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## GOOD-BYE FINANCIAL REPRESSION, HELLO FINANCIAL CRASH

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Some unintended consequences of financial liberalization in Latin America are analyzed in this paper. Intrinsic imperfections in financial markets, and the policy dilemmas they pose, are reviewed first. The stylized facts of Southern Cone experiments in financial liberalization are then presented. Alternative ways of organizing domestic capital markets under Latin American conditions are discussed, and an eclectic, reform mongering program is proposed.

### 1. Introduction

This paper seeks to understand why financial reforms carried out in several Latin American countries during the 1970s, aimed at ending 'financial repression', as defined by Ronald McKinnon [see, for example, McKinnon (1980)], and generally seeking to free domestic capital markets from usury laws and other alleged government-induced distortions, yielded by 1983 domestic financial sectors characterized by widespread bankruptcies, massive government interventions or nationalizations of private institutions, and low domestic savings. The clearest example of this paradox is Chile, which has shown the world yet another road to a de facto socialized banking system. Argentina and Uruguay show similar trends, which can be detected less readily in other developing countries, including Turkey. Indeed, even in the United States some worried observers have warned against the dangers of well-meant deregulation of commercial banks [see Kareken (1981)].

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The paper will first review dilemmas posed by intrinsic imperfections of any financial market, and will look at legal prerequisites for the reasonably efficient operation of those markets. Then it will examine the stylized facts of some Latin American experiments in financial liberalization, particularly those carried out in Southern Cone countries (Argentina, Chile and Uruguay). Finally, alternative ways of organizing domestic capital markets under Latin American conditions will be discussed; policies regarding the links between domestic and international financial markets will also be considered.

## 2. Peculiarities and dilemmas found in domestic financial markets

Are banks special, and really all that different from butcher shops? Neither type of firm is *exactly* like the textbook idealization of the atomistic firm operating in a perfectly competitive market, where spot prices summarize all information relevant for buyers and sellers of the product. Customers at a butcher shop will not only look at price, but will also attempt to ascertain quality; in some countries they will be aided by government-established quality categories and certifications. Breakdowns in the trust consumers have in their butchers or in government certification, say because of rumors regarding meat tainted by poisonous substances, could produce a kind of 'run' on butcher shops, and widespread failures among them.

The comparison is surely being forced. Few butcher shops will deliver meat of standard quality out of town to third parties on instruction from a customer. Few externalities could be expected from a 'run' on a butcher shop under suspicion. Furthermore, a butcher will seldom turn down a customer who wants to buy with cash everything in sight at the price announced by the butcher (he will just make sure the cash is not counterfeit); a banker will surely not lend all a customer wants to borrow at the going interest rate. The former is a spot transaction; the latter involves a promise to repay in the future which may or may not be sincere or wholly credible. Enforcing the loan contract or liquidating collateral property will involve costs, and even with speedy enforcement the bank may be unable to get all of its money back. The bank will incur costs to explore the credit-worthiness of borrowers; the butcher will not care much for the reputation of cash-carrying customers. There is no humanly possible way of devising a fail-proof system of finding out the true intentions of borrowers, so lenders are likely to end up rationing credit, i.e., putting a ceiling on what arms-length customers can borrow, regardless of their willingness to pay higher interest rates [see Stiglitz and Weiss (1981)]. Banks share with other financial intermediaries the problem of seeking reliable borrowers, but having liabilities that are payable on demand at par puts a premium on safe and fairly liquid loans for banks. Banks supply a service that is a very close substitute to the bulls and

coins supplied by governments; such pretension imposes special limits on banks' portfolios.

Financial intermediaries, including banks, rely on borrowed funds; owners of those institutions typically invest their own capital only in amounts which are a small fraction of their total lending. A depositor in a bank will have preoccupations similar to those a lender has when eyeing a borrower: will I be able to get not only the promised yield but also my money back or delivered to a third party as specified in the legal contract? In a totally unregulated system the rational depositor will attempt to process a great deal of information regarding financial institutions, balancing expected returns versus risks of not being able to dispose of his funds as promised.

One can imagine a world in which all financial intermediation, including the payments system, is private and without any direct government regulation. The information imperfections may be partly offset by investments in information gathering by lenders and depositors; with the passing of time reputations would be built up. Balance sheets of financial intermediaries would be widely available and closely analyzed. It is even conceivable that possible economies of scale involved in the processing of information may not be so large as to impede large numbers of financial agents, assuring some competition among them. Unexpected shocks and informational failures in this economy could of course lead to bankruptcies of some financial intermediaries; an informed public presumably would know the source of such events, so there would be no ripple effects contaminating sounder institutions. One would expect to find a rich risk-return menu available to savers in this world, which would also generate an unregulated stock market for those preferring equity arrangements for obtaining or investing funds. Concentration of economic power, in the form of 'economic groups' and conglomerates, would presumably exist only if there are economies of scale to yield social benefits, with free entry checking monopoly behaviour. In this world, the market rate of interest would hover around the natural rate.

Note that even a purely laissez-faire financial system must count with some indirect government inputs in the form of an efficient and fair judiciary and police system to punish fraud and to handle the enforcement of contracts and the settlement of disputes and bankruptcy cases. And behind that one must presumably have a polity generating such a judicial and police system, and a body of contract, antitrust and bankruptcy laws which are regarded as fair, efficient and enforceable. Financial agents feeling a temptation to cheat on their contracts or give false information must know that such behavior will have very high costs; they must also know that even if they flee their country the long arm of the law is likely to reach them abroad. Governments in this world must be expected neither to change nor to corrupt these rules; domestic private citizens must not only believe in the stability of this system, but also believe that other citizens also have that

belief. Foreign financial agents, when dealing with those of our country, must not expect to have these rules changed when things go wrong for them; foreign financial agents dealing within our economy would presumably be subject to the same rules of the game as our financial agents.

Even among those who find a predominately *laissez-faire* financial system not only imaginable but also a desirable goal of policy, there are differences on how to organize the underlying monetary system. Some take for granted that the government will have a monopoly in the supply of cash and coins. Aware of the macroeconomic instability which could be generated by sudden changes in the public preferences between cash and the demand deposits supplied by banks subject to fractional reserves, as during the early 1930s in the United States, these observers would impose 100 percent reserves on banks supplying those deposits, while leaving the rest of the financial system unregulated. [See Friedman (1959).] In this view, a significant difference exists between money (cash plus demand deposits) and other financial assets. Other observers would carry a *laissez-faire* policy even into cash, eliminating the government monopoly, and leaving individual agents free to choose among all potential suppliers of cash, including foreign governments. In this approach there would be no need to impose reserve requirements on banks, which would be totally free of government regulations. The money supply would presumably adjust to real needs, while price and wage flexibility would maintain macroeconomic balance [see Hall (1982)].

The *laissez-faire* vision also has (at least) two variants regarding how the unregulated domestic economy should manage its exchange rate. If the country is large enough, those giving the government a monopoly over the money supply advocate a freely fluctuating exchange rate, with no restriction on international trade or on capital flows. If the country is small (with the borderline between large and small left fuzzy), even money monopolists favor some form of fixed exchange rate system. For politically turbulent nations, a variant of the *laissez-faire* vision in a small country would do away with the local central bank, i.e., no national could be trusted with the money monopoly, which would be turned over to a presumably benign and responsible foreign government, as in the cases of Panama and Puerto Rico.

No industrial country has come close to the *laissez-faire* vision, at least since the 1930s. The government monopoly over cash has been maintained, while banks have been regulated and subjected to fractional reserve requirements. In the United States, an explicit federal deposit insurance for accounts below a certain size was introduced during the 1930s and maintained since then, eliminating old-fashioned 'runs' on banks. Like any other insurance scheme, deposit insurance is vulnerable to moral hazard consequences, i.e., it induces depositors to think that 'one bank is as good as another', and leads bank managers to undertake riskier loans. To avoid such insurance-induced risk-taking, supervision over bank portfolios has

accompanied deposit insurance. Indeed, the Federal Reserve holds impressive discretionary powers regarding the lending policies of commercial banks, and over their liquidation or merger, if banks are found to be in trouble. Those discretionary powers, however, are subject to review by the Treasury, Congress and the courts. Vigilance has been exerted by the Federal Reserve to keep non-banking companies from owing or controlling banks.

While a trend towards bank deregulation has occurred in the United States during the 1970s and early 1980s, removing some archaic populist controls, the view the 'banks are special' has been reaffirmed. The rescue of the Continental Illinois during 1984 in the face of a new type of run by uninsured international depositors, a rescue which extended de-facto insurance to all depositors, showed that *large* banks are quite special. This view is based on the externalities generated by the liquidity, mobility and acceptability of bank-issued transaction accounts, characteristics which take special significance in periods of financial stress [see Federal Reserve Bank of Minneapolis (1982)]. Only banks create and incur liabilities that are payable on demand at par and that are readily transferable to third parties. Your safe payments system is also my safe payments system; it is partly a public good, not only serving individuals, but also providing backup liquidity on which the whole of the financial system rests. The Federal Reserve Bank of Minneapolis concludes:

'... the case for segregating *essential* banking functions into an identifiable class of institutions is every bit as powerful today as it was in the 1930s. If anything, concerns regarding financial concentration, conflicts of interest, and the fiduciary responsibilities associated with lending depositors' money may be more relevant today than they were 50 years ago' (p. 13).

Other industrial countries, such as Japan and those in Western Europe, are even farther away from the *laissez-faire* vision for the financial system than the United States. In several of those countries interest rates are also controlled or supervised by monetary authorities, and international capital flows are regulated. None relies on just price and wage flexibility to seek macroeconomic balance. (Note that those advocating a fixed-money-growth rule are typically as skeptical of the speedy workings of price and wage flexibility to maintain macroeconomic balance as Keynesian economists.)

Finally, it is difficult to find small and open countries which have given up monetary sovereignty after tasting it. Politically sovereign countries using other countries' moneys, or 'permanently' committed to a fixed exchange rate and unrestricted capital mobility with a monetary 'big brother', usually have come to those arrangements as part of a transition from a colonial status, and it is moot whether the arrangements are regarded as really permanent or

only as a step in monetary learning by doing, a step which had to be accepted to placate special internal and external interests rather than taken after a thoughtful consideration of national welfare. During October 1983 there were reports that Israel was about to abandon its monetary sovereignty; the Minister responsible for the proposal resigned shortly afterwards.

### 3. Notes on the financial history of Latin American and Southern Cone experiments

While the financial history of Latin America remains to be written it appears that by 1920s most countries had succeeded in establishing commercial banks of the (then) traditional sort; several countries carried out banking reforms during those years following the advice of Professor E.W. Kemmerer, of Princeton University, and of visitors from the Bank of England. The banking system of South American countries already included institutions owned by national and provincial governments; Argentina, for example, had an important government-owned mortgage bank and several other public banks. The late 1920s were characterized in most Latin American countries by fixed exchange rates, convertibility and price stability; domestic interest rates were closely linked to those in New York and London. Although there was no 'financial repression', critics pointed to a lack of medium- and long-term credit, particularly to finance industry and non-export agriculture. Within agriculture, those without real estate collateral also complained about non-availability of credit. Domestic stock and bond markets were small; only Argentina seems to have had a promising formal domestic financial market, dominated by mortgage paper.

The 1930s brought exchange controls and the expansion of government financial institutions, which at the height of the crisis proved their usefulness in decreasing the incidence of panics and runs; the massive bank bankruptcies which occurred in the United States during the early 1930s were not witnessed in the large Latin American countries, apparently thanks to the presence of state banks plus an activist policy of rescuing most private banks in trouble. By the 1940s many countries had development banks granting medium- and long-term credits to non-traditional agriculture, industry and construction. Those credits, at least during the 1930s and early 1940s, seemed to have been granted at interest rates still ahead of domestic inflation, or at least not too far behind it, and in most cases contributed to an upsurge in capital formation. Public development banks remained, often through the 1950s, relatively small and efficient, as in the case of the Brazilian BNDE. The drying-up of external sources of finance during the 1930s and 1940s encouraged these efforts to mobilize local savings.

By the 1950s, however, it was clear that in South American countries experiencing inflation the development banks created to solve one form of perceived market failure (lack of long-term credit for socially profitable non-traditional activities) had led to another, i.e., a segmented domestic financial market in which some obtained (rationed) credits at very negative real interest rates, while non-favored borrowers had to obtain funds in expensive and unstable informal credit markets. Public controls over the banking system typically led to negative real interest rates for depositors. 'Financial repression' became an obstacle to domestic savings and their efficient allocation, and financial intermediation languished.

In inflation-prone countries, financial reforms were introduced during the 1960s in the form of indexing of some loans and deposits; those involving the housing market were a particularly popular field for these new policies. Post-1964 Brazil is the clearest example of a sustained effort to revive the domestic financial system and domestic savings using a number of indexing devices, but maintaining close government supervision of financial institutions and of interest rates charged in formal markets. The results of the Brazilian reforms have been mixed: domestic financial savings have been encouraged relative to the pre-1964 situation, in spite of continuing inflation, and the new policies supported impressive rates of capital formation. But attempts to encourage a significant stock market have failed, and the financial market remains heavily dominated by public securities. Private agents have shown reluctance to offer indexed securities. Credit to some sectors, such as agriculture, has been heavily subsidized for long periods of time. Brazil has also retained controls over the links between domestic and international financial markets, while following a passive crawling peg exchange rate policy, with sporadic jumps and other innovations.

In Central American countries, with a tradition of price stability and conservative macroeconomic management (before the 1970s), bank concentration and an association of a few private banks with dominant economic groups, historically raised concerns about monopoly power. Galbis (1979, p. 349) noted:

'The experience of El Salvador suggests that interest rate freedom cannot be expected to be a panacea and automatically produce interest rate equilibrium in countries that have a relatively concentrated and unsophisticated financial system, which is the typical case in small, less developed countries. Positive policy actions to avoid market distortions might be required.'

This type of concern led to the nationalization of the banking system in Costa Rica in the late 1940s and in El Salvador in 1979. Government regulation, including selective credit allocations, over such oligopolistic structures may make matters worse, consolidating access by a few favored

businesses to subsidized credit; post-Second-World-War Greece is said to be an example of inefficient and inequitable regulation of concentrated banking sector.

Southern Cone countries, coming out of sundry populist experiences around the mid-1970s, undertook financial reforms going beyond those of Brazil in a laissez-faire direction. Post-1973 Chile provides the clearest example of this type of financial liberation [for a careful narrative, see Arellano (1983a,b)]. That experiment started with a fully nationalized banking sector; a first task was to return most banks to the private sector. This was done by auctioning them off, with generous credit arrangements, or by returning them to previous owners; apparently little effort was spent on investigating the banking credentials of new entrants. At an early stage interest rates were freed and 'financieras' were allowed to operate with practically no restrictions or supervision; early bankruptcies in December 1976 and January 1977 of the more adventurous and unregulated 'financieras' led to the establishment of minimum capital requirements for entry. Authorities repeatedly warned the public that deposits were not guaranteed, beyond very small deposits with banks, and that financial intermediaries, like any other private firm, could go bankrupt; it was explicitly stated that there would not be a 'bailing out' of banks and other financial intermediaries. Since 1974 multi-purpose banking was allowed, on the ground that the Chilean market is too small to sustain specialized financial institutions of efficient size. Reserve requirements were steadily reduced, reaching less than ten percent of deposits by 1980.

During 1977 it became apparent that an important bank (the Banco Osorno) was in serious trouble. The authorities, fearing that its bankruptcy would tarnish external and internal confidence in Chilean financial institutions, intervened, and rescued all depositors and the institution. Apparently, the fear that external loans would decrease if the Osorno had been allowed to go bankrupt was the crucial argument for intervention. Naturally, fresh warnings were issued that, from then on, financial intermediaries would not be rescued. At that stage practically no inspection or supervision of bank portfolios existed; only in 1981 were significant regulatory powers given to the Superintendency of Banks. One may conjecture that after this event most depositors felt, *de facto*, fully insured and foreign lenders felt that their loans to the private Chilean sector were, in fact, guaranteed by the State. After 1977, banks, rather than 'financieras', became predominant in the financial system.

During 1979 the Chilean economic authorities started a process expected to culminate in a pseudo-exchange-rate union [see Corden (1972)] with the United States. The nominal exchange rate between the peso and the U.S. dollar was fixed in July 1979, and restrictions over convertibility and capital movements were relaxed; by 1981 those restrictions had been considerably

weakened, and Chile witnessed a massive capital inflow. Presumably the hope was to make lending to Chile subject to no more currency risk than lending to Puerto Rico or Panama; the nominal exchange rate was supposed to last 'for many years'. Some of the economic authorities dreamed of doing away with the national currency altogether, but feared that the military might not wish to go that far.

The theoretical underpinnings of these policies included a special version of the monetary approach to the balance of payments, plus the hypothesis that financial markets, domestic and international, were no different from the market for apples and meat. Voluntary financial transactions between private agents were their own business, and presumably Pareto-optimal. Indeed, the nationality of those private agents was regarded most irrelevant. The then Director of the Western Hemisphere Division of the International Monetary Fund put it this way at meeting held in Santiago de Chile during January 1980 [see Robichek (1981, p. 171)]:

'In the case of the private sector, I would argue that the difference between domestic and foreign debt is not significant — barring governmental interference with the transfer of service payments or other clearly inappropriate public policies — if it exists at all. The exchange risks associated with foreign borrowing are presumably taken into account as are the other risks associated with borrowing, whether it be from domestic or foreign sources. More generally, private firms can be expected to be careful in assessing the net return to be derived from borrowing funds as compared with the net cost since their survival as enterprises is at stake.'

The same author went on to argue that overborrowing by the private sector, even with official guarantees, was very unlikely, provided official guarantees were given on a selective basis; only public borrowing on international financial markets was regarded as posing more serious debt service risks [see Robichek (1981, p. 172)].

Convergence of domestic inflation and interest rates toward international rates proved to be a slow process, during which the fixed 'permanent' nominal exchange rate yielded great incentives for private capital inflows into Chile: during 1981 the current account deficit reached an astonishing 14 percent of Chilean Gross National Product, with international reserves holding their own, while domestic savings appeared to collapse. The process of financial liberation had also led to a widely noted (by opposition economists) concentration of potential economic power in the hands of a few conglomerates or economic groups, which combined financial and non-financial corporations. Before 1981, the official view seems to have been that these economic groups must reflect some economies of scale, and could be regarded as one special type of butcher shop, disciplined by free entry and

her competitive pressures. Their allocation of credit resources, often heavily loaded in favor of companies associated with the group, was presumed to be more efficient than that which government bureaucrats could achieve.

As late as March 1981 international business publications were writing that 'Chile's free-enterprise banking environment' was proving to be a powerful magnet for foreign banks, and that more entrants into the thriving sector were lining up. (See *Business Latin America*, March 11, 1981, p. 79.) By June 1981 the same publications were noting with concern the cessation of payments on local credits by CRAV, a Chilean sugar company, as well as other blemishes on the economic miracle, but argued that 'the problem areas pose no immediate threat to growth' (*Business Latin America*, June 3, 1981, p. 173). Following the CRAV news, the Central Bank supported financial institutions to stem incipient 'runs'. By November 1981 the position of two important private Chilean banks and several 'financieras' became critical: they were 'intervened' by the Central Bank. Further interventions of financial intermediaries occurred during the first half of 1982; rather than harsh bankruptcy proceedings, these actions apparently involved a generous expansion of credit to the private sector. Between the end of December of 1981 and the end of June 1982, domestic credit in Chilean pesos expanded by 41 percent; of the net increase in domestic credit, 92 percent went to the private sector [see International Monetary Fund (1983, pp. 118-119, lines 32 and 32d)].

The massive use of Central Bank credit to 'bail out' private agent raises doubts about the validity of pre-1982 analyses of the fiscal position and debt of the Chilean public sector. The recorded public sector budget deficit was nonexistent or miniscule for several years through 1981, and moderate during 1982. [For evidence on the apparent Chilean fiscal performance, see McKinnon (1982).] The declining importance of ostensible public debt in the national balance sheet was celebrated by some observers; indeed it was argued that public sector assets, such as remaining public corporations, exceeded its liabilities. Ex post it turned out that the public sector, including the Central Bank, had been accumulating an explosive amount of contingent liabilities to both foreign and domestic agents, who held deposits in, or made loans to the rickety domestic financial sector. This hidden public debt could be turned into cash as the financial system threatened to collapse. Eminent students of fiscal and financial systems, who were involved in the Chilean reforms, apparently overlooked this potential debt bomb. (Present at the creation and early development of the new Chilean financial system were experts brought together by the Organization of American States Program for the Development of Capital Markets; together with the Chilean Central Bank, this program sponsored seminars on capital markets in Santiago during 1974, 1976 and 1977.)

By late 1981 and early 1982 Chile was also feeling the full force of the

international economic crisis and discovering that it was not a 'small country' in international financial markets, in the sense of being able to borrow, in either public or private account, all it wished at a given interest rate, even including a generous spread. Pressures mounted on the already overvalued nominal exchange rate, fixed with respect to the U.S. dollar since July 1979; in June 1982 the unthinkable devaluation was carried out in haste, initiating a period of experimentation, which has included clean and dirty floating, a crawling peg, multiple rates, and a tightening up of exchange controls.

The official exchange rate rose rapidly from 39 pesos per U.S. dollar to a range of 74-80 pesos by January 1983; the free rate went substantially above official quotation. Those who had dollar debts were placed under stress; financial difficulties contributed to and were aggravated by a drop in real Gross National Product of about 14 percent during 1982. The Central Bank undertook rescue operations of banks and other financial intermediaries during the second half of 1982, to avoid a breakdown of the financial system. In January 1983 a controversial, massive intervention in five banks, the liquidation of another three, and the direct supervision of another two left the government in control of a good share of the Chilean corporate sector, as well as of its domestic and foreign debts. It has been estimated that non-performing assets of banks rose from 11 percent of their capital and reserves at the end of 1980, to 22 percent at the end of 1981, to 47 percent at the end of 1982, and to 113 percent in May 1983 [Arellano (1983a, p. 192)].

Many of those linked to the intervened banks and associated companies, including ex-Ministers of the Pinochet regime, charged that the January 1983 measures by the Central Bank and its now active superintendency of banks were 'unnecessary, arbitrary and politically motivated, hinting that rival economic groups stood to profit from the measures. General Pinochet himself took the lead in charging the troubled economic groups with a number of sins, including betrayal of the General's good faith. During 1983 and 1984 some well-known financiers and ex-Ministers were jailed, charged with fraud. Specifically, it has been charged that Banco de Chile and three other private Santiago banks set up a new bank in Panama, which was used to circumvent limits on how much a bank could loan to members of its own group, when those measures were belatedly (during 1981) imposed to control the conglomerates' rampant self-lending tactics' (*The Wall Street Journal*, March 6, 1984, p. 38).

Whatever the merits of these charges, it was clear that the domestic financial crisis in Chile had questioned not only the future of many existing banks and corporations but also the rules of the game as they had been understood during the years of the 'Chilean miracle'. The opaqueness of the intervention procedures, and of the announced processes to settle the tangled web of inter-company and bank debts even raised questions about the

regime's respect for property rights or at least its willingness to provide effective mechanisms for the efficient exercise of those rights. On the other hand, only the depositors with the three liquidated banks underwent any direct losses (up to 30 percent of their deposits); all other depositors were assured that they could get their money back.

The 1982-83 breakdown of rules, and the reliance on discretion by Chilean officials, extended to the handling of private external debts. In contrast with other heavy borrowers, such as Brazil, a large share of the pre-1982 capital inflow into Chile went directly to private banks and corporations, borrowing abroad without government guarantees. Indeed, both private borrowers and lenders were warned by government officials that they were on their own, and that such debt could in no way be regarded as a Chilean national debt. In spite of these *ex-ante* announcements, during early 1983 external debts of private banks were taken over by the government, which announced its intention to continue servicing them. Those private debts have been included in debt rescheduling being negotiated between the Chilean state and the foreign bank advisory committee for Chile. Apparently the Chilean government caved in under pressure from the bank advisory committee, which argued that it would be extremely difficult for the international financial community to focus its attention on the pressing needs of Chile while an increasing number of companies and their associated Chilean banks were experiencing or approaching a suspension of their payments and subsequent bankruptcy. To make their viewpoint absolutely clear, foreign banks apparently tightened up their granting of very short term commercial credits to Chile during the first quarter of 1983, a technique reportedly used with some success ten years earlier *vis-à-vis* the same country. The International Monetary Fund, also active in the debt rescheduling exercise, has not publicly objected to this threat to the Robichek doctrine.

In sum, the *ad hoc* actions undertaken during 1982-83 in Chile to handle the domestic and external financial crisis carry with them an enormous potential for arbitrary wealth redistribution. The lessons private agents are likely to draw from these events are unlikely to be compatible with a reconstruction of a domestic financial sector relying on credible threats of bankruptcy to discipline borrowing and lending. In spite of the *ex-post* government guarantees to peso deposits, private individuals decreased their demand for peso-denominated assets, as domestic inflation picked up, and expectations grew that the clearing up of the domestic debt tangle would involve additional inflation, exchange-rate depreciation and arbitrary controls. Faith in orderly judicial proceedings to clear up debts and claims on assets appeared to be quite low; stories abounded of debtors fleeing the country, and of petty and grand financial chicanery going unpunished.

Argentine and Uruguayan domestic financial experiences offer a number of similarities and some contrasts to the narrated Chilean events [see Frenkel

(1984)]. In those countries domestic financial intermediation also flourished and then collapsed. Major comparative points are the following:

(1) Whether or not deposits are explicitly insured, the public expects governments to intervene to save most depositors from losses when financial intermediaries run into trouble. Warnings that intervention will not be forthcoming appear to be simply not believable. Fernandez (1983) has blamed explicit insurance for financial deposits by Central Bank authorities in explaining the Argentine financial crash of 1980-82. But, as we have seen, explicit insurance was much less used in Chile, where nevertheless many firms and households apparently felt that their deposits were implicitly guaranteed by the Central Bank [see Arellano (1983a,b)].

(2) The Central Banks, either because of a misguided belief that banks are like butcher shops, or because of lack of trained personnel, neglected prudential regulations over financial intermediaries. Not surprisingly, the assets held by Argentine and Chilean banks and 'financieras' around 1980-81 appeared to have substantially riskier relative to those held by similar institutions in the United States or in Western Europe, and relative to plausible counterfactuals of sensibly-regulated financial intermediaries in those countries. It has been argued that in Uruguay the presence of U.S. owned banks, regulated indirectly by the Federal Reserve, reduced the magnitude of risk-taking by banks.

(3) The new financial institutions in the Southern Cone attracted fresh entrepreneurs and stimulated the creation of new conglomerates and economic groups. While new entrepreneurial blood has an attractive aura, experience indicates that such venturesome animal spirits are better channeled toward non-financial endeavors, where the disciplining threat of bankruptcy could be more credible.

(4) In economies characterized by intractable market and informational imperfections, conglomerates and economic groups, even as they may correct government-induced financial repression imperfections, could exacerbate others, particularly via the creation of oligopolistic power. The close association of financial intermediaries with non-financial corporations, frowned upon by United States regulations, can indeed lead to distortions in the allocation of credit, as shown by the Argentine and Chilean experiences. Packages in both countries between banks and firms, which were hardly firms' length, were responsible for the high use of debt by private firms. In Chile by late 1982 private firms were more indebted than state enterprises; within the private sector, extreme indebtedness was found among those that controlled banks (and that had acquired from CORFO those firms nationalized under the Allende Presidency). Between 1975 and 1982, Chile went from a financially shallow economy, where inflation had wiped out real value of debt, to an excessively financially deep economy where creditors

owned a very large share of real wealth, a clear case of 'too much debt and too little equity'. Interpenetration of economic and financial power appears to have reached extraordinary levels. The two largest business groups in Chile by late 1982 controlled the principal insurance companies, mutual funds, brokerage houses, the largest private company pension funds and the two largest private commercial banks; about half of all private external debt was channelled through the domestic banking system, so control of banks allowed ready access both to domestic and foreign credit. By late 1982 many banks had lent one quarter or more of their resources to affiliates.

(5) The freeing of interest rates and the relaxation of controls over financial intermediation will not necessarily encourage intermediation beyond short-term maturities. The flourishing of private financial intermediaries in the Southern Cone, even at the height of the boom, was limited to deposits and loans of less than six months' duration. Longer-term intermediation via banks or bonds, not to mention via active stock markets, remained very weak. Insofar as the new policies destroy pre-existing government-supported long-term intermediation arrangements, as in the case of the Chilean housing system, SINAP, financial liberation will reduce available long-term financial instruments. Stock markets may witness short booms, but will mobilize very few funds; charges of manipulation and fraud, plus lack of protection for minority stockholders, will reduce public interest in buying stocks in unregulated or badly regulated stock markets. It has been charged in the Chilean case that false stock transactions were an important component in the growth of financial intermediaries during 1977-81. It is argued that market prices of shares owned by large business groups were manipulated upwards, via phony transactions, to increase the value of collateral used to secure loans and to induce fresh inflows into captive mutual funds.

(6) The end of financial repression undoubtedly encouraged many types of financial savings; Arellano (1983a, b) documents the boom in Chilean financial savings and intermediation especially during 1977-82. Paradoxically, however, total domestic savings did not increase in the South American experiments in financial liberation, in spite of handsome returns to savings. Chilean Gross National Savings fell from an average of 16.3 percent of Gross National Product during the decade of the 1960s, to 12.4 percent during 1975-81 [Arellano (1983b, p. 12)]. Arellano cogently argues that the expansion in Chilean financial savings came mainly from the foreign capital inflow, the recording on both sides of the ledger of accumulated interest and of capital gains, and a reorientation of saving flows from the public to the private sector [see also Harberger (1982) for a discussion of the poor performance of Chilean savings]. In 1980-81 reforms to the social security system gave a further boost to funds flowing into private financial institutions, by changing the pay-as-you-go government-managed system into a

capitalization scheme, in which pension funds were to be managed by private financial institutions.

(7) Aggregate investment performance showed no clear sign of either improving or becoming more efficient, in the South American countries undergoing financial liberation. In Chile gross fixed investment during the 1960s averaged 20.2 percent of Gross Domestic Product; during 1974-82 it reached only 15.5 percent of GDP [see Arellano (1983a, p. 226)]. Argentine and Uruguayan performance was better on the investment front, partly because public sector capital formation did not shrink as the Chilean case.

(8) Foreign lenders take government announcements that it will not rescue local private debtors, especially banks, with non-guaranteed external (or domestic) liabilities even less seriously than depositors take the threat of a loss of their money. The alleged Japanese attitude of not differentiating between the public and private external debt of a developing country appears to have been upheld ex-post as a sounder guide to action than the Robichek doctrine. Foreign banks lending to both the public and private sectors of a country have considerable leverage to convince governments to take over ex-post had private debts, especially those of financial intermediaries. There appear to be no international referees to keep them from exercising such leverage. The substantive differences between the nationalization of Mexican private banks during 1982 and the intervention in Chilean private banks during 1983 may be less than one would think by reading the editorials of the international financial press. International banks, knowing they are regulated at home, where they also have close political connections with their governments, expect the same in borrowing countries.

While debts of private Chilean banks to foreign banks were fully assumed by the government, other operations by Southern Cone banks carried out abroad do not seem to have received the protective mantle of home-government support. For example, the Argentine authorities declined to accept responsibility for claims on the New York branch of the failing Banco Intercambio Regional, which was taken over by the New York State Banking Department [Johnson and Abrams (1983, p. 23)]. Given this experience, it is unlikely that Southern Cone banks will emerge as important competitors in international banking in the near future.

(9) The combination of pre-announced or fixed nominal exchange rate, relatively free capital movements, and domestic and external financial systems characterized by the moral hazard and other imperfections discussed above set the stage not only for significant microeconomic misallocation of credit, but also for macroeconomic instability, including the explosive growth of external debt, most of which was incurred by private Chilean banks, followed by abrupt cessation of capital inflows. That macroeconomic instability would occur even assuming tranquil circumstances, but it is of course exacerbated by external shocks hitting economies made particularly

little and vulnerable by that combination of policies and institutions. Contrary to some old and new notions, the experiences of Argentina, Chile and Uruguay show that what happens to the nominal exchange rate does affect the real exchange rate, at least in the short and medium runs, and that changes in the exchange rate can be an important and efficient mechanism of adjusting the balance of payments. Faulty exchange rate policy appears much more important in explaining financial turbulence and the severity of the Chilean 1982-83 depression than the reduction in import barriers. The credibility of the latter was reduced by peso overvaluation, inducing an import binge and reducing local savings.

(10) Short-term real interest rates, plausibly defined, on the whole remained very high in Argentina, Chile and Uruguay, even during periods of massive capital inflow. A number of hypotheses have been offered to explain this phenomenon: macroeconomic policy; expectations of devaluation and inflation, which in the short run did not materialize; a change in the real productivity of capital; and even excessive spreads originating in Central Bank Reserve requirements. As in the case of explanations for the high, but less spectacular, real interest rates recorded in the United States during the early 1980s, none of the hypotheses are fully satisfactory [see Litterman and Weiss (1984)]. From the viewpoint of this paper, the most intriguing hypotheses for explaining extravagant Southern Cone real interest rates, which in Chile reached 32 percent per annum on the average during 1976-82 according to Arellano [Arellano (1983b, p. 31); this is the rate charged for short-term loans], focus on the nature of financial deregulation and imperfections in those markets. It was noted earlier that the high Chilean interest rates were reflected mainly in double-entry bookkeeping. It can be argued that firms and households borrowing at extravagant rates either expected them to last for very brief periods, or, if they did not, borrowers expected the government to bail them out, knowing as they did that many other borrowers were in a similar situation. Such expectations, of course, favored 'distress borrowing': either interest rates fell, or government would 'bail out' everyone. Whatever the validity of these arguments may be, it is clear from the Southern Cone experience that the type of deregulation experienced by those countries gives no assurance of stable real interest rates hovering around reasonable estimates of the socially optimal shadow real interest rate. Some observers have argued that the main function of high real interest rates was to transfer the ownership of real enterprise wealth from debtors to creditors, a mechanism doomed to stop when no more shareholders' wealth was left.

(11) As elsewhere in Latin America, the decline in real Gross Domestic Product in Argentina (11 percent between 1980 and 1982), in Chile (15 percent between 1981 and 1983), and in Uruguay (14 percent between 1980 and 1983) may be said to be the result of unfavorable external circumstances

during the early 1980s, combined with less than optimal domestic policies. As noted earlier, policy-induced stickiness in nominal exchange rates delayed adjustment to changes in external terms of trade and changes in capital flows. The brittle Southern Cone domestic sectors must also bear blame for first exaggerating the boom, then aggravating the recession and finally delaying recovery. The consequences of the Chilean financial crash have been the most spectacular, leading to a massive rearranging of the national balance sheet. Such a rearranging, however, has been a slow and opaque process, leaving many economic entities not knowing who owns what, or who owes what to whom, hardly ideal circumstances for encouraging a revival of private investment.

(12) As with international debt, the sorting out and allocation of losses and blame for 'mistakes' (only clear ex-post) by borrowers and lenders in the domestic financial markets present monumental conceptual and legal problems, especially when 'mistakes' are widespread. Since 1982 Argentina appears to have taken the time-honored route of washing out old financial mistakes via inflation (which is not allowed to be reflected in interest rates); this approach favors borrowers over lenders. As noted earlier, in the Chilean case the path out of the morass remains unclear; inflation accelerated, but 'only' to around 25-30 percent during 1983. There are few precedents and less accepted doctrine regarding financial processes as bizarre as those experienced by Chile during 1975-83. Bankruptcies, financial distress and confusion delay recovery beyond what would be necessary to achieve real adjustment to the new international terms of trade, capital market realities and expectations about growth in the international economy.

#### A. Options for Latin American domestic financial systems

Southern Cone domestic financial systems of the late 1970s and early 1980s ended up with a pessimistic 'middle way': de facto public guarantees to depositors, lenders and borrowers, and no effective supervision and control (until it was too late) of the practices of financial intermediaries. Reform would logically head in two opposite directions: more laissez-faire with binding (constitutional?) commitments against future bail-outs, or toward more public controls, possibly culminating in nationalization of the banking system, as in Costa Rica, El Salvador, India and France. Other Latin American countries outside the Southern Cone, such as Brazil and Colombia, have domestic financial systems that, while showing signs of stress during the few years, have not undergone Southern-Cone-type of crisis; their experiences (including their post-1981 troubles) could be useful in sketching desirable characteristics of domestic financial arrangements. As noted earlier, the credibility of a government commitment to a truly laissez-faire domestic financial system is very low. Firstly, as illustrated in the

recent Chilean experience, foreign financial agents will not accept a separation of private and public debts when a crisis arrives; financial *laissez-faire* in one peripheral country does not seem viable. Secondly 'public opinion', including generals and their aunts, simply does not believe that the state would (nor could) allow most depositors to be wiped out by the failure of banks and financial intermediaries. It may be that private financial agents, domestic and foreign, lenders, borrowers and intermediaries, whether or not related to generals, know that the domestic political and judicial systems are not compatible with *laissez-faire* commitments which a misguided Minister of Finance or Central Bank President may occasionally utter in a moment of dogmatic exaltation. When a crisis hits, agents will reason, bankruptcy courts will break down; when most everyone (who counts) is bankrupt, nobody is! Thus, even if one believed, à la Hayek, that the externalities and public good characteristics of the domestic monetary and financial system are negligible, one may conclude that the political, and social, infrastructure found in many developing (and developed?) countries conspires against the viability of such a pure *laissez-faire* financial system. The zealot may conclude that the nation does not measure up to the purity of the model.

So should one move back to good old 1950s style financial repression, extensive controls and perhaps full nationalization of the domestic financial system? It can be argued that a *believable* alternative system could be designed, avoiding many of the inefficiencies of financial repression while avoiding those of the Southern Cone experience, and blending both public and private financial agents. What follows sketches some features of that eclectic system.

Negative real rates of interest became common in Latin America during the 1940s and 1950s as inflation gained momentum and many monetary authorities maintained ceilings on nominal interest rates offered and charged by the banking and financial system. At that time most South American countries (but not Mexico, Venezuela, Central America and the Caribbean) also maintained extensive exchange controls. Limited international capital mobility buttressed the taxing of cash balances and financial repression; the then prevalent Keynesian orthodoxy also encouraged these developments. While persistently negative real rates of interest in the formal financial market occurred only when the government imposed rate ceilings and exchange controls, it is not obvious that public regulation and participation in the domestic financial market necessarily had to lead to negative rates of interest. The Mexican financial system of the 1950s and 1960s, praised by development scholars, contained both public institutions and substantial government regulations. As already noted, the post-1964 Brazilian indexing and other financial reforms could hardly be described as involving a *laissez-faire* approach. The celebrated South Korean financial reforms of the 1960s

were carried out with a high degree of public ownership and control of the formal financial sector [see Gurley et al. (1965, p. 45)].

Assuming that a country intends to maintain monetary sovereignty but that significant, yet not explosive, inflationary expectations persist, there is a strong case for making sure that firms and households have available a domestic liquid financial asset yielding a real interest rate which is not far below, nor much above, zero. The inflationary tax borne by currency balances may result from the inability of the fiscal system to find non-inflationary sources of revenues, or it may be simply a by-product of an inflationary spiral, whose inertial momentum could only be halted by a severe real contraction. Presumably the transactions convenience provided by domestic currency will be enough to generate some demand for it, even under moderate inflation, an assumption supported by South American experiences. But without a liquid and safe store of value denominated in domestic currency, which at least maintains its purchasing power, a national monetary and financial system will have little long-run credibility, short of draconian controls. It could also be argued that without such an asset the system would not meet the most elementary tests of social equity.

It should be emphasized that introducing a 'zero-real-rate asset' next to a zero-nominal-rate asset involves a delicate trade-off, which may increase welfare only if the inflation tax on money remains 'reasonable'. The zero-real-rate asset will reduce the demand for money, but may also reduce the demand for assets denominated in foreign currencies. An inflation which accelerated sharply above historical norms, introducing massive currency substitution, could destroy the credibility of all domestic financial assets.

There are many possible ways to supply a zero-real-rate asset. The banking system, for example, could provide indexed savings accounts; depending on practical considerations, they could be used partly as checking accounts. At least that segment of the banking system would have explicit and full deposit insurance, perhaps only for accounts below a certain (generous) limit; insurance for larger accounts could be partial. Naturally, the flow by banks of funds coming from those accounts would be tightly regulated by a flinty-eyed superintendency of banks. Indeed, practical considerations could lead to the requirement of 100 percent reserves on that type of deposits, to be placed in very safe assets.

Enormous potential power is given by this scheme to the regulatory agencies; it could end up in the total control of credit by the Central Bank. Experiences in Latin America and elsewhere with a public monopoly of credit have not been so encouraging as to make one indifferent to this possibility. Safeguards against the monopoly scenario would include allowance for the supply of alternative financial assets, by either private agents or decentralized public ones, plus an active Congressional supervision of the regulatory agencies and the public banks. The latter point suggests

that democracy, whatever its more fundamental virtues, is an important technical input for a healthy domestic financial system.

Suppliers of riskier financial assets would not have available public deposit insurance but would be subject to less regulation. Nevertheless, these would still include minimum capital requirements, strict 'transparency' information rules (regarding both assets and connections with other firms), and clear 'risk-may-be-hazardous-for-your-health' warnings to the general public. After recent experiences it is probably better to proceed cautiously in this segment of the domestic financial market, but not so cautiously as to make it an empty set. Interest rates offered and charged by these intermediaries would be expected to show significant real rates; at least on an experimental basis those rates would not be set by the monetary authorities, but spreads between rates paid to depositors and those charged to borrowers would be subject to antitrust vigilance (as entry into this sector would not be completely free). Those spreads would depend, *inter alia*, on possible official reserve requirements; these could be presumed to be quite low for this segment of the market. Both foreign and private institutions would be expected to participate, but entry regulations and antitrust vigilance would be on guard against interlocking directorates among financial and non-financial firms and would lean against the creation of dominating economic groups and conglomerates. Prohibitions against the mingling of financial and non-financial firms, as in the United States's Glass-Steagall Act, appear particularly desirable where markets are relatively small.

Latin American experience, and indeed that of Continental Europe last century, makes one skeptical that private markets alone will generate a flow of financial intermediation high enough to support a rate of long-term fixed capital formation which fully exploits available high social rates of return to long-term investments. Private uncertainties and skepticism of all sorts, which will not disappear by freeing interest rates, reduce the scope for private long-term finance and for stock markets; the latter have continued to languish even when encouraged by various subsidies, as in Brazil. It will be recalled that this was the original motivation for the creation of public development banks in Latin America during the 1930s and 1940s. The need remains to close gaps left in long-term capital markets by acute uncertainties found in Latin American societies, and public development banks remain a plausible solution, in spite of the abuses and errors in their management registered over the last 50 years. Not all experiences have been negative: as noted earlier, public mortgage banks obtaining funds by issuing indexed obligations yielding modest real rates of interest and correspondingly pricing their mortgages, have registered important accomplishments in a number of countries. The crucial lessons remain the avoidance of real interest rates too far from plausible estimates of the shadow opportunity cost of capital,

plus political mechanisms to check potential abuses of those public agencies.

Decentralized, efficiently-run public financial intermediaries operating together with private intermediaries could play several important functions, besides merely plugging gaps in the long-term segment of the market. As recent Latin American experiences have shown, confirming the evidence of the early 1930s, during financial crises the public appears to turn to public banks for greater security, ('Flight to quality' in the Latin American context also benefits large, well-known banks.) Public banks could help focus market interest rates around the social opportunity cost of capital, decreasing instability in real interest rates. Those institutions could channel external funds, helping to keep tabs on the foreign debt and improve borrowing terms. Their operating costs would give evidence and provide a yardstick on reasonable spreads between interest rates paid to depositors and those charged to borrowers. By providing long-term credit to new, non-traditional activities, development banks would eliminate one of the excuses frequently given for extravagant protection against imports. Indeed, the valid cases for infant-industry protection or promotion are likely to be most efficiently handled under Latin American conditions using public credit instruments, suitably priced, rather than by barriers against imports. Needless to say, public banks will not yield these results without a great deal of effort and pressure by those in charge of their management and supervision. Considerable experimentation is also likely to be needed, particularly regarding the establishment of a structure of interest rates compatible with both a vigorous rate of fixed capital formation and a matching flow of voluntary domestic savings.

The real exchange rate, no less than the real interest rate, remains a crucial issue for Latin American economies. The southern Cone emphasis on exchange rate management as an instrument to achieve nominal targets, leaving market forces settle the real exchange rate, emerges from recent experience as less successful than the Brazilian-Colombian crawling peg practice, which targets the real exchange rate as an explicit objective of policy. As with the real interest rate, the correct real exchange rate is not easy to define and calculate exactly, but grossly over- or under-valued real exchange rates, like giraffes, are not so difficult to recognize on sight. The correct real exchange rate would be that compatible with expected current account deficits, output levels and long-term capital inflows, given monetary and other policies. These are *real* considerations; what about the role of the exchange rate (and of expected changes in *nominal* level) as a crucial link between domestic and international financial markets, and its impact on the capital account of the balance of payments?

Monetary policies targeting real interest rates and real exchange rates will be compatible with free or untaxed capital movements and unrestricted

convertibility, except by fluke (or short of extravagant average levels of reserves). This is not a pleasant conclusion for those familiar with past experiences with exchange controls over international flows in Latin America or elsewhere. Limitations on unconditional capital-account convertibility, however, may have greater or smaller inefficiencies and inequities depending on the context in which they are undertaken. A real exchange rate hovering around its long-run equilibrium level will do much to reduce pressure on convertibility limitation; it would be absolutely essential to avoid the temptation of manipulation convertibility restrictions to buttress overvalued exchange rates, as in the past. The heterodox tool of exchange controls must be managed with orthodox concern for real exchange rate. Note, incidentally, that even without convertibility restrictions overvalued exchange rates can be propped by manipulating the capital account of the balance of payments, i.e., high interest rates went along in the Southern Cone with overvaluation.

The prudential regulatory machinery could be used to discourage volatile international financial flows relying primarily on taxes or tax-like requirements, i.e., via special reserve requirements for certain types of unwanted international financial transactions, as is the practice in several Western European countries. Taxes would also be expected to capture arbitrage profits from borrowing abroad and lending domestically, under 'normal' circumstances. Persistent subsidies to encourage foreign borrowing would be a sign that either the real exchange rate or domestic real interest rates have drifted from their equilibrium levels.

Unrestrained convertibility in the capital account is in fact a luxury, desirable in itself, enjoyed only by a handful of countries which have either a very developed or a very underdeveloped domestic financial system. It is neither the usual practice in OECD countries [see Bertrand (1981)], nor was it the expectation of at least some of the architects of the Bretton Woods system [see Crotty (1983)]. So long as domestic currency balances may be burdened by an inflation tax higher than those levied on foreign currencies, some limitations on convertibility are widely perceived as a necessary part of transitional policy package [see, for example, McKinnon and Mathieson (1981)].

The case for some limitations on free capital account movements rests partly on macroeconomic considerations, partly on the need to correct microeconomic imperfections on domestic and international financial markets. Events during 1982 must have put an end to the notion that there are small countries in international financial markets, in the sense that those countries could borrow all they want at a given interest rate. Currency and sovereign risks will inevitably tilt the supply schedule of foreign funds to any country in an upward-sloping direction, and may even give it a kinkier look, so that there will be a gap between private and social costs of borrowing [see Harberger (1981) for a clear, but apparently unheeded, exposition]. Moral-

hazard considerations on both sides of the market, or expectations of bail-outs, reinforce the case for home-country supervision of international financial flows; if home countries do not undertake that supervision others will do it for them.

These considerations also cast doubt on the desirability of allowing the domestic financial system to offer deposits denominated in foreign currencies, either to domestic residents or to foreigners. Such deposits sharply curtail the freedom of maneuver of monetary authorities, for the sake of maintaining the credibility and reputation of the banks offering them. (The point is partly applicable to any country whose banks have an international scope, even if deposits are denominated in home currency.) The Mexican and Uruguayan experiences suggest that deposits denominated in foreign currencies and insured by the home Central Bank enhance vulnerability to crises, introducing the likelihood of sharp discontinuities in the rules of the game. At any rate, in general that type of deposit would not be compatible with limitations on capital account convertibility, limitations which would also rule out the feasibility of totally clean float for the exchange rate, including both spot and future quotations.

#### 5. A final caveat

Recent Chilean experience shows that a balanced budget by itself will prevent neither a serious financial crisis nor acute macroeconomic turbulence. Yet previous Chilean experiences, and those of other Latin American countries, also show that fiscal extravagance is a sure way to bring about not only economic dislocation, but also the weakening and even collapse of fragile democratic institutions. This paper has discussed neither fiscal policy nor strategies on how to eliminate inflation. Implicitly, it has assumed that Latin American inflations may be sustained by many sources, not just budgetary deficit, and that in most countries for the foreseeable future 'living with inflation' will be a more credible goal than eliminating it, and that this must be taken into account when designing desirable domestic financial policies, as well as other measure.

Nevertheless, there are inflations (and budget deficits) which no domestic financial system with a minimum of coherence could live with. Examples include inflations which accelerate for more than, say, three years in a row, reaching levels substantially above historical norms, or inflationary rates which fluctuate unpredictably from year to year. Under either circumstances real prices will become very volatile, and real and financial calculations very difficult. In contrast, the Colombian experience of the last ten years or so provides an example of an inflation which is fairly predictable and relatively easy to live with. Finally, it would be nearly impossible to design reasonable financial systems, in a mixed-economy context, which could be

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compatible with sustained public expenditures and budget deficits of the magnitude of those registered in Chile during 1971-72, in Argentina during 1974-75, or in Mexico during 1981-82.

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## GROWTH WITHOUT PRODUCTIVITY

### Singapore Manufacturing in the 1970s

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There is often a tendency to associate high total factor productivity (TFP) growth with rapidly-growing output. The evidence for Singapore manufacturing industries indicates that this has not been the case. TFP growth has been very low for the majority of Singapore manufacturing industries during 1970-1979. Three hypotheses are suggested as the possible reasons for this result — the predominance of foreign capital in Singapore manufacturing, the government's low-wage policy combined with the influx of low-skilled foreign labour and the relatively low level of industrial competence in Singapore.

## 1. Introduction

There is more often than not a presumption that total factor productivity (TFP) growth is high in a rapidly-growing economy, and that high TFP growth contributes significantly to output growth as well as increases in labour productivity. Available studies on such high-growth countries as South Korea and Japan by Christensen and Cummings (1981), Nishimizu and Robinson (1983), Nishimizu and Hulten (1978) and Jorgenson and Nishimizu (1981) all point in this direction at the aggregate economy as well as the sectoral level. The positive relationship between output and productivity growth has been postulated in Verdoon's Law; expansion of output enables both static and dynamic economies of scale to come into play, thus resulting in higher levels of productivity.<sup>1</sup>

This paper examines the applicability of this predilection to manufacturing industries in one of the fastest-growing economies in the world — Singapore. The somewhat surprising conclusion is that the rapid growth of output of manufacturing industries from 1970 to 1979 has been almost entirely due to growth in factor inputs. There has been little increase in the efficiency of use

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<sup>1</sup> See Corrowall (1977, ch. 7) for a more detailed discussion of Verdoon's Law.