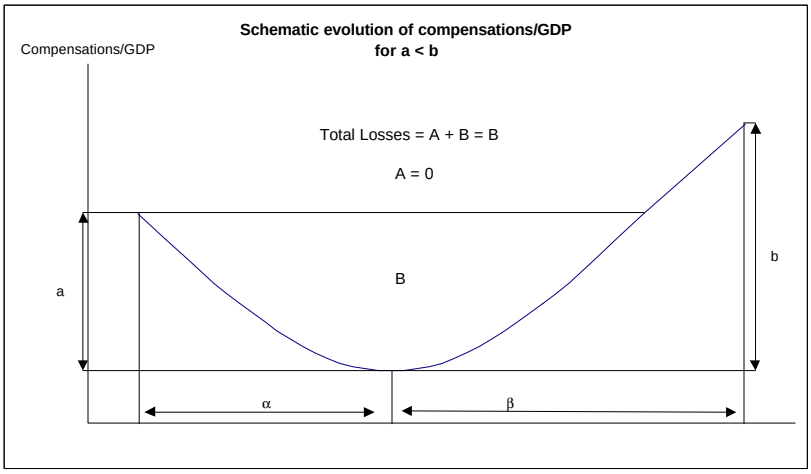
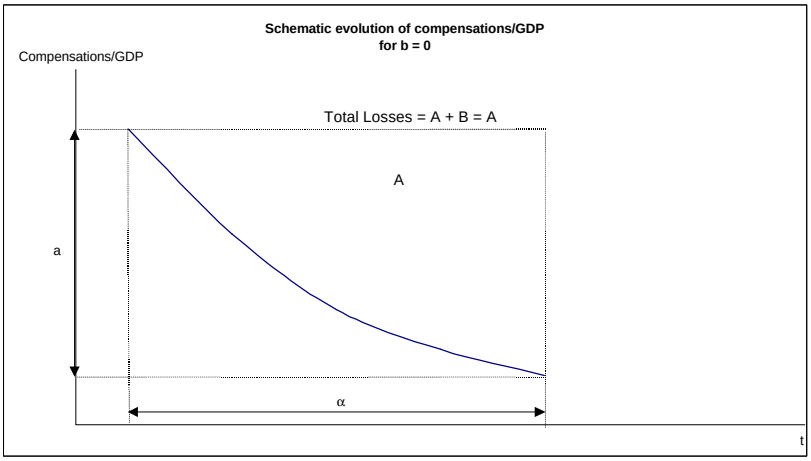


Figure 2-c.



FIGURES 3

Figure 3 (a - 1) - Number of crises in the data set

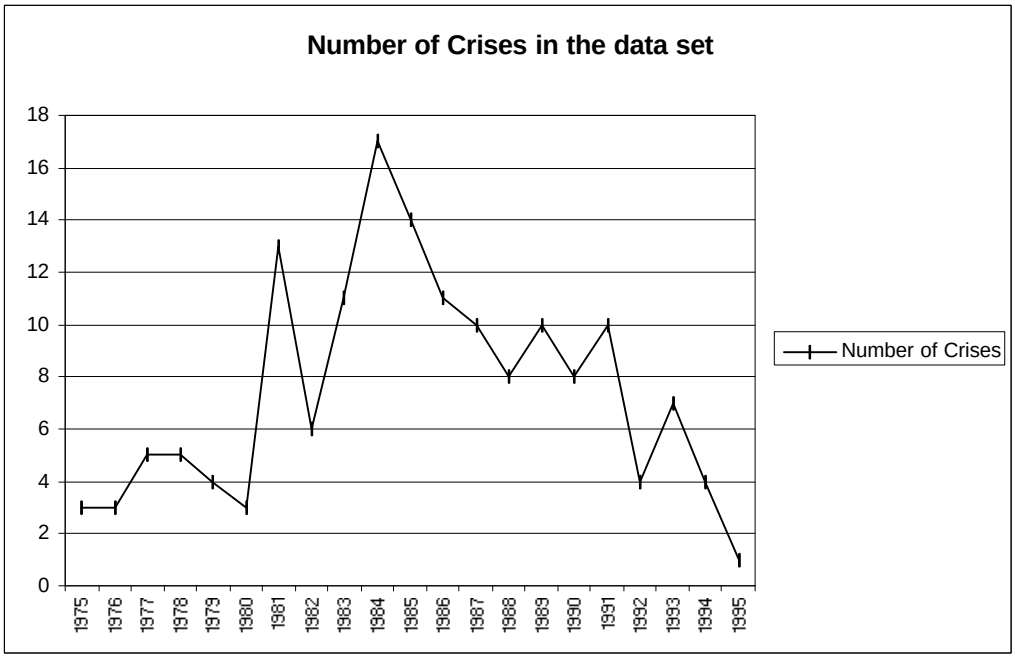
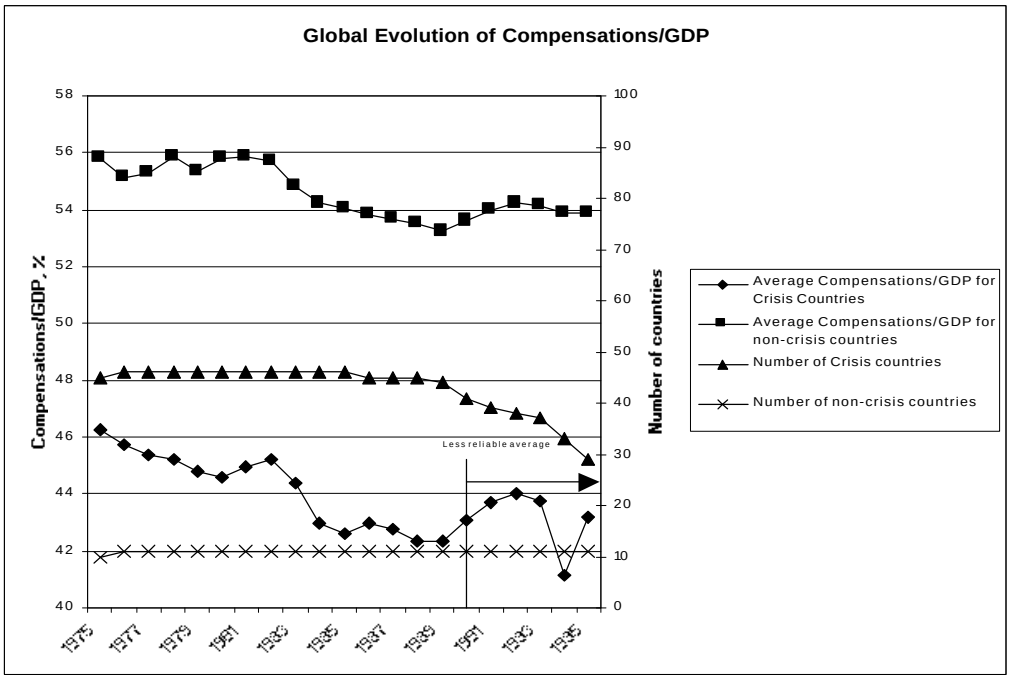


Figure 3 (a - 2) - Global Trends[17]



[17] In order to keep a constant set of observations from 1975 to 1990, countries included in these graphs are slightly different from those in the tables.

Figure 3 (a - 3) - Global Trends

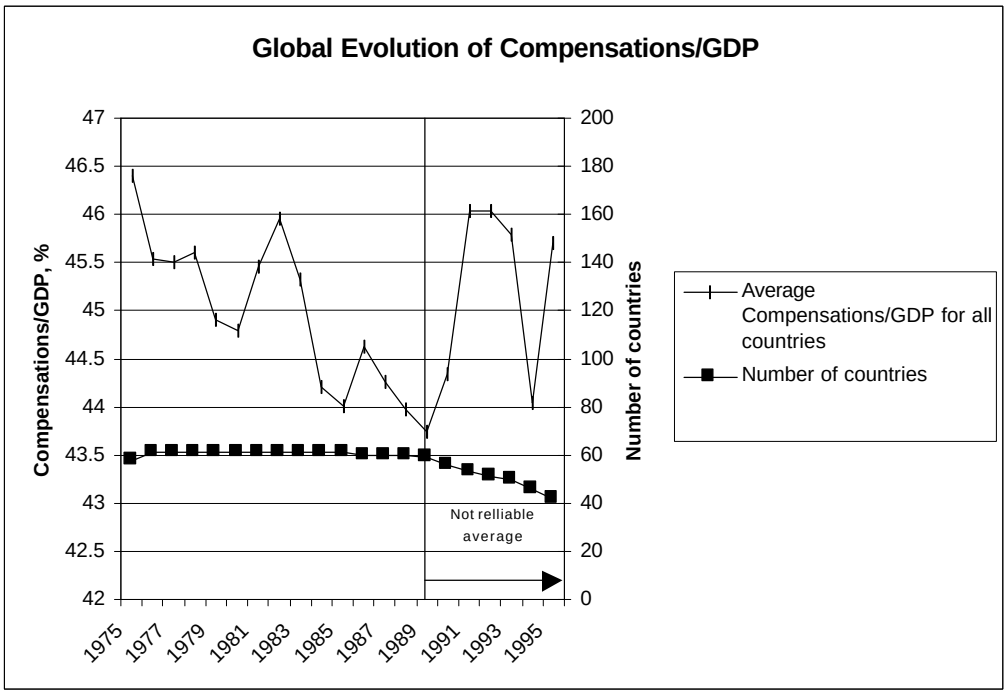


Figure 3 (b) - Regional Trends - Latin America and Caribbean

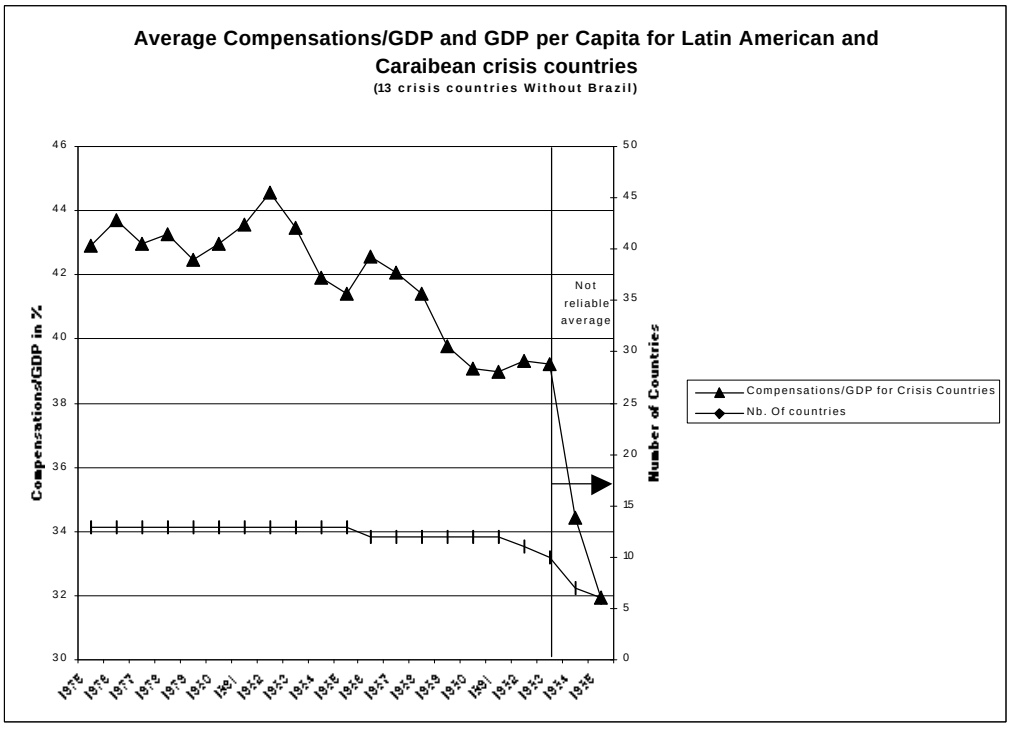


Figure 3 (c) - Regional Trends - Asia
(Japan is with OECD countries)

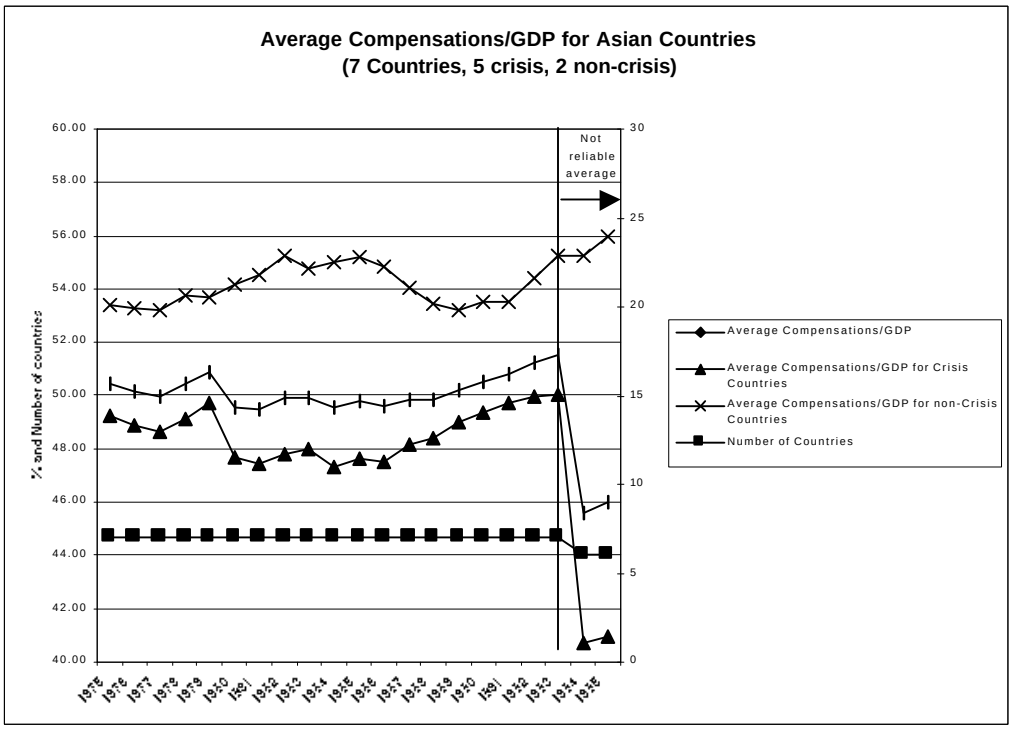


Figure 3 (d - 1) - Regional Trends - Anglo-Saxons OECD Countries

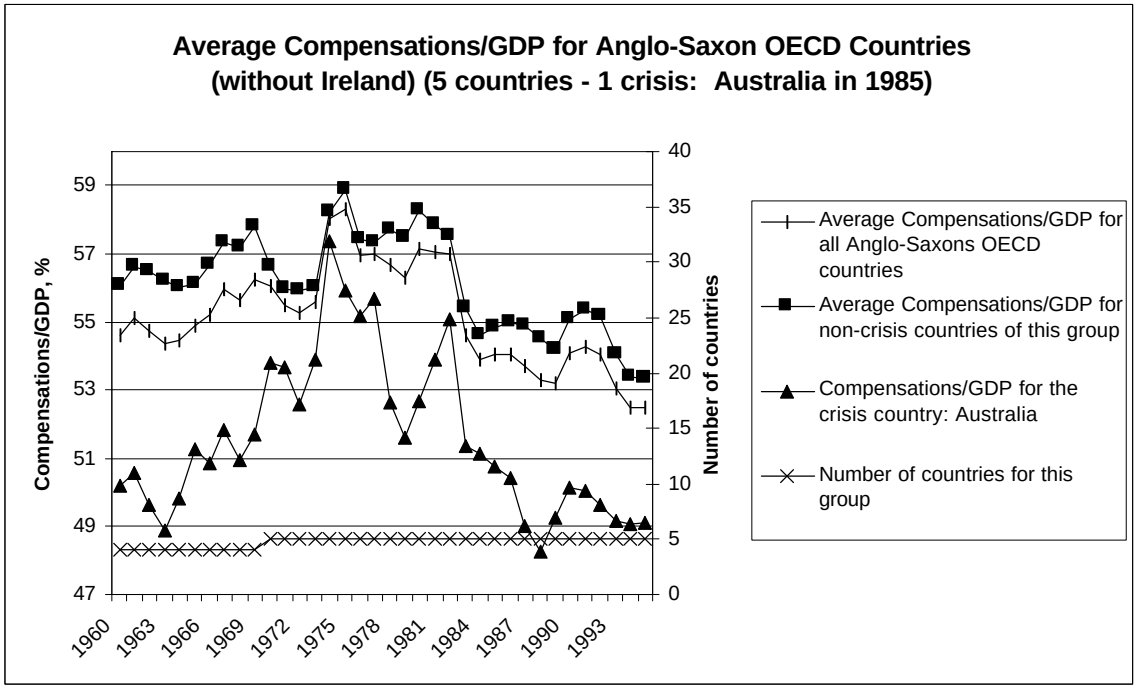


Figure 3 (d - 2) - Regional Trends - Israel, Turkey and Southern European Countries

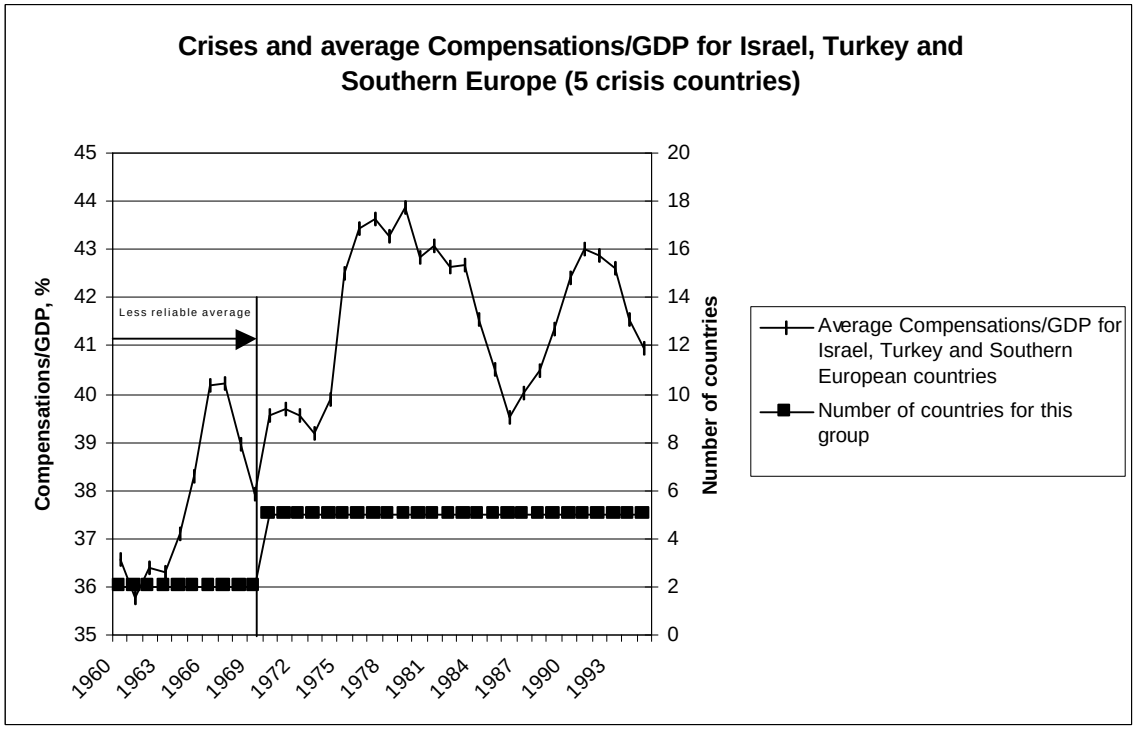


Figure 3 (d - 3) - Regional Trends - Rest of OECD Countries

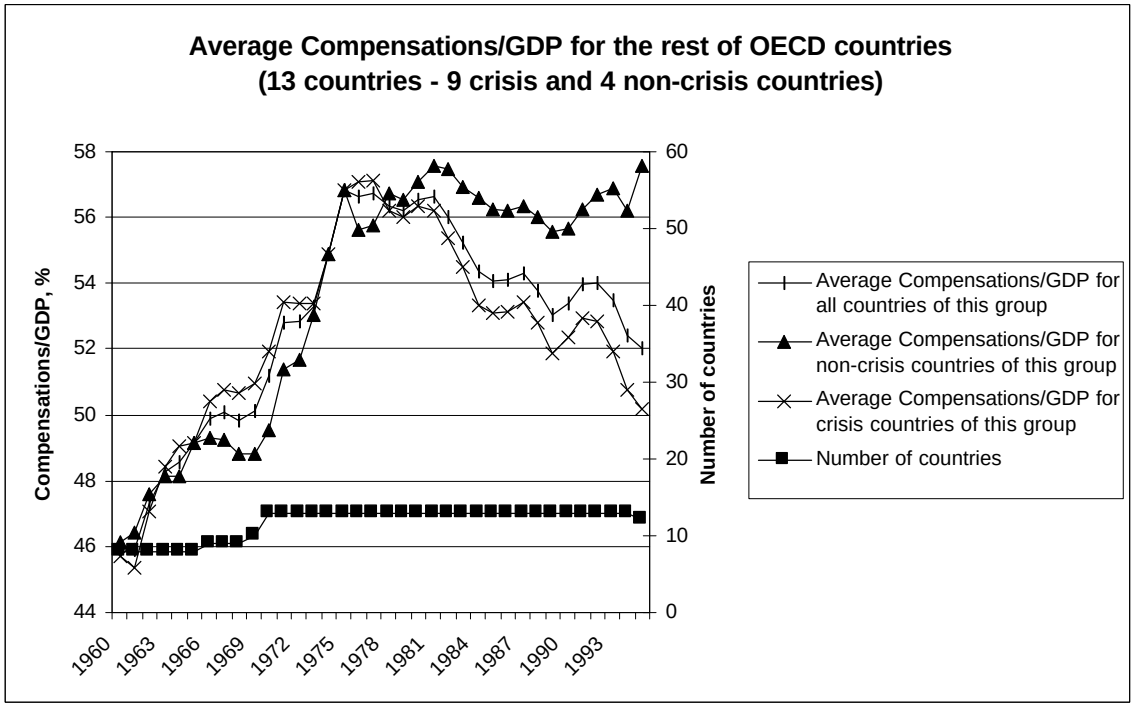


Figure 3 (e) - Regional Trends - Middle East and North Africa

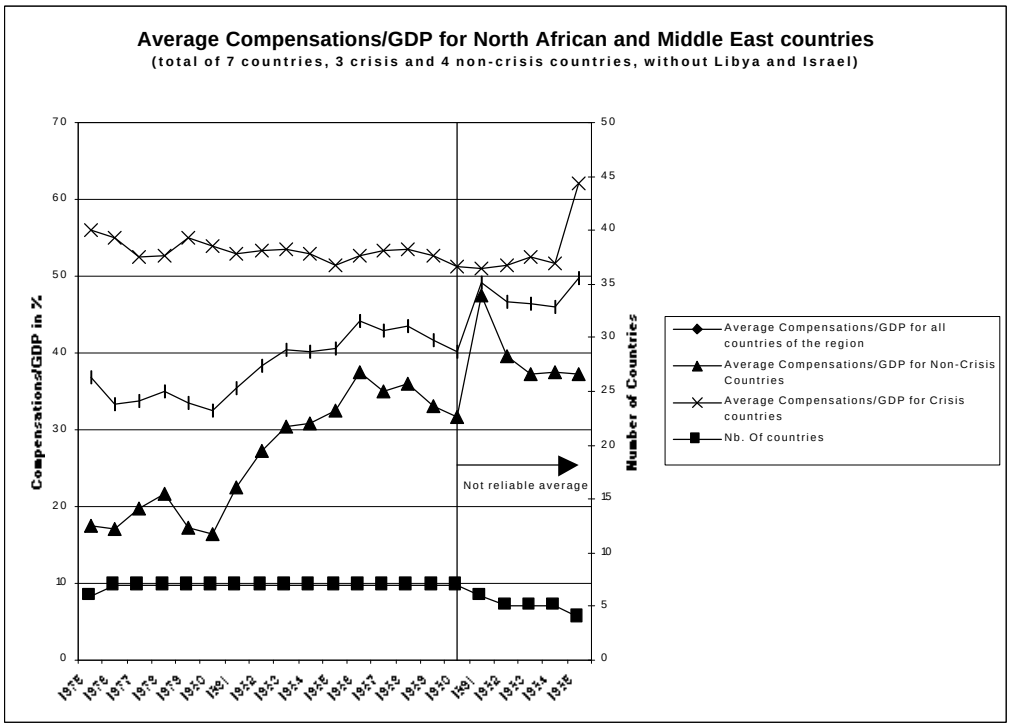


Figure 3 (f) - Regional Trends - Sub-Saharan Africa

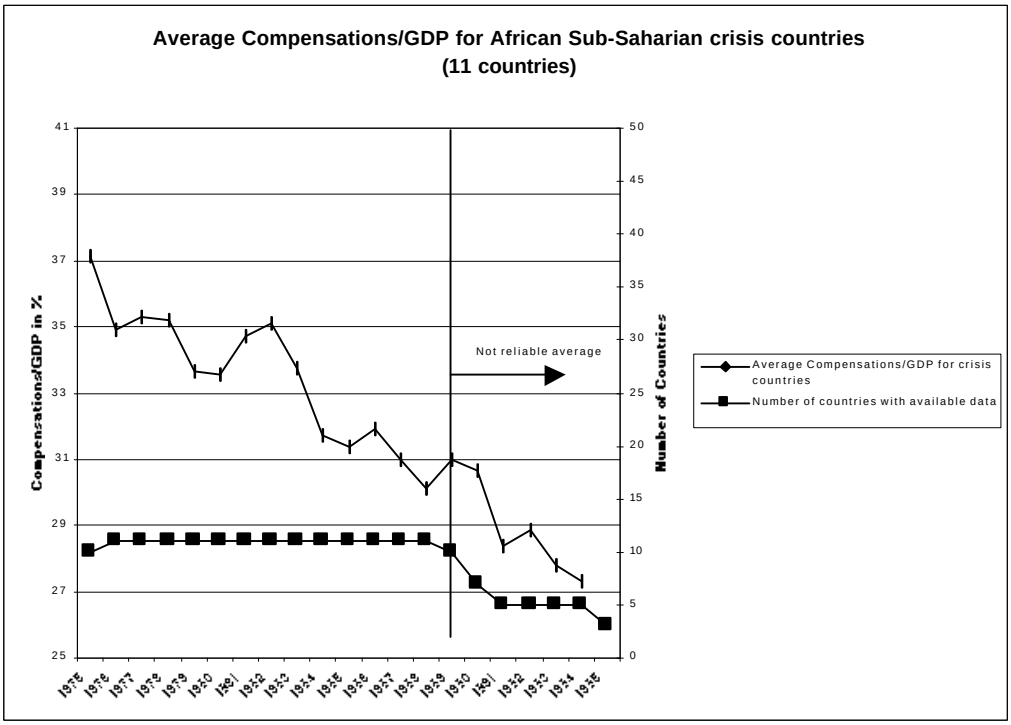


FIGURE 4

Compensations/GDP & GDP per capita in 1990
62 countries