

## 2. Capital Account Liberalization, Growth and the Labor Share of Income: Reviewing and Extending the Cross-country Evidence

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### INTRODUCTION

*The next moment soldiers came running through the wood, at first in twos and threes, then ten or twenty together, and at last in such crowds that they seemed to fill the whole forest. Alice got behind a tree, for fear of being run over, and watched them go by.*

Lewis Carroll (*Alice Through the Looking Glass*)

One of the most significant changes in the international economy over the last three decades has been the growing importance of international capital flows between countries. Flows to developing countries, less than \$10 billion in 1973, experienced a 30-fold increase to over \$300 billion in 1997.<sup>1</sup> This has been partly the consequence of improvements in financial technology and products, as evidenced by the vast increase in financial vehicles available to investors. A more important cause, however, has been the dismantling of barriers to cross-country capital flows in various parts of the world over this period, broadly subsumed under the label of capital account liberalization, a principle that has allowed capital to flow much more freely and in larger volumes across nations. This policy, in its various forms, has been spurred in part by the adoption of the Washington Consensus<sup>2</sup> by numerous policy makers in a variety of contexts, and in part by the conditionalities imposed by international lending institutions. While the forms and the pace of these deregulations have taken many constellations (see Epstein et al. 2003), it remains a fact that with few exceptions, countries have moved in the direction of opening up to international flows.

The predicted and perceived consequences of this explosion of financial activity have been contentious, both from a theoretical viewpoint and from the standpoint of its concrete empirical effects. Attention has largely focused on the growth impact of these developments drawing from various theoretical perspectives. A second concern has been its effects on

macroeconomic stability, with the decade of the nineties seeing numerous calamitous financial crises. Only very recently have writers begun to examine its effects on income distribution and poverty.

This chapter draws from other work undertaken by the authors (see Lee 2003; Jayadev 2003) to address both the questions of growth and distribution. Using the method of cross-country regressions, we find that there is little evidence to suggest that capital account openness has a direct positive effect on growth, even under much talked-about preconditions. We present preliminary evidence that suggests a dissenting conclusion: where capital controls have been used as an active part of industrial policy, and under circumstances where such macroeconomic policy has been well managed, there is a significant positive effect on growth. We address the question of distribution by looking at the effect of capital account openness on factor shares. In keeping with the few studies that have been done drawing these linkages, we find that there is a systematic negative effect of capital account openness on the labor share of income, bolstering the argument, put forward by many, that a liberal financial regime may act to the detriment of workers.

Attempting to study the links between a policy variable such as capital account liberalization and national level outcomes involves a somewhat irreducible tension between the international scope of the former and the localized effects of the latter. That is to say, while full capital account liberalization presumably involves a similar (if not identical) set of deregulatory measures across countries, the specific channels and intensity with which these affect different countries diverge according to a large set of conditioning social, institutional and historical factors. As such, the research in this area is faced with the perhaps insurmountable problem of having to choose an empirical methodology that can address both of these issues. As a result, research tends to devolve into one of two methodologies: cross-country studies which attempt to study effects through structural equations so as to provide enough of a range of outcomes to be generalizable (if indeed this is possible) or country-specific (or more rarely region-specific) studies which attempt to establish the manner in which the policy changes have worked themselves out in a given country.

Given the flood of theoretical and empirical analyses that have been produced by researchers in the last decade and the vast array of the channels involved, the focus of this chapter is necessarily limited. We begin with a brief review of the key theoretical and empirical literature on the linkages between capital account liberalization on the one hand, and growth and distribution on the other. We concentrate on the numerous cross-country studies<sup>3</sup> that have been produced, before going on to present our analysis which uses a different (and more sophisticated) measure of capital account openness than has typically been employed.

## REVIEWING THE LITERATURE

*'Who are you?' said the Caterpillar.*

*This was not an encouraging opening for a conversation. Alice replied, rather shyly, 'I – I hardly know, sir, just at present – at least I know who I was when I got up this morning, but I think I must have been changed several times since then.'*

Lewis Carroll (*Alice in Wonderland*)

### **Growth**

#### **Theory**

Following from Fischer (1930), capital mobility should benefit both borrowers and lenders as it enhances the efficiency of intertemporal decision making, raises returns to lenders and augments the savings of borrowers (Fischer 1998; Cooper 1999). In addition, open capital accounts should increase growth by enhancing the potential for risk diversification (Guitan 1997; Obstfeld 1994). As a result, one should expect both an increase in the growth rate across all countries and a reduction in macroeconomic volatility following capital account openness.

However, divergences from this outcome may result from imperfect capital markets (see, for example, Stiglitz 2000) or distortions in the real sector (Brecher and Diaz-Alejandro 1977). In the context of these alterations, capital account liberalization may in fact lead to more instability, with herd behavior and overborrowing (Kim and Wei 1999; McKinnon and Pill 1999; Eichengreen et al. 1997), and an inefficient allocation of capital resources. As such, when these prerequisites are not met, capital mobility may in fact be welfare-reducing.

Given this, much analytical attention has focused on the types of preconditions that must be in place<sup>4</sup> for capital account liberalization to increase growth and smooth macroeconomic unpredictability. More recent theory has attempted to shift the focus towards more indirect channels through which financial openness can enhance growth-increasing financial depth and development (Levine 1997) and promoting better governance and public policy (Dornbusch 1998; Kim 2000).

While the viewpoint endorsing capital account liberalization with caveats has become the dominant viewpoint, an alternative view is more critical of capital account liberalization. On the contrary, it is argued, capital controls should be seen as a necessary part of the development process, and as a central aspect of industrial policy (Crotty and Epstein 1996; Amsden 1989). As such, premature capital account openness reduces the ability of firms to undertake development policy and to move up the productivity ladder (Chang 2002), thereby reducing the rate of long-term growth. In addition, it is argued, rather than reducing macroeconomic volatility, capital account

*Table 2.1 Important empirical studies of capital account liberalization*

Study	Sample Size/ Period	Index	Effects	Preconditions and channels (o = statistically significant, x = statistically insignificant)
Grilli-Millesi Ferreti (1995)	61/1966–89	IMF dummy	Growth (x)	
Quinn (1997)	64/1960–89	Quinn's	Growth (o)	
Rodrik (1998)	More than 90/ 1960–89	IMF dummy	Growth (x) Investment (x)	Institutions (x)
Kraay (1998)	64/ 1985–97	Both and capital flows	Growth (x) Investment (x)	Institutions (x) Financial development (x)
Chanda (2001)	82/ 1975–95	IMF dummy	Growth (x)	Higher ethnic fragmentation (o)
Edwards (2001)	59/1980s	Both	Growth (o) TFP (o)	Higher level of growth (o)
Arteta et al. (2001)	59/ 1980s	Both	Growth (x)	Lower black market premium (o)
O'Donnell (2001b)	66/1971–94	IMF dummy, stock of foreign assets and liabilities	Growth (x)	Financial development (x)

Quinn et al. (2001)	76/1960–98	Quinn's	Growth (o)	Level of growth (x) Emerging market democracy (bad)
IMF (2001)	57/1980–99	IMF dummy, external assets	Growth (x) Investment (o) Financial development (o)	Institutions (x)
Klein and Olivei (2001)	69/1976–95	IMF dummy	Growth (o) Financial development (o)	Financial development (o)
Bekaert et al. (2002)	95/1980–97	Equity market opening date	Growth (o) Investment (o)	Financial development (x)
Edison et al. (2002a)	89/1976–95	Both	Growth (o)	
Edison et al. (2002b)	57/1980–2000	Both, flows	Growth (x)	Level of growth (x) Institutions (x)
Klein (2003)	85/1976–95	Both		Inverse U-shaped relation of growth level
Prasad et al. (2003)	76/1982–97	Capital flows	Growth(x) Volatility on consumption (o)	

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openness increases instability (at least in the short to medium-term) by exposing countries to speculative capital flows that exacerbate the business cycle (Palma 1998; Grabel 1997).

### **Empirical Research**

Given the widely differing views held by researchers, a range of empirical projects have been undertaken to verify or reject the many hypotheses that have been put forward. For the most part, these projects have been cross-country studies, using a variety of different econometric methodologies. One particular sticking point has been the measurement of capital account openness, a topic to which we return later. Typically, researchers have used one of four indicators: actual flows of direct and portfolio investment, deviations from interest rate parity, a dummy variable for openness drawn from the International Monetary Fund's Annual Report on Exchange Arrangements and Restrictions and Quinn's (1997) index which codes various regulations from the IMF on a 0–4 scale.

Most empirical studies, using various policy variables, have examined the effect on growth with a standard cross-country regression framework.<sup>5</sup> These show only mixed results. The differences between studies seem to depend on the choice of sample, period and, most of all, capital controls indices (Grilli and Milesi-Ferretti 1995; Rodrik 1998; Quinn 1997; Edison *et al.* 2002a). More recent work attempts to shed light on the possible preconditions under which liberalization may spur growth (Edwards 2001; Arteta *et al.* 2001; IMF 2001; Kraay 1998; Chanda 2001, Klein and Olivei 2001; O'Donnell 2001b; Bekaert *et al.* 2001, Edison *et al.* 2002b; Prasad *et al.* 2003). Again the results of these studies are mixed.

Table 2.1 lists the key empirical studies on the effect of capital account liberalization (measured using these indicators) on growth. Perhaps the most striking feature of these studies is the lack of consensus on the issue. It appears that the impacts of financial openness on growth is highly sensitive to the time period in question, the sample of countries, the choice of indicator and the preconditions existing in countries which liberalize.

Just as noteworthy is the large number of studies searching for the linkages between financial openness and growth. In contrast, other crucial areas of interest, especially those to do with the relative welfare of groups and individuals affected by capital account openness, have not been addressed until very recently.

### **Distribution**

#### **Theory**

With very few exceptions, current research largely ignores one of the more crucial concerns of the critics of open financial markets, namely that liberal

regimes may quite plausibly worsen the income distribution and the welfare of workers. Theoretically, from a neoclassical viewpoint, it is difficult to see how the direct effects of capital account openness might operate on the size distribution of income and even on a measure like poverty. For example, Cobham (2000) lists the potential linkages between openness and poverty. Allen (2002), in a comment on this issue, proposes that tracing the relationship between capital account liberalization and poverty is perhaps too onerous a task and suggests that first order relationships may be hard to find. Although gestures have been made towards understanding how different strata of society respond to and benefit from capital account openness (see, for example, Garrett 1995; Das and Mohapatra 2002), these are far from approaching the status of a theoretical viewpoint, at least in the mainstream literature on liberalization.<sup>6</sup>

By contrast, theoretical predictions may be drawn much more easily about another metric for the distribution of income: the factor shares of income.<sup>7</sup> In as much as the case for capital account liberalization is also the case for trade openness with the subscripts changed, one might expect homologous results to the effects of trade in the Heckscher–Ohlin model: capital account openness increasing the share of income going to labor (the abundant factor in developing countries) and increasing the share of income going to capital (the abundant factor in developed countries). To the extent that the labor share of income is a reflection of the income of the relatively less wealthy, we might expect to see a relative equalization of incomes in developing countries and between countries. Inequality in developed countries, by contrast, may rise.

While the Heckscher–Ohlin framework does provide an a priori theoretical prediction, it implicitly assumes that the division of production rents is a matter of the production technology. More recent works (Ortega and Rodriguez 2001; Harrison 2002) seek instead to explain the final division of factor shares as resulting from a bargaining game. As such, these models seek to formalize the arguments made by researchers such as Rodrik (1997) and Crotty and Epstein (1996) who suggest that capital account openness fundamentally changes the political economy of the country in question, to the detriment of the less mobile factor, labor. The imminent and plausible threat of capital strike causes workers and bargaining units to lose power and ex post, to lose their share of productive output. These ideas can be seen as one articulation of the familiar ‘race to the bottom’ hypothesis. Work by Bronfenbrenner (1997) and Choi (2001) appear to support this thesis in the case of US firms, in which increased capital mobility lowers the wage and bargaining power of labor unions.

Some authors (for example, Cobham 2000) see a differential impact of liberalization on the relatively high employment, small to medium enterprise sector (SMEs). To the extent that the labor share is higher in such firms, if

capital account openness disrupts growth in this sector, there is a disproportionate effect on the labor share. To that extent, whether financial openness has an additional impact on labor share through the SMEs depends in large part on whether it provides more certainty or conversely increases volatility.

Table 2.2 (drawn from Jayadev 2003) lists the major theoretical positions on the effects of capital account openness on distribution.

Table 2.3 (also from Jayadev 2003) lists some of the cross-country studies that have been done to test these relationships. Perhaps most interestingly, given the lack of consensus in studies on growth, all the research listed concurs that rising inequality is a correlate of capital account openness. Whether the measure of inequality is the Gini coefficient, income shares or factor shares, there is a consistent finding that capital account openness contributes to increasing disparity. While it is difficult to lay out clear theoretical reasons to explain why financial liberalization affects interpersonal income distribution in this way, there are more solid linkages drawn for those results featuring factor incomes and the relative income shares of the top 20 percent of the population (see Das and Mohapatra 2002).

## MEASURING CAPITAL ACCOUNT OPENNESS

*'What's one and one and one and one and one and one and one and one and one and one?'*

*'I don't know,' said Alice. 'I lost count.'*

*'She can't do Addition,' the Red Queen interrupted.*

Lewis Carroll (*Alice Through the Looking Glass*)

Capital account liberalization is usually taken to mean the removal of capital controls or restrictions that implicitly or explicitly restrain the international movement of capital. Typically, most measures of capital account liberalization can be divided into three types.

First, some authors (for example, Prasad et al. 2003) have sought to assess openness by measuring the actual flows of capital to and from the country in question. While this measure is likely on average to be correlated with financial openness, it confuses ex post and ex ante measurement. That is to say, capital account liberalization relates to how restrictive policies are towards capital flows (the only variable that policy makers have control over) and not how much capital actually traverses borders. Researchers who use this measure defend it by suggesting the *de facto* measures of openness capture the *de jure* measures as well as the effectiveness with which they are enforced.

A second line of empirical research, somewhat connected, revolves



Table 2.2 *Predicted effects of capital account liberalization on income distribution*

	Mainstream	Structuralist and Dependency	Marxian	Post-Keynesian
Income Distribution	Not main area of focus, but in developing countries, expected to eventually improve as more labor is incorporated into the market economy, and as the factor intensity of labor is higher. To the extent that capital account openness spurs growth, which in turn reduces poverty, there is likely to be a positive effect	Worsens in both labor and capital as well as in overall terms due to increasing incorporation of economy into global system. Also, differential negative effects on small/medium enterprise, thereby benefiting larger, lower employment business. More susceptibility to financial crises, which ultimately hurt labor	Labor–capital distribution worsens due to capital account deregulation and bargaining effects; ambiguous effect on overall distribution	More susceptibility to financial crises hurts labor disproportionately. Differential negative effects on small or medium–scale enterprise, thereby benefiting larger, lower employment business

*Table 2.3 Cross-country studies on capital account openness and distribution*

Study	Measure of Inequality	Result
Quinn (1997)	Gini coefficient	Inequality increases
Das and Mohapatra (2002)	Income quintiles	Inequality increases (middle income groups lose out)
Calderon and Chang (2001)	Gini coefficient	Inequality increases
Harrison (2002)	Labor share	Labor share declines
Diwan (2000)	Labor share	Labor share declines with crisis

around the integration of financial markets. The argument here is that countries with convergent returns are more open to capital flows and therefore the level of integration between rates of return is a measure of openness. Numerous authors (Bekaert 1995; Frankel and Macarthur 1988; Giavizzi and Pagano 1988; Cody 1990; Marston 1993, 1995) have followed this line of reasoning and utilize measures such as onshore–offshore differentials or deviations from covered interest parity to measure whether the economy is financially open. The problem, of course, is that while integration implies convergent rates, convergent rates do not imply integration. In addition, studies that equate market integration with openness assume implicitly that markets are complete, information is not distorted and the policy stance of the country is irrelevant for capital market integration – assumptions which are shaky at best.<sup>8</sup>

As a result of these complications, the most popular efforts to identify the presence of capital account restrictions have relied on the IMF’s annual publication, ‘Exchange Arrangements and Exchange Restrictions’, which provides details on various regulations on capital account transactions across countries. It has represented the central source for various measures of financial openness (Rodrik 1998; Kraay 1998; Klein and Olivei 2001; Edwards 2001; Chanda 2001; Mody and Murshid 2002). Because of the qualitative nature of the data, these studies have constantly faced the problem of distinguishing among relative degrees of openness, and have come up with various responses, ranging from an outright ignoring of the problem (that is, treating it as a binary indicator) to providing various remedial measures.<sup>9</sup> Quinn’s (1997) index remains the definitive study in this regard.

While Quinn’s indicator is the most preferable index to use given its attempt to code for intensity, it is available in a reasonable time series for cross-country studies for only a handful of years. As a result, we use the

same methodology that Quinn uses to develop a similar indicator of openness for the period 1973–1995. (For details on its construction, see Lee 2003 or Jayadev 2003.) This indicator is the basis of much of our analysis. Figure 2.1 details the movements in capital account openness over the last two and a half decades using this indicator. As can be seen, openness has increased in all groups of countries, with the early 1990s being the period of rapid opening up by the poorer groups, in keeping with other indicators.

## ASSESSING THE ARGUMENTS

*They hunted till darkness came on, but they found  
Not a button, or feather, or mark,  
By which they could tell that they stood on the ground  
Where the Baker had met with the Snark...*

*In the midst of the word he was trying to say,  
In the midst of his laughter and glee,  
He had softly and suddenly vanished away –  
For the Snark \*was\* a Boojum, you see.*

Lewis Carroll (*The Hunting of the Snark*)

### **Assessing the Growth Impacts of Capital Account Liberalization**

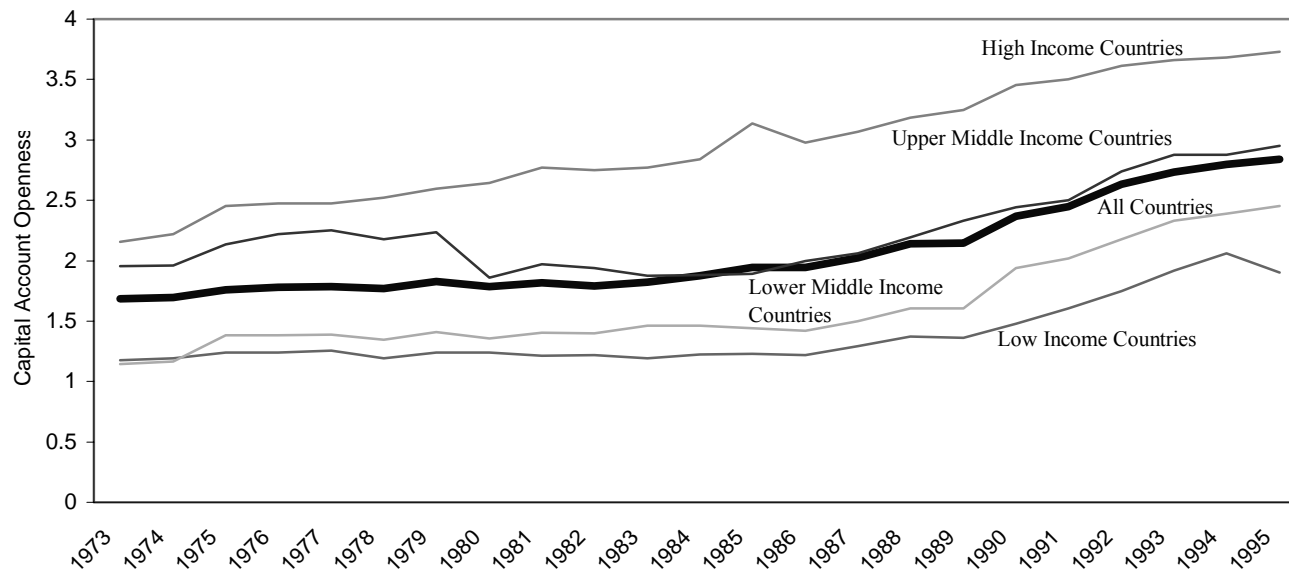
#### **Testing direct growth channels**

As mentioned in the review of the literature above, the central channel by which capital account liberalization is said to enhance growth is through access to greater financial opportunities for investment. We begin, therefore, by examining the effect of capital account liberalization on economic growth, investment, and efficiency of investment. Since growth regressions are varied (there have been at least 40 channels for growth identified by the World Bank), we use a very basic model that is used in other cross-country work. In this section, we report simple cross-country regressions, as much of the debate has focused on such models (see, for example, Rodrik 1998; Edwards 2001). In Lee (2003), this analysis is also repeated with panel regressions. The pooled OLS results are mostly consistent with these cross-country regressions, and while some fixed effects specifications provide opposing results to those given below, these are not very robust.<sup>10</sup>

The setup for the benchmark growth regression is:

$$Y_i = \alpha + \beta X_i + \gamma CAL_i + \varepsilon_i \quad (2.1)$$

where CAL refers to the indicator for the capital account openness and X represents a vector of control variables.



Note: \*Capital Account openness ranges from a minimum of 0 (completely closed) to 4 (completely open). The heavy line is a simple average of openness in all countries in the sample.

Figure 2.1 Increasing capital account openness

The basic control variable set<sup>11</sup> used in our initial regressions includes the initial log of real GDP per capita, the average educational attainment for the period, institutional quality, and regional dummies. An extended control variable set includes inflation, the black market premium and other social variables such as ethnic fragmentation.

Table 2.4 reports the basic regression result using OLS estimation on the panel data. In order to cover the possible problems associated with using just one measure of openness, we report the results from using five different measures.<sup>12</sup>

The regression appears to suggest that by all the indicators, capital account liberalization appears to have no significant independent positive effect on growth. In additional work, not reported here, we repeat the exercise including a variable for the investment share of GDP as a determinant of growth. In previous work on growth equations, when this variable was included in the set of controls, the coefficient on capital account liberalization has been positive and significant (Quinn 1997; Edward 2001; Edison et al. 2002a). Omitting it has meant that the coefficient remains insignificant (Rodrik 1998; Kraay 1998; O'Donnell 2001a and Chanda 2001). This suggests that where the investment share of GDP is already large, capital account liberalization increases the growth rate. Our results mimic these conflicting results. Introducing investment share of GDP into the control vector leads to the capital account liberalization variable having a positive effect on growth, though only in the case of Quinn's index is this effect significant.

Considering this regression, does capital account liberalization increase the investment share of GDP? This is, after all, the key channel by which it is said to increase growth. Table 2.5 reports the results of such an investigation from an OLS estimation using the same dependent variables. As the results show, perhaps counter-intuitively, capital account liberalization has a negative effect on the investment share of GDP, and in two instances, a significantly negative effect. It is possible that this reflects capital flight, or perhaps the displacement of local investment by foreign competition, (Harrison 2002), but in either case, the logic runs counter to the general expectation of enhanced investment.

Nevertheless, our findings are not unusual. Most literature looking at the relationship between financial openness and investment does not find a consensus of a strong positive causal link.<sup>13</sup> It does not appear that actual flows can be said to enhance the investment share, and financial openness in turn may not even be a strong motivator of capital inflows (Mody and Murshid 2002).

Another essential direct channel by which capital account liberalization is said to affect growth is by enhancing economic efficiency. As mentioned in the literature review, it is argued that free international capital flows promote

Table 2.4 *Capital account liberalization and economic growth with basic sets*

Independent Variables	IMF capital account	IMF combined	Quinn's capital account	Quinn's overall account	Lee-Jayadev capital account openness index
Initial GDP per capita	-1.211* (-5.28)	-1.262* (-5.47)	-1.306* (-3.83)	-1.222* (-3.49)	-1.222* (-5.05)
Education ratio	0.021** (2.06)	0.022** (2.18)	0.011 (0.84)	0.011 (0.81)	0.021** (2.08)
Government anti-diversion Policy	8.380* (5.95)	8.403* (5.97)	7.645* (3.54)	7.964* (3.64)	8.421* (5.97)
Capital account Liberalization	-0.224 (-0.39)	0.017 (0.08)	0.373 (1.47)	0.045 (0.53)	-0.056 (-0.22)
East Asian dummy	2.813* (4.79)	2.722* (4.66)	2.566* (4.79)	2.6220* (4.64)	2.755* (4.92)

Latin American dummy	-0.020 (-0.05)	-0.014 (-0.03)	-0.166 (-0.30)	-0.133 (-0.24)	-0.024 (-0.05)
Sub-Saharan African Dummy	-1.819* (-3.84)	-1.810* (-3.82)	-2.650* (-3.20)	-2.629* (-3.10)	-1.814* (-3.83)
Adjusted R <sup>2</sup>	0.583	0.582	0.576	0.560	0.583
No. of observations	108	108	60	60	108

*Notes:*

<sup>a</sup> Dependent variable: average real GDP per capita growth rate (from 1976 to 1995).

<sup>b</sup> t-value in parentheses, \*: significant at 1% level, \*\*: at 5% level, \*\*\*: at 10% level.

<sup>c</sup> GDP per capita growth rate rate:  $(\log \text{ of real GDP per capita in 1995} - \log \text{ of real GDP per capita in 1976})/19$

<sup>d</sup> Initial GDP: log of GDP per capita in 1976.

<sup>e</sup> GADP: government anti-diversion index from ICRG, Hall and Jones (1999).

<sup>f</sup> Education ratio: secondary level education ratio of all population, from WDI.

<sup>g</sup> Quinn's indexes are for 1982 and 1988 for all countries, all years for OECD countries.

Table 2.5 *Capital account liberalization and investment with basic sets*

Independent Variables	IMF capital account	IMF combined	Quinn's capital account	Quinn's overall account	Capital account openness index
Initial GDP per capita	0.101 (0.12)	0.170 (0.20)	0.218 (0.25)	0.308 (0.34)	0.564 (0.64)
Education Ratio	0.024 (0.65)	0.021 (0.58)	-0.042 (-1.19)	-0.037 (-1.04)	0.015 (0.41)
Government Anti-Diversion Policy	0.915 (0.18)	1.324 (0.26)	7.594 (1.35)	7.122 (1.27)	1.822 (0.35)
Capital Account Liberalization	-3.115 (-1.48)	-1.318*** (-1.62)	-1.032 (-1.55)	-0.355*** (-1.66)	-1.849** (-2.16)
East Asian Dummy	8.700* (4.02)	8.737* (4.07)	7.987* (5.72)	8.335* (5.78)	8.245* (4.05)



Latin American Dummy	-2.366 (-1.52)	-2.745*** (-1.75)	-2.645*** (-1.84)	-2.502*** (-1.74)	-2.487 (-1.62)
Sub Saharan African Dummy	-3.163*** (-1.81)	-2.851 (-1.64)	-7.506* (-3.48)	-7.683* (-3.57)	-3.226*** (-1.87)
Adjusted R-square	0.243	0.246	0.538	0.541	0.261
No. of observations	108	108	60	60	108

*Notes:*

<sup>a</sup> Dependent variable: average real GDP per capita growth rate (from 1976 to 1995).

<sup>b</sup> t-value in parentheses, \*: significant at 1% level, \*\*: at 5% level, \*\*\*: at 10% level.

<sup>c</sup> GDP per capita growth rate is percentage growth rate, calculated by  $(\log \text{ of real GDP per capita in 1995} - \log \text{ of real GDP per capita in 1976})/19$

<sup>d</sup> Initial GDP: log of GDP per capita in 1976.

<sup>e</sup> GADP: government anti-diversion index from ICRG, Hall and Jones (1999).

<sup>f</sup> Education ratio: secondary level education ratio of all population, from WDI.

<sup>g</sup> Quinn's indexes are for 1982 and 1988 for all countries, all years for OECD countries.

efficiency by allowing for risk diversification and more competition (Obstfeld 1994; Guitan 1997). We test this notion in the manner of Edwards (2001) and Bekaert et al. (2002), by adding the investment variable and the interaction of investment and capital account liberalization. For lack of space, we do not report the full results here (see Lee 2003 for a more detailed analysis). The basic finding, however, is that the interaction term does not have a significant positive effect on growth.

The fact that neither of the two main channels linking financial openness to growth appears significant bolsters skepticism about the perceived growth effects of openness. These findings are not out of step with the growing acceptance among advocates and opponents of openness of the actual negligibility of its effects. Consider, as a preeminent example, the view of the IMF (Prasad et al. 2003): ‘The main conclusions are that, so far, it has proven difficult to find robust evidence in support of the proposition that financial integration helps developing countries to improve growth and to reduce macroeconomic volatility.’

#### **Does capital account openness work under certain preconditions?**

Since our previous results do not provide any evidence to suggest that capital account openness spurs growth in and of itself, it is instrumental to assess the more moderate claim that under suitable preconditions, open policies enhance growth. As pointed out earlier, these preconditions typically involve notions of macroeconomic stability and ‘sound’ financial sector institutions and a general level of development. (Edwards 2001; Klein and Olivei 2001; Arteta et al. 2001).

In our test, we interact capital account liberalization and the variable representing the preexisting institutional structure. Accordingly, the test is of the form:

$$Y_i = \alpha + \beta X_i + \gamma CAL_i * Condition_i + \varepsilon_i \quad (2.2)$$

*Condition<sub>i</sub>* represents the precondition variables.

For simplification, we focus on three of the capital account liberalization variables used in the previous exercise: the IMF dummy, Quinn’s index and our capital account openness index.<sup>14</sup> The preconditioning variables are the initial level of GDP (proxying for the level of development), the education ratio (proxying for human capital) and the government anti-diversion policy index (proxying for institutional development). We leave the discussion of debt structure for the next subsection.

Table 2.6 reports the results. Interestingly, and once again contrary to the logic usually proposed, the interaction of all three variables with capital account openness leads to a decrease in the growth rate. That is to say, capital account liberalization appears to reduce growth in more developed

Table 2.6 Capital account liberalization, growth and some preconditions

Condition variables	IMF capital account	Quinn's capital account	Lee–Jayadev capital account openness index
<i>Initial GDP</i>			
Initial GDP	-1.013* (-4.29)	-0.767*** (-1.72)	-0.853 (-2.57)
Capital account liberalization	5.725** (2.11)	3.300** (2.12)	2.050*** (1.79)
Initial GDP*capital account liberalization	-0.679** (-2.14)	-0.342*** (-1.85)	-0.228*** (-1.74)
Adjusted R <sup>2</sup>	0.631	0.603	0.626
No. of observations	108	60	108
Initial GDP	-1.059* (-4.47)	-1.102*** (-2.15)	-1.396** (-3.47)
Capital account liberalization	-11.297 (-0.93)	-2.780 (-0.57)	-6.060 (-1.64)
Initial GDP*capital account liberalization	3.531** (1.20)	1.044 (0.97)	1.612** (1.99)
Initial GDP <sup>2</sup> *capital account liberalization	-0.252 (-1.44)	-0.077 (-1.31)	-0.100** (-2.30)
Adjusted R <sup>2</sup>	0.635	0.675	0.641
No. of observations	108	60	108
<i>Education ratio</i>			
Education ratio	0.029** (2.52)	0.044*** (1.91)	0.036*** (2.16)
Capital account liberalization	1.923 (1.47)	1.456** (2.14)	0.597 (1.26)

Education ratio* capital account liberalization	-0.028** (-1.60)	-0.015** (-1.57)	-0.008 (-1.20)
Adjusted R <sup>2</sup>	0.623	0.596	0.620
No. of observations	108	60	108

*Institutional  
development*

Government anti- diversion policy	10.627* (6.72)	12.393* (3.86)	11.784* (5.19)
Capital account liberalization	3.990** (2.49)	1.888** (2.71)	1.142*** (1.93)
Government anti- diversion policy * capital account liberalization	-5.878** (-2.63)	-2.218** (-2.19)	-1.572*** (-1.91)
Adjusted R <sup>2</sup>	0.639	0.613	0.628
No. of observations	108	60	108

*Notes:*

<sup>a</sup> Dependent variable: average real GDP per capita growth rate (from 1976 to 1995)

<sup>b</sup> T- statistics in parentheses; \*, significant at 1% level, \*\*, at 5% level, \*\*\*: at 10% level.

<sup>c</sup> Other variables reported in Lee (2003).

countries, in countries with higher levels of human capital and in countries with 'good' institutional structures. With regard to the first finding, our findings are similar to that of Klein (2003), who suggests that the relationship between growth and capital account openness is an inverted U curve, reflecting increasing and then decreasing marginal benefits from openness. We confirm his result in one instance (with our Modified Quinn Index).<sup>15</sup> Such a finding suggests that liberalization may be harmful in very poor countries which are macroeconomically and politically vulnerable. Middle-income countries may benefit from liberalization, but this finding is not robust to all indicators.

These four results are reported primarily because they stand so starkly against some of the standard expectations of neoclassical theory. This divergence is not atypical, however. Kraay (1998) is one study which finds

similar results. Tests of other standard desirable preconditions do not provide any counter evidence for the whole sample.<sup>16</sup>

A typical precondition that is considered is the level of financial sophistication.<sup>17</sup> To look at this, we used standard measures of financial depth such as liquid liability to GDP and stock market development.<sup>18</sup> We find that interacting the level of financial depth with capital account openness does not lead to any significant results in this case. Another frequently cited precondition is the absence of corruption in the business environment.

Again, our analysis suggests no evidence that liberalization is helpful to growth in countries with less corruption overall,<sup>19</sup> in keeping with similar findings by Kraay (1998) and Edison et al. (2002b). Finally, we test for the interaction between capital account liberalization and macroeconomic distortions. More specifically, we test for its interacted effects with trade openness, black market premiums, the tariff rate and the non-tariff barrier index.<sup>20</sup> Once again, nearly without exception,<sup>21</sup> none of these variables appear significant in many specifications of the model. To the extent that this is the case, these results bring into question the typical preconditions that are considered in the ‘orderly’ or ‘sequential’ liberalization argument (McKinnon 1991; Arteta et al. 2001). Our results do not show any obvious preconditions for capital account openness to have significant and positive growth effects. The prescription of ‘getting one’s house in order’ before inviting capital in appears reasonable a priori, except that it is unclear exactly what that involves.

To conclude the discussion on the growth effects of capital account liberalization, we assess the claims of the broad ‘third school’ that capital controls, under given preconditions, can be used to promote a high-growth development path. We test several possible contexts that might be related to success or failure of capital controls in the following section.

### **When may capital controls spur growth?**

Researchers have suggested that capital controls may work best when there is a state with a high degree of autonomy and capability (Evans 1995). Extending beyond the insights of neoclassical political economy, it is argued that state intervention may lead to desirable results in cases where the state can prevent rent-seeking activity, be somewhat immune to pressures from strong interest groups, and enjoy a high degree of stability (Rodrik 1995; Chanda 2001). Such situations are most likely to occur in less fragmented societies.

In addition, researchers point out the effective government organization essential for the successful government intervention. They point to many constellations whereby a combination of strong capital controls, domestic financial control and industrial policy can spur investment and growth (Nembhard 1996).

Table 2.7 Capital controls, growth and preconditions: ethnic homogeneity, institutional development and corporate debt ratio

Independent variables	IMF capital account	IMF combined	Quinn's capital account	Quinn's overall account	Capital account openness index
<i>Ethnic homogeneity</i>					
Ethnic homogeneity index	-1.388 (-0.97)	-0.363 (-0.32)	-0.145 (-0.08)	-0.599 (-0.34)	-1.29 (-0.84)
Capital controls	-2.976* (-2.62)	-1.15** (-2.61)	-0.996*** (-1.72)	-0.24 (-1.43)	-1.278** (-2.54)
Ethnic homogeneity index * capital controls	4.623** (2.54)	1.577** (2.31)	0.904 (1.02)	0.341 (1.29)	1.567** (2.26)
Adjusted R <sup>2</sup>	0.648	0.647	0.587	0.568	0.646
No. of observations	103	103	59	59	103
<i>Institutional development</i>					
Government anti-diversion policy	4.749** (2.52)	5.226* (3.02)	3.520 (1.33)	3.415 (1.23)	5.496* (2.79)
Capital controls	-3.990** (-2.49)	-1.722* (-2.76)	-1.889** (-2.71)	-0.664** (-2.43)	-1.142*** (-1.93)

Government anti-diversion policy * capital controls	5.878*	2.628*	2.218**	0.882**	1.572***
	(2.63)	(2.71)	(2.19)	(2.29)	(1.91)
Adjusted R <sup>2</sup>	0.639	0.642	0.613	0.597	0.628
No. of observations	108	108	60	60	108
<i>Corporate debt ratio</i>					
Debt	-0.814**	-0.491***	-0.193	-0.354	-0.288
	(-2.15)	(-1.95)	(-0.55)	(-1.27)	(-0.87)
Capital controls	-1.321	-0.565	-1.285**	-0.360**	-1.238**
	(-1.34)	(-1.20)	(-2.64)	(-2.31)	(-2.50)
Debt* capital controls	1.215**	0.673**	0.347	0.144***	0.402
	(2.49)	(2.52)	(1.40)	(2.10)	(1.68)
Adjusted R <sup>2</sup>	0.865	0.866	0.868	0.849	0.866
No. of observations	29	29	28	28	29

*Notes:*

<sup>a</sup> Dependent variable: average real GDP per capita growth rate (from 1976 to 1995).

<sup>b</sup> Ethnic homogeneity index: 1- ethnic fragmentation index from Krain (1997).

<sup>c</sup> Corporate debt ratio is debt/equity, from Demirgüç-Kunt and Maksimovic (1996), originally from International Finance Company.

<sup>d</sup> T- statistics in parentheses; \*: significant at 1% level, \*\*: at 5% level, \*\*\*: at 10% level.

Finally, another context within which capital controls may be useful is provided by Wade (1998), who claims that a high debt ratio which allows for ease of investment can only be managed in an environment of strict capital controls which are well managed and enforced by the government.

In order to assess these three channels, we perform the same tests to shed light on the specific institutional context within which capital controls are effective. We use the inverse of the capital account openness indices as measures of capital controls and interact them with preconditions required for capital controls to be successful in generating growth.

Table 2.7 provides partial evidence that capital controls may increase the growth rate in certain contexts. In regressions including a variable for ethnic homogeneity, it seems clear that capital controls can be used effectively to promote growth. Similarly the interaction term of 'government anti-diversion policy and capital controls' is significantly positive in almost all the regressions, although not significant in the non-OECD countries. It suggests that in countries with better institutions, proper capital controls might help minimize capital flight and that state-led development policies based on controls are more likely to be successful.<sup>22</sup>

Lastly, capital controls are more helpful in countries with a higher debt ratio. This probably reflects the fact that countries that followed a high debt model such as the East Asian and Scandinavian countries also adopted strict capital controls in order to do so successfully.

To summarize, our analysis suggests that there is little evidence to support the notion that liberalization of the capital account will have beneficial effects, even with the typical 'desirable preconditions'. There is slightly more evidence, by contrast, to suggest that capital controls may be used successfully as part of an alternative development path, such as that followed by many East Asian countries prior to liberalization in the early 1990s. It is useful here to mention the recent work of Gourinchas and Jeanne (2002). Assuming the benefits from capital account openness arising from the standard model, they calibrate it with the data available. They find that, for most countries, the average welfare gain from financial integration is only about 1 percent of current consumption. To conclude, our study provides little evidence that capital account openness aids growth. Even if this were the case, these benefits, the best evidence suggests, would be almost negligible.



### Assessing the Distributional Impacts of Capital Account Liberalization<sup>23</sup>

*Presently she began again. 'I wonder if I shall fall right through the earth! How funny it'll seem to come out among the people that walk with their heads downward! The Antipathies, I think—'*

Lewis Carroll (*Alice in Wonderland*)

In order to test the various channels by which the labor share of income might be affected by the opening up of the capital account we specify a simple regression model on an unbalanced panel of countries. Our measure of the labor share is derived from the United Nations' system of national accounts, Table 103. Specifically, it is the item 'compensation to resident and non resident households' from the primary distribution of income accounts divided by gross domestic product. The data are pre-tax, and while they are supposed to capture the informal sector, in practice they do not, which is an important shortcoming. The regression model that we test is as follows:

$$LS_{it} = \alpha_i + \beta_1 X_{it} + \beta_2 Y_i + \beta_3 Z_{it} + \varepsilon_{it} \quad (2.3)$$

where the vector  $X$  refers to a set of controlling macroeconomic and structural indicators,  $Y$  refers to the indicator of capital mobility and  $Z$  refers to the indicators of the channels by which we may expect capital account liberalization to affect labor's share of income. The impact of the means by which capital account openness affects the labor share of income is assessed by elaboration of the model, adding one variable at a time to its specification. The variable log (real GDP per capita) is used as a proxy for what may be termed a Kravis–Kuznets process. Both Kravis (1962, 1968) and Kuznets (1966) emphasize the process of development and structural change as the major reason behind the increase in wage ratios to GDP. First, with increasing capital–labor ratios and a production technology possessing an elasticity of substitution of less than unity,<sup>24</sup> the process of development leads mechanically to an increase in the labor share of income. However, both these authors point to other crucial structural shifts as well. These include a movement of labor away from agriculture into a position of wage labor (thereby reducing the proportion of the self-employed), demographic changes and urbanization (which increase the average age of retirement and women's participation) and the development of organized labor.

The other variables in the specification are self-evident. Current account restrictions, obtained from the IMF annual report on exchange restrictions, are a measure of the other major change in the international sector, namely trade liberalization. Crisis is defined, following convention, as a situation where the external value of the currency falls by more than 20 percent in a

Table 2.8 All countries, OLS estimation, country fixed effects

Dependent Variable: Compensation of Employees /GDP	1	2	3	4	5	6	7	8	9	10
Trend	(0.003)* (-3.3)	(0.002)* (-15.0)	(0.002)* (-9.3)	(0.002)* (-9.2)	(0.002)* (-8.4)	(0.002)* (-7.9)	(0.002)* (-8.1)	(0.002)* (-7.2)	(0.002)* (-6.5)	(0.003)* (-7.3)
Log (Real GDP per Capita)	–	0.078* (15.2)	0.064* (7.8)	0.058* (7.19)	0.053* (6.51)	0.056* (6.82)	0.064* (7.39)	0.085* (7.8)	0.082* (7.3)	0.069* (6.01)
Capital Account Openness	–	–	(0.011)* (-4.2)	(0.009)* (-3.12)	(0.009)* (-3.38)	(0.009)* (-3.31)	(0.009)* (-3.49)	(0.010)* (-3.09)	(0.009)* (-3.03)	(0.007)* (-3.31)
Current Account Restrictions	–	–	–	0.001 (-0.18)	0.0002 (0.06)	0.0004 (0.12)	(0.007)* (-2.2)	0.003 (1.60)	0.002 (0.6)	0.0004 (0.2)

Crisis	-	-	-	-	(0.012)* (-3.6)	(0.014)* (-4.0)	(0.011)* (-3.5)	(0.002) (-0.5)	(0.001) (0.76)	(0.002) (-0.74)
Government Share of GDP	-	-	-	-	-	0.08* (3.05)	0.07** (2.46)	0.15* (4.8)	0.15* (4.75)	0.12* (3.05)
Budget Surplus	-	-	-	-	-	-	(0.002)* (-7.5)	(0.003)* (-9.98)	(0.003)* (-10.1)	(0.003)* (-9.69)
Real Interest Rate	-	-	-	-	-	-	-	0.0005* (4.59)	0.0005* (4.56)	0.0004* (3.32)
Exchange Rate	-	-	-	-	-	-	-	-	(0.0004)* (-3.33)	(0.0003)* (-2.64)
Financial Depth	-	-	-	-	-	-	-	-	-	0.063* (5.09)
R <sup>2</sup>	0.001	0.47	0.52	0.52	0.53	0.55	0.56	0.59	0.63	0.64
Obs.	2885	2390	1347	1316	1316	1306	1102	803	803	775
No. of cross sections	140	117	87	86	86	86	81	73	73	70

year (Diwan 2000). The budget deficit and the government share of GDP are variables used to indicate the presence of government in order to measure the impact of government intervention and the spending of the public sector on the labor share. Finally, the exchange rate and the interest rate are introduced in order to analyze the effect of a change in relative prices on the labor share of income. Table 2.8 presents the result of this regression model for the period 1973–1995.

The fundamental result from this regression is that on average, capital account openness exerts a significant and negative effect on the labor share of income. More elaborate tests, reported in Jayadev (2003), show that controlling for trends and endowments and trying various robustness tests, capital account openness is strongly associated with declines in the labor share of income. The results also show, however, that the obvious ways whereby one may expect this result to hold<sup>25</sup> (by increasing the potential for crisis and by restricting government spending) are not significant transmission channels. Thus, crises enter the model with a negative sign in most instances, but they do not change the coefficient of capital account openness considerably, suggesting that, while there may be linkages between openness and crises, financial openness exerts an independent negative effect on the labor share. Similarly, while a larger government presence, as measured by the government share of GDP, affects the labor share of income positively as does government spending (measured by the budget deficit), neither of these variables reduces the coefficient on capital account openness, again suggesting that capital account openness has an independent negative effect on labor share. Finally, adding the relative price effects of openness, the real interest rate and the nominal exchange rate into the equation does not mitigate the effect either.

In most cases and specifications, therefore, increasing the potential for capital mobility has an independent and negative effect on the labor share of income, reflecting, perhaps, a decrease in the ability of labor to bargain over production rents. This is, *prima facie*, strong evidence for the claim that a liberal financial regime may work so as to reduce the relative power of labor versus capital. The exact manner in which this effect works, and the extent to which it matters will differ across countries, depends on the structure of the economy. Presumably the effect is stronger in countries with a large manufacturing sector and stronger labor unions.

To summarize, while crisis and reduced scope for expansionary policy both reduce labor share, as claimed by some, and while capital account openness may indeed contribute to both of these, in the period of study, it had an additional negative impact on the labor share of income. It is difficult to quantify the extent of the effect, given the ordinal definition of the labor share. Results using a standardized coefficient model reported in Jayadev (2003) show that the effect of capital account openness on the labor share is

independently roughly the same as the effect of having a financial crisis.

At first cut therefore, the notion that capital account liberalization is distribution-neutral or trivial may be questioned. This conclusion differs qualitatively from the findings of Harrison (2002) in whose study capital controls only matter when interacted with general government intervention. A potential reason for this difference may be precisely the fact that the indicator used here takes into account the intensity of controls.

This underscores the need to have a more nuanced indicator of the strength of controls; a binary indicator may obscure or miss out subtler relationships present in the data.

Given the predictions of standard trade models, we may expect that the effect of capital account openness on labor share is negative in high-income countries, but positive in developing countries. It is true that the loss of bargaining power is a problem that afflicts labor both in the North and the South. However, in developing countries there is a counteracting factor in the fact that factor intensity of capital is low, which will lead to an increase in the labor share with capital accumulation under conditions where the elasticity of substitution between labor and capital is less than one. In order to assess this, we repeat the estimation above with a sample restricted to developing countries. The results are given in Table 2.9.

Perhaps most strikingly, while the t-statistics on the capital accounts are not as large as with the whole sample, the coefficient on the capital account openness variable remains significant across most specifications, and more crucially, is negative. Capital account openness is associated with falling labor shares in developing countries as well, contrary to a prediction of regression to the mean that may be derived from standard Heckscher-Ohlin theory. That is to say, while one might expect a tendency for there to be a convergence in the labor share of income across countries arising from openness, there is little evidence to support this. Financial openness exerts a downward pressure on labor shares both in the North and in the South.

Finally, we repeat the analysis using five-year averages to control for cyclical effects. These are given in Table 2.10. The five-year averages show remarkably similar coefficients for the effect of capital account openness on labor share, suggesting that these effects are not only short-term. That is to say, the negative impact that capital account openness has on the share of income going to labor persists over time.

Table 2.9 All developing countries, OLS model with fixed effects

Dependent variable: Compensation of employees /GDP	Low income countries	Lower middle income countries	Upper middle income countries
Trend	-0.001 (-1.6)	-0.002** (-2.0)	0.001 (0.79)
Real GDP per capita	0.00075 (0.42)	0.0037* (6.4)	0.0009 (2.8)
Capital account openness	0.019 (1.5)	-0.018** (-2.5)	-0.023** (-2.4)
Current account restrictions	0.0027** (1.9)	-0.0069 (0.1)	-0.0089 (-0.89)
Crisis	0.012 (1.13)	-0.023* (-3.2)	0.012 (1.3)
Government share of GDP	0.60* (4.17)	0.13 (1.2)	-0.13 (-1.03)
Budget surplus	0.0006 (0.55)	-0.007 (-10.3)	-0.003 (-3.11)
Real interest rate	0.001** (2.22)	0.0005* (2.97)	0.001 (3.5)
Nominal exchange rate	-0.00075 (-0.83)	-0.00022 (-1.07)	-0.00013 (-1.8)
Liquid liabilities to GDP	-0.22** (-2.1)	0.044 (1.3)	-0.00049 (0.01)
R <sup>2</sup>	0.07	0.57	0.04
Observations	121	162	120
No. of cross-sections	16	18	13

*Table 2.10 Labor share model with five-year averages*

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Trend	-0.0028* (-6.15)
Log (real GDP per capita)	0.0822* (5.11)
Capital account openness	-0.0111* (-2.9)
Current account restrictions	-0.0004 (-0.08)
Crisis	-0.0231** (-2.57)
Government share of GDP	0.0018* (4.23)
Budget surplus	-0.0013** (-2.44)
Real interest rate	0.0008* (3.79)
Nominal exchange rate	-0.0001* (-3.24)
Financial depth	0.0507* (3.58)
R <sup>2</sup>	0.62
Observations	225
No. of cross-sections	53

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## CONCLUSION

*The Bellman looked uffish, and wrinkled his brow.  
If only you'd spoken before!  
It's excessively awkward to mention it now,  
With the Snark, so to speak, at the door!*

Lewis Carroll (*The Hunting of the Snark*)

The economic effects of capital account liberalization have been a matter of intense debate among economists for a decade. Standard theories have argued that liberalization and more open capital account should spur economic growth by encouraging more investment and economic efficiency, while reducing volatility. There is mounting evidence, including a slew of catastrophic financial crises over this period that gives reason to be skeptical about this claim.

In this chapter, we have made efforts to extend current empirical studies by constructing a sophisticated capital account openness index and attempting to shed new light on the potential preconditions that might accelerate growth. We find little evidence that capital account liberalization can spur growth in cross-country regressions. Even under some typical preconditions, we do not find evidence of the benefits of liberalization for economic growth. Finally, we present partial evidence that capital controls can spur growth in more homogeneous countries, and countries with better institutions, and higher corporate debt ratio. Cross-section studies appear to refute the mainstream argument for capital account liberalization, while panel regressions show mixed results. It is clear in any case that the empirical search for the growth effects of financial openness has been fruitless, despite the predictions of theory.

While capital account openness has an ambiguous impact on growth, there are clearer implications for its effect on factor shares. Specifically, liberalization is associated with a decreased share of productive income going to labor, even controlling for a wide range of factors and trends. This finding provides substantial support for the contention that liberalization may cause a decline in the political power of labor, thus allowing for a 'race to the bottom' scenario to emerge. If these results are somewhat distressing for labor, they also do come with a very large silver lining. One of the most painful facets of the changing political and economic climate in the last two decades for labor unions and working people is the fact that labor in the developed world seems to be hopelessly pitted against labor in the developing world with regard to many issues. Thus, for example, on such matters as international labor standards, sweatshops, and trade sanctions, there has often been bitter contestation between groups in the North and in the South with regard to appropriate policy. Our research suggests that on



the issue of capital account liberalization at least, there is little conflict. To the extent that financial openness has negative effects on the labor share across many different economies in both the developed world and the developing world, there is a rare opportunity for cross-country labor solidarity to advocate for controls over capital or multilateral agreements to mitigate the depredations of an unregulated financial market.



## APPENDIX

Table 2.A1 Variables and sources

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Variable	Source
<i>Growth effects</i>	
Average real per capita GDP growth	World Development Indicators
Investment share of GDP	World Development Indicators
Average secondary school enrollment percent of total population	World Development Indicators
Liquid liabilities to GDP	Beck, Demirgüç-Kunt and Levine (1999).
Inflation: CPI growth rate	World Development Indicators
Black market premium	Easterly (2001)
Trade openness	World Development Indicators
GADP: Government anti-diversion index	Hall and Jones (1999)
Corruption	Knack and Keefer (1995)
Weberian state index	Evans and Rauch (1999)
Ethnic fragmentation	Krain (1997)
Land Gini	Deininger and Olinto (2000)
Corporate debt ratio	Demirgüç-Kunt and Maksimovic (1996)
<u>DISTRIBUTION EFFECTS</u>	
Labor share	United Nations National Account Statistics CD ROM
Real interest rates	IMF international financial statistics
Liquid liabilities to GDP	Beck, Demirgüç-Kunt and Levine (1999)
Nominal exchange rate	IMF international financial statistics
Budget surplus	World Development Indicators/ IMF international financial statistics
Crisis	Derived from Nominal Exchange Rate
Government share of GDP	Penn World Tables 6.0
Current account restrictions	Mody and Murshid (2000) from IMF annual report on exchange rate arrangements and restrictions

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- Black market premium: Degree of distortion of the official exchange rate from the market exchange rate
- Trade openness: Own-import weighted average tariff and non-tariff on import and intermediate and capital goods
- Government anti-diversion index: Average of indices of law and order, bureaucratic quality, corruption, risk of expropriation and government repudiation of contracts from 84 to 94, based on the survey of International Country Risk Guide (ICRG).
- Corruption: Index developed by International Country Risk Guide (ICRG) as part of the political risk index
- Weberian state index: Index of bureaucratic and meritocratic nature of state organization using a coding methodology available at <http://weber.ucsd.edu/~jrauch/webstate/codebook.html>
- Ethnic fractionalization index: Operationalized by calculating the proportion of each ethnic group within the population, squaring it and summing these squared proportions. The index is obtained by subtracting this sum from 1
- Land Gini: Percentage of land held by percent of population
- Corporate debt ratio: Corporate debt/Corporate equity from International Financial Corporation

## NOTES

We are very grateful to Mathieu Dufour for his extensive assistance in the construction of the capital account liberalization index, and to Gerald Epstein for his unstinting encouragement and insightful comments. We thank the Political Economy Research Institute for financial support and Kade Finnoff for careful editorial assistance. All errors remain, as always, ours.

1. In real terms, using the US CPI deflator, the change is just as impressive, increasing roughly tenfold.
2. Williamson (2002) claims that Capital account liberalization was not part of the consensus. While this may be true, it rapidly became a *de facto* item on the agenda of the IMF in the 1980s.
3. In any case, it is also true that most of the relevant literature has used this methodology.
4. While varied, these preconditions typically reduce in shorthand to a notion of macroeconomic stability and 'sound' financial sector institutions (McKinnon 1991, Eichengreen and Mussa 1998).
5. For a comprehensive review of these, see Lee (2003).
6. By contrast, political scientists (Haggard and Maxfield 1996) have developed more elaborate narratives on the effects of financial openness on different groups in society.
7. Linkages between the factor share of income and the interpersonal share of income are often made in other contexts. Piketty et al. (2003), for example, show that the reduction of inequality in France over the last two centuries has been largely due to a transfer of wealth from holders of rental income to the general population through the mechanism of an estate tax. Similarly, Rodriguez (2000) finds that much of the inequality in Venezuela in the last 3 decades is caused by the large share of income accruing to capital in that country.
8. See Eichengreen (2001) for more criticisms of this approach.

9. Kraay (1998), for example, distinguishes only between major periods of change (five years of controls followed by five years of no controls).
10. Specifically, when we use a five-year average fixed effects model assuming country-specific unobserved effects, the coefficient of capital account liberalization is positive and significant; this is so with other control variables. However, the same model with annual data, four-year averages and ten-year averages show insignificant results. In the fixed effects model, we could not include institutional variables due to data availability. For a more extensive examination, see Lee (2003).
11. The sources for the data used are given in the Appendix.
12. These indicators and their sources are detailed in the Appendix.
13. Unlike studies that support it (Borensztein et al. 1998; Bosworth and Collins 1999) Carkovic and Levine (2001) report that the FDI does not spur domestic investment and Edison et al. (2002b) are also skeptical about the effect of capital inflows on growth. Rodrik (1998) and Kraay (1998) find the same negative result for investment.
14. We report the result of the regression in which the investment share is included, although excluding it does not change the results.
15. The setup for the model is:  $y_i = \beta_1 + \beta_2 X_i + \beta_3 CAL_i Y_i + \beta_4 CAL_i Y_i^2 + \varepsilon_i$ . If the hypothesis is correct,  $\beta_3$  should be significantly positive and large while  $\beta_4$  should be negative and small.
16. See Lee (2003) for details on non-OECD sub-samples.
17. For a more detailed exposition of the analyses cited in this section, see Lee (2003)
18. From Beck et al. (1999)
19. For corruption measures, we use the indicator created by Knack and Keefer (1995). Using Mauro's (1995) index, however, does not change the result.
20. See Appendix for details.
21. Regressing growth on the interaction between capital account openness proxied by the IMF dummy and the black market premium suggests that a large premium does reduce the effect of openness on growth.
22. These include East Asian countries such as Korea, a representative of the developmental state.
23. This section draws largely from the findings of Jayadev (2003).
24. Rowthorn (1999) shows that this is the case in most empirical research.
25. In certain cases, this effect does work through some obvious transmission mechanisms. For example, in Jayadev (2003), it is shown that the negative effect of capital account openness in developing countries is explained in part by its disciplining effect on government budgets.

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