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**PROMOTING AN EFFECTIVE MARKET ECONOMY
IN A CHANGING WORLD**

W. Buiter, R. Lago and N. Stern

ABSTRACT

In this paper we examine the main challenges in promoting an effective market economy. While the paper ranges widely across the spectrum of economic institutions and policies, the central theme is the importance of macroeconomic stability for economic growth in the medium and long run. Macroeconomic stability may be seen as a public good. Its provision is among the essential responsibilities of the state both in modern market economies and in economies transforming themselves into modern market economies.

Following this brief introduction, Section II considers four key aspects of the economic environment of the coming decades: increasing internationalisation; market-orientation; diminished government role; high real interest rates. Section III reviews the reasons why macroeconomic stability matters for economic performance and summarises the key empirical evidence supporting the existence of a causal link. Section IV deals with the design of domestic and international policies and institutions to promote macroeconomic stability and Section V asks how national governments and international institutions can take advantage of the current relatively stable global macroeconomic environment to improve medium-term economic performance and promote long-term growth. Section VI concludes. While our discussion will range broadly both theoretically and empirically, we shall emphasise lessons for, and experience from, countries attempting to create a market economy.

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I INTRODUCTION

In this paper we examine the main challenges in promoting an effective market economy. While the paper ranges widely across the spectrum of economic institutions and policies, the central theme is the importance of macroeconomic stability for economic growth in the medium and long run. Macroeconomic stability may be seen as a public good.¹ Its provision is among the essential responsibilities of the state both in modern market economies and in economies transforming themselves into modern market economies.

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II POLICY MAKING IN A ‘NEW’ WORLD

The economic environment within which countries, governments, firms and households — as workers, investors and consumers — will have to operate in the years to come has four features which are both fundamental and strikingly different from the first decades after the second world war. First, economic activity is increasingly internationalised. Second, economic activity is increasingly market-oriented and market-mediated. Third, the role of government in economic affairs is more limited, reflecting a more pragmatic and modest view of what can be achieved through government action; and fourth, saving and investment take place in a context of high real rates of interest.

Internationalisation

Internationalisation has several dimensions. In the last two decades, international trade has grown at an average annual rate twice that of world GDP (6% versus 3%). Nations and regions are therefore increasingly open to trade in goods and services, meaning that foreign markets account for an increasing share of domestic production and that imports account for an increasing share of domestic expenditure. The international mobility of financial capital has increased relentlessly since the Sixties. While the tight correlation between national saving and domestic capital formation remains (and on average current account surpluses or deficits are small relative to the flows of domestic saving and capital formation), this link is weakening with each passing decade.² In addition, small *net* international flows of funds do not rule out very large *gross* flows of funds, and for international portfolio diversification and insurance against nation-specific shocks, gross rather than net flows matter.³ While there remains a strong home bias in financial portfolio composition, international diversification and risk sharing are increasingly important for portfolio holders everywhere.

The average daily turnover in the foreign exchange markets world-wide is today in excess of \$1 trillion⁴.

Enterprise is becoming increasingly 'footloose'. Even if corporate headquarters do not yet easily skip over national boundaries, individual production plants, R&D establishments and other production or support activities relocate more and more freely in search of new markets and the lowest cost of production and distribution. FDI permits the international re-allocation of bundled finance, managerial capacity and technical know-how.

Increasing financial openness of countries has given rise to sudden surges of capital inflows or outflows that have complicated macroeconomic management in countries as diverse as Italy and the UK on the one hand, and Mexico, Malaysia, Thailand and the Czech Republic on the other⁵. Several sets of issues arise. The first relates to the causes of these capital surges. In addition to the capital account liberalisation measures themselves, these include domestic and external causes. The second concerns the consequences of surges of capital inflows or outflows. Having determined the causes and consequences, possible remedies or policy interventions can be considered. At the level of an individual country, these range all the way from the (re-) imposition of administrative or tax barriers to capital inflows or outflows and of other kinds of foreign exchange controls, to changes in domestic financial regulation and supervision, and changes in the conduct of fiscal, monetary and exchange rate policy. At the systemic level they include international co-operation and surveillance to achieve a more co-ordinated set of national economic policies and to improve the quality of national economic management.

A third aspect of growing international openness has been increasing international labour mobility⁶. Despite restrictive immigration policies by the industrial countries, the result of increasing levels of education and training in much of the developing world and of steadily falling transportation and information costs has been that the supply of young immigrants to the industrial countries has increased.⁷ The 'youth deficit' of the industrial countries makes it

likely that immigration will be a prominent economic, social and political issue in the decades to come.

Finally, the international mobility of ideas, knowledge, know-how and culture is a potent force making for change in economic, social and political affairs. No government striving for national technological development will be able to stop its citizens from 'surfing the Web'.

Moving in the direction of increased openness will benefit the 'representative citizen' of a nation provided two conditions are satisfied. The first is that there be no unfavourable terms of trade effects. If expanding trade causes a lower relative price of exports for a large country, then the country may be able to share in the potential global gains from the removal of obstacles to trade only if it either imposes a(n optimal) tariff, or receives international compensatory transfers. Lump-sum international compensation would constitute the global first-best solution. The second condition that must be satisfied in order that the average consumer benefits from enhanced openness, is that a sufficiently rich domestic tax and subsidy set of instruments is available to cope with scale economies and/or domestic distortions (labour market monopoly, product market distortions, externalities) that could interact unfavourably with increased trade or factor flows.

Even if increased openness benefits the *average* or *representative* consumer, it may harm individuals or groups within the nation. This is true even when markets function efficiently. In general, policies that promote increasing international openness generate only *potential* Pareto improvements. Unless losers are actually compensated and unless the compensation mechanisms themselves do not create large distortions or inefficiencies, owners of adversely affected factors of production can lose out. For instance, the Stolper-Samuelson theorem reminds us that the factor of production used intensively in the import-competing sector will be hurt when trade liberalisation results in an expansion of the exporting sector and a contraction of the import-competing sector. Owners of sector-specific factors of production (or

more generally of productive inputs whose internal mobility between sectors is restricted) are likely to suffer capital losses if increased openness shifts demand away from the sectors where these inputs have been 'sunk'. Only if the government has a sufficiently rich arsenal of internal redistribution instruments and compensation is actually paid, is increased openness assured to improve the welfare of all.

The ability to impose tariffs is increasingly restricted by international agreement and treaty. National governments may also not possess, or to be able to administer effectively, either the corrective tax and regulatory instruments or the domestic redistribution instruments to turn a potential welfare gain into an actual Pareto-improvement. Under these conditions, a further problem associated with increasing internationalisation is that winners and losers will often belong to different national jurisdictions. The new trade theories, emphasising imperfectly competitive behaviour, product differentiation, static and dynamic scale economies and cumulative conglomeration or agglomeration processes, suggest that without effective international compensation and assistance, enhanced economic integration may make an entire nation worse off, even if it produces a potential welfare improvement for the world as a whole. Compensation mechanisms and assistance are, however, generally defined and financed on a strictly national basis. There may be a future role for the WTO, or other international arrangements, in addressing the international distributional consequences of increasing economic interdependence.

One key implication of increasing internationalisation is that change will come with greater frequency and enhanced severity. There will be fewer and fewer 'non-traded' or sheltered sectors. There can be no doubt of the increasing importance of the ability to react flexibly and constructively to external change.

Another important implication of increased internationalisation is that it creates pressure for increased investment. Chasing an ever-changing dynamic comparative advantage is a resource-intensive business. Both defensive restructuring and strategic investment in newly emerging technologies and industries require enhanced

accumulation of physical and human capital. It is also essential, of course, that there be no artificial obstacles to the flexible operation of factor and product markets and to the reallocation of human and other productive resources from declining to expanding sectors. The quality or productivity of any investment will depend on the efficiency of the key input and product markets and on the quality of the internal resource allocation mechanisms of enterprises, the ‘*micro* command economies’ that are crucial to overall economic performance, even though the *macro* command economy has been relegated to the scrap heap of history.

Markets and mixed economies

There is now virtually universal agreement that economic relations among enterprises, between enterprises and consumers, workers and owners of other productive inputs and between savers and investors are best mediated through markets.⁸ This consensus is not due to the fact that the world at large has, at last, understood the first and second fundamental welfare theorems⁹ or has concluded that, in the debate between Lange-Dobb-Lerner and von Mises-Hayek, the latter had, belatedly, won the logical argument¹⁰.

It was the accumulation of experience with the failings of over-ambitious government. This arose in different places at different times and in different ways, but the disillusion with government performance rose particularly rapidly in the 1970s. This was manifested politically in the 1980s in the UK and USA with the Thatcher and Reagan administrations. And the most powerful evidence came from the brutal experiment performed by history on the centrally planned economies of East and Central Europe and of the Soviet Union (now the FSU), which made it clear by the 1980s that central planning was incapable of producing sustained increases in standards of living beyond relative modest levels. Slightly milder forms of similar experiments had been performed at various times from the Fifties until the late Eighties in

large numbers of Latin American countries pursuing inward-looking, populist policies, in much of Africa, in the Middle-East, in India, Indonesia and the Philippines (see *eg* Dornbusch and Edwards (eds) (1991), Lago (1991), Thomas, Chibber, Dailami and de Melo (eds) (1991), Easterly, Bruno, Fischer, Helpman, Liviatan and Meridor (eds) (1991), Sachs and Larrain (1992) and Rodriguez and Schmidt-Hebbel (eds) (1994); for the post-Communist experience of some transition economies see Balcerowicz (1993, 1994)). The experience of Chinese agriculture in the period 1979—83 provides a huge example of the dramatic increase in productivity, from some basic (and no doubt imperfect) reforms that tied private effort to private reward.¹¹

This consensus in favour of markets coexists with a much greater degree of understanding of the prevalence and significance of market failure (and of its causes, consequences and cures). The reconciliation of these two *prima facie* contradictory insights comes from recognising that not every market failure has a non-market cure and that the very same conditions making for market failure often make for government failure also.

To agree on the superiority of markets over central planning does not, however, end the debate over the role of government. First, ‘markets’ can mean many different things, from Hong-Kong neo-liberalism *via* American corporate capitalism and the West-European social market economy to the large oligopolies of Japan and Korea.

Second, without effective government there can be no effective market system. The government will always have a substantial role in setting and enforcing the rules of the market game and in regulating economic activity in general. It is self-evident that government influences the nature of the market system in many ways: from the nature and quality of the legal system and the courts, through competition policy, regulation, and public procurement to the provision of a stable currency. Even holding constant these institutional and microeconomic functions of the government, the operation of a market economy is influenced powerfully by the government’s fiscal, financial and monetary actions and rules. Fiscal

policy has long-run real effects on after-tax real interest rates and the real exchange rate. It also has transitional effects on the degree of capacity utilisation and the rate of unemployment. Monetary policy influences real interest rates in the short run, nominal interest rates in the short run and in the long run, and the rate of inflation in the medium and long run. Government borrowing in the domestic financial markets ‘crowds out’ domestic investment and other interest-sensitive private expenditure, unless the domestic financial markets are perfectly integrated with the world market and the country in question is small. Unsustainable fiscal-financial-monetary policies lead to high and volatile inflation and impair the efficient functioning of the price mechanism. They also tend to be regressive, both while they are allowed to fester and when, ultimately, painful corrective measures have to be imposed to restore solvency and sustainability. Governments therefore influence (and often set) the rules under which markets operate. They also, as major purchasers or sellers in a broad range of markets for goods, factors and financial instruments, influence prices and transactions volumes in these markets. Finally, through the tax-transfer and subsidy mechanisms, a government indirectly influences the behaviour of private transactors even in those markets where it does not operate as a buyer or seller itself. Even the most market-oriented economic systems are therefore *mixed* economies.

In areas of direct activity (public sector employment, the provision of public goods and services and redistributive spending) as well as in the financing of these and other activities, the role of the government will and should not be negligible.

The size of the government sector

Attempts to influence the size of government, conventionally measured by spending or revenues as a fraction of GDP, often have negligible effect. This observation is underlined by the fact that after 16 years of Conservative administrations (from 1979) in the UK, the general

government in the fiscal year 1994/5 still spent the equivalent of 43% of GDP and raised 37% of GDP in revenues (35% of GDP in taxes). The corresponding figures for 1979 were 41% of GDP for general government spending and 38% of GDP for revenues. While these figures do not support the conclusion that the political complexion of the government makes no difference to the size of the government sector, they do support the conclusion that it is very hard indeed to achieve lasting, sustainable reductions in the size of the public sector.

The decline of government revenues in some early transition economies

The question of the appropriate size of the government confronts different countries in very different ways, depending on initial conditions, economic structure and a host of internal and external political and economic circumstances. The determination of the level of current revenues required to finance, without undue recourse to the inflation tax, the minimal level of public expenditure required to discharge the irreducible roles of the state and to sustain political and social cohesion, is a rather imprecise and subjective science. A case can nevertheless be made that, in a number of transition countries in the earlier stages of transition and that have not yet succeeded in achieving macroeconomic stabilisation, government revenues are falling to dangerously low levels.

The conceptual and measurement problems in characterising pre-transition revenues are severe but they were surely of the order of 60% of GDP or higher.¹² While the transition, of its essence, should involve a reduction in revenue and expenditure, the fall in revenue has been far more rapid than that of expenditure, leading to the problems of rampant inflation that these countries have faced.¹³ For aggregate general government post-transition revenues for some countries from the former Soviet Union, see Table 1.¹⁴ In some countries the revenues

are falling to levels which threaten the functioning of even the barest 'night watchmen' duties of the state and a key priority of the state under such circumstances is to strengthen its revenue base and improve the tax collection effort.

The decline in revenues can be attributed in part to a decline in the traditional tax bases and in part to a decline in the government's ability to extract revenue from any given base. The decline in the traditional tax bases, mainly taxes on turnover and enterprise profits, mirrors the sharp decline in output that has occurred, without exception, in the early years of the transition. In several of the East European countries the cumulative (measured) output decline over the period 1990—1992 ranged between 20% and 40%.

Equally important has been the weakening of the government's institutional and administrative capacity for collecting such key traditional revenues as the business profits tax. Under central planning, the tax on state enterprise profits was effectively a business withholding tax. With the government setting input and output prices, the tax authorities had direct knowledge of and access to state enterprise profits. Transferring these profits to the centre was essentially a simple accounting transaction. The unified ('mono-bank') banking system further facilitated tax collection by centralising relevant information. Privatisation of state enterprises, the break-up of the old mono-bank system, private banking sector and price liberalisation made for a dramatic reduction in the quantity and quality of the information available to the centre concerning of the former state enterprises and worsened the administrative capacity of the state for transferring revenue from the enterprises to the centre.

It remains a serious challenge in virtually all transition economies that much of the new private sector falls outside the net of the enterprise profit tax altogether. Tax compliance is generally poor. Avoidance and evasion are rife. The difficulties are not confined to profits taxes. The rise of the private sector in retail and administration increases the difficulty in collecting the sales and turnover taxes.

The common tolerance for poor tax compliance is boosted by the frequently arbitrary nature of assessments and by the many distortions in the tax system that make for inefficiencies and inequities. For instance, high inflation in Poland in 1990 (586% per annum), combined with historic cost accounting and the taxation of inventory-valuation profits, meant that accounting profits for tax purposes wildly overstated true profits (measured, say, on a cash-flow basis). This provided the government with a (strictly temporary) revenue boost and saddled the enterprise sector with a sometimes crippling tax burden. The next year, inflation declined (to 70% at an annual rate) and with it the revenues from the enterprise profit tax disappeared (see Schaffer (1992)).

This collapse of the ability to collect taxes is not confined to the transition economies of Eastern Europe and the FSU. In China (an admittedly rather unique kind of ‘transition economy’), local and national government tax revenues were around 9% of GDP (according to an estimate in the Wall Street Journal¹⁵) or 12% of GDP (according to an internal IMF estimate) in 1994, compared with 31% in 1978 when market reforms began to be introduced.

The seriousness of the problems that arise when the central government cannot secure adequate revenues to perform its essential functions becomes apparent when we consider the history of the demise of the former Yugoslav Republic. The refusal of some of the key Republics to adequately fund the Federal government, and the inability of the Federal government to raise revenues in recalcitrant republics without their co-operation, was a key element in the death of the Federal state. While there doubtlessly was two-way causation between the disintegration of the state and the collapse of the government’s ability to tax, the conclusion that the ability to raise adequate revenues is a defining characteristic of any viable state is surely robust.

That is the bad news. The good news is that it is not impossible to extract the resources required for an effective functioning of the general government without excessive distortions, without excessive

recourse to the inflation tax, without harming growth and without violating common standards of equity. Both economic theory and practical experience support this assertion. There is now, in addition to the reservoir of theoretical knowledge and practical experience with the design and administration of tax systems in advanced industrial countries, a growing body of knowledge on the special problems and issues associated with designing and administering an effective tax system in developing countries (surveyed *eg* in Newbery and Stern (1987) and in Burgess and Stern (1993), World Bank (1991a)) and in transition economies and countries in post-chaos/post conflict situations (see *eg* Gil Díaz (1987), Bagchi, Bird and Dasgupta (1995), IMF (1995a), and Tanzi (1992, 1993)).

The responsibilities of government in the market economy¹⁶

That the size of government *should not* be negligible becomes evident when we think more systematically about the essential tasks of government in a market economy. This will also highlight the fact that the importance of government is not captured well by its share of employment or GDP, by the magnitude of its total spending programme or by the revenues it raises. The key issue (and problem) is the integration and harmonisation of the functions of government and market, recognising their essential complementarity.

The continued presence of a sizeable government sector even in the most market-oriented economic systems should, *per se*, neither surprise nor worry us. However, before any task is assigned to the government, it must be established exactly what it is that government can do that the private sector cannot, or not as well. As a rule it makes sense to be sceptical (or at any rate questioning) whenever policies or interventions are advocated whose success depends crucially on the government having better information, superior motivation or management capability, or higher moral standards than the private sector. To state this is not to take a cynical view of the motivation of those engaged in public service. For instance, it does *not* attribute a greater tendency to self-serving behaviour to public servants than to the public at large. All it does is put a question mark behind the automatic assumption of sustained disinterested behaviour by public servants. There are, of course, many examples of individual public servants and even of groups of civil servants who have been engaged in disinterested sustained efforts in the pursuit of some widely accepted notion of the common good. It is hard to explain in any other way the success of the National Health Service in the UK (at least before the Thatcher reforms) and the, in many ways, remarkable performance of the fire services in that same country. It is also clear, however, that a public service that relies overwhelmingly and exclusively on the sense of civic duty of its employees, or on 'moral incentives' generally, is bound to be vulnerable and fragile. When the opportunities for private gain at

public expense, whether through still-legal rent seeking behaviour or through outright corruption, become too attractive, and the pressures for private enrichment mount, the odds lengthen against the public servant and the public sector serving the public good.

We should never lose sight of the inescapable agency problems that crop up whenever a task is assigned on behalf of a principal (the citizens) to an agent (the government) whose interests and objectives need not be coincident with those of the principal. The individuals, groups and agencies that are charged with performing the functions of the state have their own agendas, possess insider (private) information and cannot be monitored continuously and closely. The omnipotent and benevolent social planner of normative economics has no more reality than the benevolent unaided invisible hand of libertarian lore. It is therefore advisable, just to give one example, not to encumber the administration of the state with the task of picking winners among firms or industries. More generally, it is difficult to make a case for an entrepreneurial role for the state.

A prominent structuralist thinker like Albert Hirschman (1981), eloquently illustrates government failure in the following way:

In Latin America, new, more difficult tasks were continuously presented to the state and society, *whether or not* the previous tasks had been successfully disposed of. Indeed it almost seemed that the less satisfactorily a previous task had been grappled with, the greater was the jump in difficulty of the new task and the sooner it was introduced. (p.122)

What makes the public sector unique is that the state has the monopoly of the legitimate use of force in the sense that it, uniquely, has the power to prescribe or to proscribe actions by physical or legal persons. There is an argument, therefore, that the state should act when the solution to a problem requires the involvement of an agent with the power to compel the behaviour of others because voluntary exchange or bargaining is not sufficient to arrive at efficient or equitable outcomes.

In societies governed by the rule of law, the government's monopoly of the legitimate use of force — its power to coerce — is reflected in the following three competencies: (1) the power to tax, that is, the power to extract payment without a *quid pro quo*; (2) the power to legislate and to enforce, that is, to prescribe or proscribe behaviour, and (3) the power to declare one or more of its liabilities to be legal tender. In view of this, a minimalist view of the role of the state could hold that unless the solution of a problem requires at least one of these three competencies, there is no *prima facie* reason for the state to get involved, and, from this perspective, the burden of proof falls on those advocating a role for the state.

Arguments for a more encompassing role for the state in economic affairs (and in the life of the polity in general) often start from a more organic view of the state and a less dichotomous view of the relationship between state and individual than has been maintained in the discussion thus far.

The state, the individual (or the family, or the household) and the commercial enterprise are connected through the web of 'civil society': the nexus of myriads of voluntary associations and organisations that influence virtually every aspect of our personal and professional or business lives. They include temples, churches, mosques and synagogues, political parties, trades unions, professional associations, NGOs of all descriptions, lobbies for all number of causes and interests, charitable and other not-for-profit organisations, sports clubs, the temperance movement, neighbourhood watch, consumer associations, citizen's advice bureaux, ombudsmen, the boy scouts, the extended family and many others. Clearly, it is often hard to determine with any degree of precision where the state ends and civil society begins. To take the UK as an example, where do Quangos (quasi-autonomous non-government organisations) belong, such as the Arts Council and the various regulatory bodies that have been created as privatisation has gathered pace since 1979? Where do we put the National Lottery and its regulatory body? What of the Church of England and other 'established' or state churches? Theocracies the

world over and throughout history have denied the relevance of the distinction between church and state. When we think of the state and the individual not as a simple dichotomy but merely as the two extremes on a continuum of modes of association and social interaction, the model of a minimalist state is less likely to recommend itself.

It is also true that the state can bring together or unify its citizens and focus them on particular issues or activities without any direct or overt use of the three competencies mentioned above. Often, but by no means always, the state is identified with a nation and the nation with a culture. This makes the state a natural guardian or custodian of that culture (and of the nation), a role that brings with it a range of duties, tasks and obligations. An open question remains, however, as to the extent to which this role of the state as a natural national focal point is, ultimately, derived from its power to coerce.

Whatever one's view on the appropriate tasks to be performed by the government, it is evident that there have been (and continue to be) important differences in the effectiveness with which governments in different countries, with distinct cultures and varied histories, discharge very similar tasks. It is important to try to learn from the more successful government bureaucracies and to determine to what extent superior organisation and practice are culturally and historically transferable.

It is probably non-controversial to assert that there is no *prima facie* case for the government as a producer of pure private (rival and excludable) goods and services that do not give rise to external effects. Examples include cars, bread, electricity, coal and steel. Even with 'impure' private goods or with partial or even pure public goods, the case for public provision (production and distribution) is often weak, although a *prima facie* case for some government intervention (*eg* through direct purchasing subsidisation, taxation or regulation) may exist. For example, in the case of non-rival but excludable goods (video and audio signals transmitted via satellite but subject to scrambling at little cost), provision by properly regulated private

suppliers is likely to be more efficient than public provision. Natural monopolies (for example, rail track, electricity transmission grids, water distribution, sewage collection through pipes) call for state intervention. The optimal form of intervention may well be private ownership and operation with subsidisation and regulation rather than state ownership and public management. The choice may vary within an industry (an electricity transmission grid may be publicly owned, whereas much generation may be private) and across industries most telecommunications may be private (but subject to regulation).

Public sector production need of course involve no element of subsidisation at all. There are many examples of profitable state enterprises that make a net financial contribution to general government sector, either through the ordinary tax mechanism or through direct transfers of part of their surplus to the exchequer. Two special problems faced by public sector producers are the weakness (sometimes the absence) of incentives for cost minimisation and the special problems of political pressures on public sector pricing. When prices are set directly by the government, they are likely to become the subject of popular discontent (as in the case of food prices) or of lobbying by sectional interests (as in the case of the water and electricity prices paid by agricultural producers). Of course, such pressures do not disappear if production is private and prices are market-determined. Instead they are transformed into calls for subsidies and other forms of assistance. Nevertheless, calls for intervention through subsidies in a reasonably transparent market are likely to be easier to resist than calls for favourable public sector pricing decisions when the government *is* the market.

Pressures for containing costs in public sector producers are likely to be more effective when the public producer operates in a competitive market environment for which a regulator or overseer can establish reasonably objective yardsticks for costs and rates of return (see Vickers and Yarrow (1988, 1991)). While this is not enough to establish the desirability of public sector production, it does provide a way of improving public sector performance.

The upshot is that in a well-functioning market economy, one would expect to see only a small non-financial state enterprise sector and a financial state sector restricted to little more than the central bank. The productive role of the *general government* sector would include *intermediate* public goods and services such as public administration, defence and law and order¹⁷ and investing resources to maintain or expand its future capacity to provide these intermediate public goods and services. For these intermediate public goods and services, ‘contracting out’ does not seem like an attractive option. Law and order and national security are examples. Private justice (‘the best judges money can buy’) is unlikely to be an idea whose time has come. Defence is an intermediate public good where private provision is unlikely to dominate public provision. A final example, and one that will be discussed at greater length in Sections III and IV, is the public intermediate good of macroeconomic stability.

When it comes to other activities currently performed by the general government sector, the distinction again becomes relevant between the government funding or subsidising certain goods or activities and the government providing goods and services themselves. There are good efficiency, distributional and merit good arguments (discussed at greater length below) for the government funding (partly or wholly) or subsidising education, health care, child protection, drug rehabilitation, the arts and the collection and treatment of garbage, sewage, and so on. These arguments do not, however, necessarily imply that these services have to be provided (produced and distributed) by the public sector. We may wish to subsidise the arts and education, but there is no automatic reason why the members of the symphony orchestra or of the teaching profession should be public servants.

The minimum irreducible tasks of government in a modern market economy and during the transition to a modern market economy include the following. Note that the arguments for government intervention include, but are not restricted to, the familiar triad, based

on standard microeconomic welfare economics of (1) enforcing the rules of the game, (2) market failure and (3) distribution¹⁸:

(i) Guarantee the *rule of law* and the internal (law and order) and external (defence) security of persons and property.

(ii) *Correct market failure*. This (Pigovian) function of the government consists in attempting to correct, through taxes, subsidies and regulation, those inefficiencies and forms of market failure that cannot, because of transactions costs such as asymmetric information, be internalised and negotiated away through private (Coase) bargains. These inefficiencies and market failures can be due *eg* to externalities, missing markets, abuse of market power and other forms of non-competitive behaviour, increasing returns, public goods and imperfect information. It is important not to be overambitious: in many instances of market failure, government failure is also likely. This is often the case when informational problems (especially those resulting in moral hazard) are the cause of the market failure. Economists of the ‘public choice’ school go further and assert that government itself is an important cause of inefficiency and market failure because politicians and civil servants have considerable discretion to pursue private sectional interests that are likely to be at odds with any reasonable notion of the common good, and use this discretion to interfere with the efficient functioning of markets in order to extract private rents.

(iii) Pursue *distributional objectives* that are not met through voluntary private redistribution, within and across generations, using taxes, transfer payments, spending programs, regulation and other administrative measures. These include the prevention, elimination or reduction of poverty and can also include a wider concern with the distribution of income. Why would individuals be unwilling or unable to voluntarily redistribute income between social groups (or generations-see point (iv) below) and at the same time ask the government to do so? Part of the answer is that government helps solve

the ‘free rider problem’ of redistribution in communities with large numbers of potential contributors and recipients. While I might be willing to pay to prevent poverty elsewhere, I would probably prefer to have someone else pay for it. Purely voluntary contributions could be depressed below the socially optimal level if distributional preferences and willingness to pay can be dissimulated. Notions of fairness, of shared burdens, also are likely to play a role. Once compulsion¹⁹ becomes part of the efficient redistributive mechanism, a role for the state in redistribution cannot be avoided. Once we move beyond the scale of small local communities with direct face-to-face contact, monitoring and enforcement, redistribution is also subject to economies of scope, scale and co-ordination. While any redistributive monopoly might do in principle, the state seems an obvious choice, although other institutions, such as the church, have in the past assumed many of the distributional functions today exercised by the state.

(iv) Enforcing the *rights of future generations* is a further item on the government’s distributional agenda. These distributional issues are often tied up with efficiency questions, including the inter-generational transmission of environmental externalities.

(v) Give expression to legitimate *paternalism*, by subsidising the provision of ‘merit goods’ like education, or through policies affecting pensions, health insurance and drugs.

(vi) Alternatively such policies can be seen as the government asserting and enforcing the rights of some or all citizens to certain facilities or goods such as education, health and housing.

(vii) *Finance public spending in a non-distortionary and equitable manner.*

The relative space given to these items in our discussion should not be seen as an indication of our judgement of any ranking of their importance. Our concern here is mainly with macroeconomic issues and thus with factors influencing levels of taxation and expenditure rather than with the details of its composition.

High global real interest rates

Real interest rates in the industrial world have been higher in the period since the early 1980s than in any interval of a decade or longer since 1850. Table 2 makes two key points. First, it shows just how unprecedented is the 5.1% level of real interest rates achieved on average in the US, Japan, Germany and the UK over the period 1981-93. Second, the ‘Keynesian era’ from about 1945 till the end of the seventies was one of historically low real interest rates, not only when compared with the 1980s and 1990s, but also when compared with the period 1850 till 1929.

The pattern observed for the real interest rate is also present for the excess of the real interest rate over the growth rate of real GDP, which, for the average for the USA, Germany, France and the UK, is negative from 1933 till about 1980, but rises to 3.0% for the period 1981—1983. During the first three years of the Great Depression (1929—32) steep declines in the general price level turned fairly high nominal interest rates into very high ex-post real interest rates. The associated painful process of debt deflation was described accurately by contemporary observers like Irving Fisher (Fisher (1932)). With real GDP collapsing, the excess of the real interest rate over the growth rate is extremely high during the first three years of the Great Depression.

From 1933 on, the industrial world can be seen to enter the ‘Keynesian era’, in which real interest rates are low both historically and compared to the growth rate of real GDP. With the interest rate persistently (if not generally) below the growth rate, the government solvency constraint fails to have any short- or medium-term relevance:

it is not necessary to generate future primary surpluses or future seigniorage in order to service the outstanding stock of public debt, no matter how high the debt-GDP ratio is!²⁰

From the budget constraint of the consolidated general government and central bank (henceforth the government), it follows that the change in the government debt-GDP ratio over some period is the sum of two components. The first, representing the ‘intrinsic’ debt-GDP dynamics, equals the debt-GDP ratio at the beginning of that period, times the excess of the real interest rate over the growth rate of real GDP during that period. It shows whether the cost of meeting that period’s contractual interest obligations exceeds or falls short of the growth in the government’s ability to service the debt. The second component represents the ‘discretionary’ component of the increase in the debt-GDP ratio. It is the government sector’s primary (non-interest) deficit as a fraction of GDP, *minus* seigniorage (new issues of government base money) as a fraction of GDP.²¹

For example, ignoring seigniorage, the debt-GDP ratio will come down when real GDP growth exceeds the real rate of interest, as long as the primary deficit is smaller than the outstanding stock of debt times the excess of the growth rate over the rate of interest²². Table 2 makes it clear that the days of deficit financing without pain are gone. With real interest rates above the real growth rate in all but a handful of very fast growing economies, the government solvency constraint has become a real, binding constraint on the ability of governments to pursue spending objectives, whatever their motivation. In the same way, the national solvency constraint too became binding in a very visible and tangible way for a large number of highly indebted developing countries during 1981/82.

In the long run, in a financially closed economic system (*eg* the world economy as a whole), the real rate of interest balances planned saving and planned investment. In the short run, monetary policy may have a powerful impact on the real interest rate because of the presence of nominal price and wage rigidities. Also in the short run, variations in the level of economic activity may, through the Keynesian multiplier

mechanism, balance planned saving and planned investment at rates of unemployment and capacity utilisation that can depart significantly from their 'natural' levels. Abstracting from these short-run, cyclical considerations, the real interest rate in a financially closed system is, in the long run, governed by the classical forces of thrift and productivity. A financially open economy can pay for an excess of domestic capital formation over national saving by running an external current account deficit, that is, by borrowing from abroad; it can dispose of an excess of national saving over domestic capital formation by running an external current account surplus, that is, by investing abroad.

High and/or rising equilibrium real interest rates need not automatically be a cause for concern. It all depends on what causes them.²³ There are 'good news' increases in the real rate of interest, reflecting buoyant investment demand outstripping even a robust and healthy saving performance. There also are 'bad news' increases in the real rate of interest, reflecting a disappointing and inadequate saving effort choking off a not necessarily spectacular investment performance.

The increase in the real rate of interest since 1980 would appear to be mainly a 'bad news' increase, reflecting a worsening in the saving performance of the industrial countries other than Japan, rather than a booming world demand for capital investment²⁴.

We do not anticipate that, in a properly managed world economy, the demand for capital by the industrial world would decline in the years and decades to come. If the benefits from increased global economic integration are to be widely shared by workers, owners of capital and consumers in the industrial world, significant restructuring will have to take place in the industrial countries. As noted already, both defensive and strategic restructuring require capital formation, broadly defined. If the New Industrial Countries are to continue on the successful road trod by a number of South East Asian and more recently by some Latin American countries, their demands for capital are also bound to remain buoyant. Successful completion of the transition in Eastern Europe and the FSU will require a substantial

physical capital formation in these countries, given the prevailing imbalance between the high quality of the human capital and the often decrepit state of much of the industrial capital stock and of the physical infrastructure. If the hitherto unsuccessful developing countries are to join the community of fast growing nations, they too will have to experience a significant increase in their capital formation rates (both physical and human). And the two largest countries in the world, China and India, are following ambitious programmes involving rapid growth, liberalisation and restructuring which are likely to require high investment.

Realising the legitimate ambitions of a growing world population for a sustained and high growth rate in standards of living is likely to require a significant increase in the global rate of capital formation. Unless there is a matching increase in the global saving rate, the *ex-post* reconciliation of *ex-ante* inconsistent investment and saving plans will occur through high real interest rates crowding out capital formation.

While some contribution to this required increase in the global saving rate can come from the transition economies and the developing countries, the only realistic source of major additional saving is the industrial world, at least in the next decade or so.

Saving behaviour in the transition economies is likely to be subject to a number of influences pulling in different directions. Under the previous (communist) regime there was a pervasive socialisation of risks, with the government guaranteeing employment (thus eliminating (open) unemployment risk) and fully funding (and providing) health care and disability compensation. With the collapse of communism, households are faced for the first time with the risk of unemployment, with low and time-limited unemployment compensation and with reduced public provision and financing of health care and disability compensation. The need for private provision to cope with these risks therefore arises, with clear implications for saving behaviour²⁵. With incomplete risk markets, the accumulation of a stock of liquid financial assets provides a (second-best) way of providing for a rainy day (purchasing rainy day insurance would be first-best). Such

‘precautionary’ saving behaviour has been shown to be quantitatively significant in the industrial countries, and there is no reason to believe things are any different in the transition economies.²⁶

This would in part be reflected, in the transition economies, in attempts to build up the ratio of financial wealth to income. Given the highly imperfect financial and capital markets faced by private savers in transition economies, and a wish to provide for retirement, there is likely to be a perceived need to restore the financial wealth/income ratio to more prudent levels than those inherited from the early transition phase. Note that under communism, private financial wealth (which consisted mainly of foreign and domestic cash holdings and bank deposits) was already very low in relation to income, and that much of the financial wealth was destroyed in the near-hyperinflations of the first phase of the transition. With the growth of the market economy we should expect a significant build-up of private financial wealth (including equity in residential housing) toward levels (in relation to income) typical of the industrial market economies. Such stock-correction effects may well be significant.

With a relatively unsophisticated financial sector, it is often impossible for households to borrow in order to acquire the funds to make the minimal downpayment for a housing purchase or for the purchase of some other big-ticket consumer durable. The inability to collateralise these consumer assets and the limited domain of secure transactions generally mean that households will have to save for some time prior to a planned ‘lumpy’ or indivisible durable purchase in order to build up the liquid balances necessary to make the down payments. Improvement in the collateraliseability of real estate and moveable property reduces the need to save up prior to making durable purchases. Thus the elimination (or mitigation) of a capital market imperfection could lead to a reduction in the saving rate.

Against these can be set a negative effect of successful transition and structural adjustment on the saving rate, likely to come through the ‘permanent vs current income’ channel. The mechanism is that a higher anticipated growth rate of future real income will raise

permanent income above current income. For standard life-cycle/permanent income reasons this would depress private saving rates. Another way in which successful transition, stabilisation or structural adjustment affect private saving rates is through the reduction in the volatility and uncertainty concerning future income streams that it engenders. This will tend to lower precautionary savings.

Demographic developments differ greatly between the ‘youth-deficit’ countries of EE and the European parts of the FSU and some of the Islamic FSU countries. The saving implications of these demographic differences are likely to be important in the former group and they are likely to limit possibilities for raising saving.

On balance, it seems likely that socially desirable investment programmes in NICs, developing countries and transition economies will outstrip these countries’ domestic saving capacities. Significant and persistent current account deficits for the aggregate of the non-industrial world will therefore have to be financed by an excess of industrial country saving over industrial country domestic capital formation. If an appropriate industrial country *full-employment* current account surplus fails to materialise, one of two things will happen. Either financial autarky will be imposed on the would-be capital importers through higher real interest rates and international credit rationing, or a recession in the industrial countries will weaken their investment demand to such an extent that the *low-employment* current account surpluses of the industrial countries can fund the financial deficit of the rest of the world. Both these scenarios are unattractive. It is up to the industrial countries to accomplish the OECD-wide switch in the monetary-fiscal policy mix, towards a more restrictive budgetary stance and a more expansionary monetary stance, that is necessary if the industrial world is to generate larger full-employment current account surpluses.

Given the mixed prospects for savings behaviour in the transition economies and in the developing countries in the absence of policies specifically designed to raise national saving rates, what are the available policy options? Past research has not documented any

significant sensitivity of aggregate private saving to its real after-tax rate of return. If this empirical regularity continues to hold, we must be looking either for policy changes or other exogenous events that raise public saving without a corresponding reduction in private saving or for developments that shift the private saving function, that is, raise the amount saved by the private sector at any given rate of return, for a given level of public saving. A number of policy options (most of which can be applied throughout the world), are considered in Section V below.

III THE IMPORTANCE OF MACROECONOMIC STABILITY

Macroeconomic stability is an intermediate public good whose provision cannot be contracted out to the private sector. Not only is its financing the natural province of the state, producing or providing it is one of the inescapable responsibilities of national governments and international agencies and institutions.

Macroeconomic stability — causes, consequences and cures

Macroeconomic stability matters because uncertainty impairs economic performance across the board. Macroeconomic instability contributes significantly to the uncertainty faced by enterprises and households (as workers, as savers/portfolio holders and as consumers). Elsewhere we have written at length about macroeconomic instability—its causes, costs and cures (see Buitier, Lago and Stern (1995)) — so we shall be relatively brief here. In examining the costs of avoidable macroeconomic instability, it is necessary to consider the implications of loss of control, the damage inflicted by corrective stabilisation policy measures necessitated by prior loss of control and the cost of policy actions intended to forestall future loss of control. All IFIs have an interest in these issues. Several of them, such as the IMF and the World Bank, play an important role in macroeconomic adjustment programmes for individual countries. Others, such as the WTO and its predecessor the GATT (and also the IMF), play a key role in designing, monitoring and enforcing international rules of conduct that can reduce the risk of negative-sum national policies being adopted by member states.

There are two distinct kinds of macroeconomic instability that can have a major impact on microeconomic performance. The *first* concerns global systemic failure and the ensuing collapse of effective demand and economic activity. The Great Depression of the Thirties is the prime example of such a catastrophic development. Fortunately, such systemic co-ordination failure is as rare as it is serious. In our view, both globally — through institutions like the IMF, the BIS, the G-7 or the OECD — and at the regional and national levels — through multilateral agencies, national governments and central banks — the knowledge and the means are, in principle, present to cope with this particular contingency. Even in the absence of cataclysmic global economic disaster, there is a role for international policy co-ordination and co-operation to internalise the international spillovers from national macroeconomic policies. Exchange rate surveillance, as

practised by the IMF is one expression of this recognition of interdependence and co-dependence. The collective monitoring of the performance of EU member states *vis-à-vis* the Maastricht convergence criteria (for inflation rate, interest rates, the exchange rate, public debt and public deficits) is another example of a collective institutional response to the perception of spillovers and international externalities. The debt crisis of the 1980s provides another example of a systemic macroeconomic problem. Its origins can be traced to national macroeconomic mismanagement, both in the creditor countries of the industrial world and in the indebted developing countries, following the oil price shocks of 1973 and 1979 and the resulting need to ‘recycle’ the current account surpluses of the oil exporting countries. International financial markets, commercial banks, national economic policy makers and some of the IFIs overestimated the extent to which the low (ex-post) real interest rates of the seventies would persist into the future and underestimated the likelihood of sovereign default.

The *second* kind of macroeconomic instability concerns unsustainable fiscal, financial and monetary policy programmes. It often manifests itself through outright inflationary financing or else through a significant rise in the public debt-GDP ratio without a commensurate increase in the government’s capacity for generating sufficient future primary (non-interest) budget surpluses. The ‘technocratic’ costs of achieving and maintaining macroeconomic stability are probably not very high — just the salaries of the (non-corrupt) central bank and Treasury officials in charge of the design and implementation of macroeconomic policy. The political costs of eliminating the real resource appropriation patterns associated with high inflation and non-transparent budgetary and quasi-budgetary procedures represent the real obstacles to change. High and rising inflation, occasionally even exploding into hyperinflation, results when domestic and international markets are unwilling to absorb monetary or non-monetary debt in quantities sufficient to finance the government’s budget deficit in a non-inflationary manner.

Moreover, as the Mexican crisis of 1994—95 shows, high inflation can also be the ultimate outcome of a sequence of events that starts with an unsustainable increase in externally financed private sector spending and culminates in a banking and foreign exchange crisis with large private losses which eventually lead to government budget deficits or quasi-fiscal deficits if these losses are subsequently underwritten (wholly or in part), by the public sector. The anticipation of the likelihood of an eventual public sector bail-out of course helps make this chain of events more likely. Improved supervision of domestic financial institutions (especially banks), a credible commitment not to bail out domestic or foreign investors and financial institutions, and controls on capital inflows, are the only policy options capable of forestalling such crises.

Increased recourse to the inflation tax in the face of an otherwise unfinanceable public sector deficit is unlikely to provide a lasting solution to the problem of an inconsistent fiscal-financial-monetary programme. The amount of real resources that can be appropriated through the ‘inflation tax’ is limited and will ultimately decrease when the rate of inflation becomes sufficiently high²⁷. This ‘seigniorage Laffer curve’ reflects both direct international currency substitution (away from the local currency and towards hard currencies) and a shift into domestic non-monetary assets that are better hedges against inflation. The ability to avoid the inflation tax is unequally distributed: the inflation tax, in addition to being inefficient, strikes strongly at the poor and the weak, who are less able to avoid the tax by switching their portfolios towards domestic and foreign assets that are better hedges against inflation. Very high inflation may furthermore increase the primary deficit, *ie* the fiscal deficit excluding interest payments, through the so-called Olivera-Tanzi effect, resulting from delays in settling tax obligations when these are not properly indexed to inflation or subject to an appropriate interest penalty.

When the government or the country at large are (*de facto*) rationed out of the domestic and international financial markets and when the limits of the inflation tax have been reached, a crunch is

unavoidable. Public and private spending will have to be slashed, revenues will have to be increased, or there will have to be default on outstanding debt. Such corrections are both unavoidable and painful. The external manifestations of retrenchment are import compression and the shifting of production of tradable goods towards exports rather than towards domestic absorption. The necessary reduction in domestic absorption typically leads, at least in the short run, to a contraction of production and an increase in open or hidden unemployment. Two points must be made about the costs associated with macroeconomic tightening. First, it makes no sense to criticise governments, or those IFIs that may advise them, for taking corrective action. The necessity to adjust arises from unsustainable policies. Second, there always is a non-trivial domain of choice as to the composition of the policy correction. There is choice about which spending categories to cut, about which taxes to raise, and about which category of debt to default on or reschedule. There may also be flexibility on timing, although this will depend on the co-operation of external agents and on the perceptions of markets.

Aggregate evidence on the relationship between macroeconomic instability and economic growth

Over the last three decades, low or moderate inflation and reduced macroeconomic distortions (such as over-valued official exchange rates) have been characteristics of fast-growing economies, as can be seen in Table 3. Conversely, economies with a poorer growth record have also experienced higher inflation and stronger distortions.

Nevertheless, the time-series and cross-sectional evidence on the relationship between macroeconomic stability, on the one hand, and microeconomic efficiency and growth, on the other, should be interpreted with care. Both macroeconomic and microeconomic performance are endogenous. There may be no straightforward causal interpretation of the correlation between the two or the incremental

predictive content of the one with respect to the other. The possibility of two-way causation — and even of common third factors causing both — is especially relevant at low and moderate rates of inflation. When annual inflation begins to run in the hundreds or when monthly inflation rates get into double digits, there can be little doubt, however, that macroeconomic malfeasance depresses growth and lowers allocative efficiency. Referring to the experience of a group of very high inflation, middle income countries, Bruno states:

The fact that growth is systematically higher after a sharp stabilisation is consistent with the finding that very high rates of inflation are definitely harmful to growth. Stabilisation by itself, even before sustainable resumption of investment and long-run growth, improves resource allocation and total factor productivity. (Bruno, 1993)

Support for this proposition can be found in a large number of case studies (*eg* Cooper, Corden, Little and Rajapatrana (1993), Corden (1990), Bruno, Fischer, Helpman, Liviatan and Meridor (eds) (1991)).

On the other hand, at lower rates of inflation (say 15% a year or lower) there is less evidence of any clear pattern of covariation between inflation and growth or between inflation and other observable indices of efficiency, such as total factor productivity. Much of the relevant evidence is surveyed, discussed and extended in Fischer (1991, 1993). These conclusions are confirmed in a recent paper by Robert Barro (Barro (1995a)), which finds that the empirical evidence from more than 100 countries over a period of 30 years suggests that the adverse effect of inflation on growth is clear only when inflation is high: the estimated coefficient of growth on inflation is statistically significant (albeit small ²⁸) when inflation averages more than 15% per year. The estimated coefficient of growth on inflation is not statistically significant when inflation averages less than 15% per annum.²⁹³⁰ Thus, in speaking of the damaging effects of inflation on performance, one must be clear that it is the high rates of inflation that are at issue.

Macroeconomic instability and enterprises

Technology, the quantity and quality of material inputs and outputs, and the skills of labour and management, are clearly essential to enterprise performance. However, the macroeconomic environment surrounding the enterprise is no less relevant. Comparable projects and enterprises perform very differently in countries with differing macroeconomic and regulatory frameworks (see *eg* Kaufmann (1991) and World Bank (1991b)). If these frameworks provide stable signals and low transaction costs, the quality of enterprise decisions, and thus the odds of success, improve. Any factors influencing the cost to firms of entering into contracts (be they implicit or explicit, market-mediated or administratively determined, repeated or one-off, with outsiders or with insiders) and of monitoring and enforcing them, will affect enterprise performance. The macroeconomic environment is an important determinant of the *transaction costs* incurred among themselves by the parties that are stakeholders in the enterprise, and by the enterprise itself in its market-mediated transactions with other enterprises, households and other customers or suppliers.

The mechanisms linking inflation to microeconomic performance can be spelled out more explicitly as follows. At a qualitative level, the connections are reasonably well understood³¹. The costs associated with fully anticipated inflation are ‘shoe-leather’ costs (borne mainly by households) and ‘menu costs’³² borne mainly by firms. They fall into the ‘probably true but surely unimportant’ category. If there were no other costs associated with inflation, no-one would be deprived of sleep because of it.

More important is the empirical fact that high inflation tends to be associated with (i) variable and uncertain inflation and (ii) relative price variability and uncertainty. The reasons for this empirical association lie partly in the nature of private and public sector wage and price-setting mechanisms — and more generally in the whole range of contracting arrangements among economic agents — and partly in the realm of political economy. High inflation is often the ultimate

monetary manifestation of unresolved social conflict about public spending and its financing. The resolution of this underlying political and social conflict is a highly uncertain process. Since complete contingent markets are a theoretical abstraction, high inflation increases the incidence of false signals, and creates confusion about the interpretation of observed price changes. How does one tell whether they are permanent or transitory? Are they relative price changes requiring an allocative response or just the 'local' manifestations of an increase in the general price level requiring no resource reallocation? By increasing the 'noise-to-signal ratio' of observed price changes, inflation therefore impairs the allocative efficiency of the price mechanism.

Inflation (especially high and uncertain inflation) and the anticipation of (eventual) future fiscal and monetary policy actions to control inflation increase the uncertainty of the economic environment within which private agents make production and investment decisions. Future fiscal correction may directly affect business profitability if it involves changes in taxes or subsidies. Changes in public sector infrastructure investment may directly impinge on future project performance. In addition, fiscal retrenchment will tend to be associated with a cyclical decline in economic activity, a reduction in employment and a depreciation of the real exchange rate (an increase in the relative price of traded to non-trade goods), as well as with changes in other key relative prices (*eg* real wages and energy prices).

Investment involves the commitment of resources today in anticipation of future, uncertain returns. To a greater or lesser degree the decision is irreversible and the resources committed to investment projects are 'sunk'; they cannot be easily recovered or reallocated to alternative uses if the expectations of future profits which motivated the investment fail to materialise (see Dixit and Pindyck (1994)). In other words, when a firm installs a unit of capital today, it also acquires the 'put' option of reselling that unit of capital at some future date. The value of that 'put' option will be greater the higher the resale price (net of adjustment costs) relative to the current purchase price and the

greater the uncertainty surrounding the future returns to the investment. From this perspective increased uncertainty depresses investment.

There are other arguments, associated with costs of expansion in the future if plant size proves inadequate, which could point in the direction of an expanding investment in response to greater uncertainty. The argument is developed by Abel, Dixit, Eberly and Pindyck (1995) and is sometimes summarised as the 'limited expandability' effect. Whether *on balance* the response of investment to increased uncertainty is positive or negative is an empirical issue. Regardless of whether the investment is expanded, contracted, delayed or brought forward, real economic performance worsens as a result of the increase in uncertainty as the firm (and the economy) are more likely to be stuck with excess capacity or deficient capacity. Recent firm-level empirical evidence for the US suggests that an increase in uncertainty depresses investment (see Leahy and Whited (1996)). The empirical evidence surveyed by Pindyck and Solimano (1993) suggests that investment is more likely to be delayed and depressed in the aftermath of stabilisation in high inflation countries. If the irreversibility effect dominates the limited expandability effect, it would indeed be rational for investors to exercise such a 'wait and see option' (see Dornbusch (1990)). Only when sufficient commitment to the reform process is shown and a track record is established does private investment resume strongly.

Greater caution may therefore be the rational private sector response to macroeconomic instability. This is compounded by the *financial short-termism* effect of high inflation. Private markets, for reasons that are not fully understood, often do not fully index the capital value of long-term outstanding debt but do fully index short-term interest rates. In this borrowing environment loans become inevitably very short-term. In those circumstances the long-term financing of investment may be impossible, borrowers are faced continuously with the problem of rolling over their debt and the risk of a credit crunch is ever present.

Macroeconomic instability and households

Macroeconomic instability affects households through inflation and through the likelihood and duration of unemployment. Even in those countries that have public unemployment insurance³³ programmes, the standard of living of a worker falls sharply when he or she is made redundant. Much of an individual's unemployment and labour income risk is *idiosyncratic*, that is, specific to the individual rather than general. Idiosyncratic risk is, in principle, diversifiable. Adverse selection and moral hazard problems are the reasons most individual labour income and unemployment risk nevertheless cannot be insured privately³⁴. Unemployment risk does have a common component, however, reflecting economy-wide macroeconomic developments, both cyclical and structural. Since these aggregate or common risks cannot be insured (although the income consequences for the unemployed can be), economic performance can be enhanced only by minimising the shocks that perturb the unemployment rate.

Without subscribing to the 'if it moves, stop it' approach to stabilisation policy, we accept the view that not all fluctuations in output and employment represent Pareto-efficient fluctuations in the natural rate of unemployment. Both aggregate demand shocks and aggregate supply shocks can produce (possibly persistent) deviations of the actual unemployment rate from the natural rate and of actual output from capacity output. Well-designed stabilisation policy (1) does not amplify such fluctuations through inappropriate monetary and fiscal policy actions and (2) tries to buffer and offset, to the extent possible, shocks producing deviations of the actual from the natural rate originating in the domestic private sector and abroad. At the very least this means letting the automatic fiscal stabilisers do their work³⁵. Allowing for predictable endogenous fluctuations in velocity when pursuing monetary targets or interpreting monetary indicators is another necessary ingredient of any well-designed macroeconomic stabilisation rule.

Inflation affects households through a number of channels. We have already referred to the ‘shoeleather cost’ of anticipated inflation. While these are likely to be negligible for low or moderate rates of inflation, very high inflation rates can divert significant resources from socially productive activities to privately rational, but socially unproductive, activities such as hyperactive financial portfolio management and rent seeking. Typically, the financial and public relations managers of enterprises become more senior and better paid than the production manager.

Imperfect indexation in the public and private sectors means that high (and uncertain) inflation is associated with major redistributions of resources from domestic currency creditors to domestic currency debtors and more generally from the economically weak and unsophisticated to the economically agile and well-connected. Since workers’ financial portfolios in developing countries are largely restricted to transaction cash balances, the inflation tax has been viewed as an outright tax on wages. The regressive nature of the inflation tax and in general the negative effects of rising inflation on real wages have been extensively documented in countries with chronic high inflation such as Argentina and Brazil (see for example Cardoso (1992) and Cardoso *et al* (1995)). A recent study for Brazil, Kane and Morissett (1993) shows, using disaggregated data by income strata, that high inflation hurts the lower and middle classes far more than the upper quintile of the population, who manage to insulate themselves from its effects by taking advantage of high real interest rates and from better — less imperfect — indexation devices to shelter their incomes.

Open inflation is neither the only manifestation of macroeconomic instability nor the only macroeconomic evil distorting enterprise decision-making and performance. The underlying and fundamental problem is the sustainability of fiscal and financial policies. Frequently, governments are able to ‘repress’ inflation for a while by borrowing heavily, mostly internationally. As Corden (1990) has emphasised, for a given budget deficit, governments often confront a short-run trade-off between monetary financing and external borrowing

(*ie* a trade-off between inflation and the current account deficit). If external finance is available, the inflationary impact of a given budget deficit can be temporarily ‘repressed’ by letting the exchange rate become overvalued. This strategy, however, may eventually lead to a foreign exchange crisis — and to the introduction of foreign exchange controls and/or outright default — and thus to a sharp adjustment of the nominal and real exchange rate and subsequent high inflation. Many of the enterprise decisions — predicated upon the relative prices and rules prevailing prior to the crisis — may have translated into investments and production processes that are no longer financially viable after the crunch. The resulting sunk investment costs impose heavy dead-weight losses on society.

Countries prone to social conflict and macroeconomic instability often embark on stabilisation attempts which they subsequently abandon following a recurrent pattern. This ‘stop-go’ policy cycle brings about sharp swings in real GDP, real wages, sales, availability of inputs and so on, introducing volatility and noise in enterprise sales and cash flows and in household income and employment opportunities.

Macroeconomic stability and economic performance in the transition economies

The special experience of Central and Eastern Europe (CEE) and of the Former Soviet Union (FSU) have generated observations that contain important lessons for the whole world, not just for CEE and the FSU.

In the 25 countries of operations³⁶ of the EBRD there has been a clear relationship between economic performance at the aggregate level and macroeconomic control. As Table 4 illustrates, those countries which have shown the strongest commitment to reform are also the ones which have simultaneously reduced inflation faster, suffered the smallest GDP and fiscal revenue falls, and witnessed an earlier

resumption of growth. The respective medians of all the indicators for each of the three groups of countries consistently depict the better performance of the faster reformers. For example, the median contraction of GDP at the trough for the advanced reformers is about one-quarter, whereas that for the early transition countries is about one-half. The same striking result applies to annual inflation, 22% versus 125%, respectively, in 1995 (the corresponding figures for 1994 were 21% and 100% respectively).

Support for the view that macroeconomic stability promotes growth by enhancing the quantity and quality of investment can be found in Charts 1 and 2, which are based on a recent survey of investors carried by the EBRD and are taken from the EBRD's Transition Report 1995. Chart 1 shows a positive relationship between the number of foreign direct investment projects in a country and an index of the degree to which several reforms considered important for a successful transition have been implemented. The relationship is non-linear, suggesting something like a threshold effect.

Chart 2 shows a negative relationship between a country's rate of inflation and the same FDI measure.

In a recent study, De Melo, Denizer and Gelb (1995) (and see also World Bank (1996)) calculate the profiles followed on average by inflation and real growth in countries in transition during the years prior to a reform breakthrough and during the years following that breakthrough. Their results are summarised in Charts 3 and 4. Radical reformers suffer an initial fall in real income of about 13% and a jump in inflation to 14% per month during the year following the 'big bang'; nevertheless, they are able to: (i) resume positive growth four years later; and (ii) control inflation to just below 3% per month during the fifth year. The typical pattern of recovery is one of rapidly expanding private sector activity outweighing the contraction in public enterprise output. A parallel structural change occurs in the sectoral composition of GDP, with the services sector increasing its share of GDP by 10 percentage points and with industry — particularly heavy industry — witnessing a similar drop of its GDP share. By contrast, the countries

that postpone reform, although they are able in the beginning to limit real income losses and to maintain low ‘official’ inflation (typically with the help of price controls), end up in hyperinflation (average rates of inflation of 23% per month) and deep depression (average yearly income losses of about 10%). The countries, particularly those in the FSU, which have seen the greatest economic and social traumas — including dramatic increases in age-specific mortality rates — are also the ones where macroeconomic control has been lost.³⁷

Clearly, in assessing the comparative data the differences in initial political, social, cultural and economic conditions should not be neglected. The countries of the FSU embarked on transition two years later than the CEEC. Furthermore, the splitting of the former Soviet Republics — the economies of which were tightly integrated and complementary — was a far more traumatic shock than that of the dissolution of the CMEA for the CEEC. Moreover, the latter countries had been functioning market economies until the 1940s, some of them even buoyant performers.³⁸ In contrast, the Russian economy at the time of the Bolshevik revolution of 1917, while growing fast, was a predominately pre-capitalist, agricultural economy. It also was a very statist economy with a high degree of state ownership and control of industry and a repressive set of institutions. A few of the transition economies (notably Bulgaria, Poland, Hungary, Russia and the Ukraine) started their transitions with a sizeable external debt. Others (notably Romania) had little or no external debt to cope with. Hungary and Poland had considerable prior experience with economic reform. Most of the others had to start from scratch around 1990.

There were also considerable differences in initial economic structure. Ukraine, Belarus and Russia were burdened with a legacy of large homogeneous state farms. Memories of the location and operation of the old family farms were more than 70 years old. This greatly complicates land reform and the recreation of a private agricultural sector. In contrast, Poland preserved private ownership in agriculture throughout the communist period and land reform in China and Albania benefited from surviving memories and identification of

private farms and farming (collectivisation having taken place no more than 40 years earlier)³⁹ and from the often smaller size and lesser homogeneity of the collective farms. As a result, land reform in Albania was virtually instantaneous. Belarus and Ukraine were also saddled with an industrial structure biased heavily towards heavy capital goods producing industries, for which post-reform market demand was extremely limited.

IV DESIGNING POLICIES AND BUILDING INSTITUTIONS TO PROMOTE MACROECONOMIC STABILITY

The uncertainties and deterrents to investment and good decision-making associated with macroeconomic mismanagement — and the ex-post dead-weight losses imposed by prior decisions based on misguided signals — apply across the economy. These uncertainties are like ‘public bads’ and macroeconomic stability, a public good. It is one of the key roles of the government in a market economy to provide this public good. In order to achieve this, institutions are required that are conducive to satisfactory macroeconomic performance. The chronicle of macroeconomic developments over the last three or four decades is laced with unsuccessful stabilisation attempts which started off with vigour, but failed to take hold due to the lack of the appropriate institutions that would provide continuity to the process. This is particularly relevant to the economies in transition which have inherited the ‘wrong’ or ‘no’ institutions and thus need to develop those tailored to a market economy. Given that a moderate degree of macroeconomic stability is a pre-condition for efficient enterprise decisions and for the productivity of investments, governments need to place at the top of the reform agenda the building of the institutions necessary to achieve and preserve macroeconomic stability. Both domestic and international institutions must be re-designed or created from scratch in order to achieve the best possible global economic performance for the next century.

Building domestic institutions

What can be done then at the national or sub-national level, through institutional development and the design, implementation and enforcement of proper rules, to avoid unnecessary inflation and unemployment and create the conditions within which the private sector can flourish and generate sustained growth? This is clearly not just a technical issue, but an exercise in political economy. It may require major institutional re-design and even a change in the political system.

One general lesson of the post-war period is the following: do not impose on a country's public administration burdens it cannot handle. The experience of the transition economies emphasizes that even if virtually all former state enterprises have been privatized,⁴⁰ there remains the enduring weakness of the general government sector (public administration). Lack of skills, lack of transparent legal incentives, inadequate pay and career structures result in rent-seeking, dishonesty and corruption. This weakness constitutes a major constraint on the speed of transition and reform.

Reforming the state

It follows from this that the transition of the state is perhaps the most important transition of all. Outside the transition economies also, there are many cases where reform of the institutions of general government should have very high priority. The possession (or early creation) of a professional, high-status and well-motivated civil service seems to be a defining characteristic of all the recent economic success stories. Of course, one should beware of confusing necessary with sufficient conditions. It is also important that the highly qualified and competent civil services be content to limit the scope of its actions and interventions to the domains outlined in Section II of this paper. A

strong but limited state is what is required. Too many countries still find themselves saddled with a weak but over-stretched, quasi-ubiquitous and interfering state.

It is vitally important that government regulation and intervention do not create huge incentives for corruption and rent-seeking. Any government regulation and intervention will inevitably create some such incentives. Price controls, rationing and licensing are all subvertible. Transparency and accountability are key to minimising the incidence and severity of these by-products of regulation and intervention.

In order to be able to provide the ‘public good’ of macroeconomic stability, the economies in transition need to develop the institutions required to perform *inter alia* the following key tasks.

Enforcing hard budget constraints

Enforcing hard budget constraints is the first rule of a market economy. Without it, liberalising markets, freeing prices and privatising state enterprises is pointless. A hierarchy of hard budget constraints can be visualised. The Government/Central Bank should impose a hard budget constraint on the banking sector, thereby prompting commercial banks to enforce hard budget constraints on their borrowers in the enterprise and household sectors. The government should also refrain from extending credit, directly or indirectly, to the non-financial enterprise sector. Any subsidies should be explicit line items in the general government budget. Note that unless hard budget constraints can be imposed on the enterprise sector, stabilisation is virtually guaranteed to go by the board. Explicit or implicit government subsidies will sooner or later show up in either the conventionally measured fiscal deficit, or the ‘quasi-fiscal’ deficit of the central bank, or the ‘deferred’ fiscal deficit (the contingent future claims on the public finances currently hidden in the balance sheets of the enterprise sector and/or the banking sector).

As an aside, it is interesting to note that governments throughout the world are attempting to impose hard budget constraints on themselves by establishing independent central banks and through constitutional amendments putting restrictions on the government's ability to borrow, spend and tax.⁴¹ While not every one of these attempts to restrict the fiscal-financial elbow room of the state makes much sense (some indeed make no sense at all), one can appreciate the sense of frustration with the government's inability to stay with long-term fiscal-financial commitments, that prompted this Ulyssian attempt to tie oneself to the mast in order to resist the siren song of 'fiscal restraint tomorrow, but a little more jam today'.

Choosing a nominal anchor and establishing price stability

In a closed economic system, the nominal anchor must perforce be an *internal* one, such as a domestic monetary aggregate, the general price level or nominal income. In an open economic system the nominal anchor can either be an internal or an external one (the nominal exchange rate). Unless full monetary union is opted for, the pursuit of an exchange rate target will, however, imply constraints on the behaviour of domestic nominal variables and instruments. Domestic credit expansion (monetary base growth net of the increase in the external assets of the central bank) cannot systematically exceed the growth of money demand at the target exchange rate. If it did the country would, sooner or later, run out of reserves and the external peg would have to be abandoned. Domestic unit cost inflation likewise cannot systematically exceed the foreign rate of unit cost inflation plus the target depreciation rate of the nominal exchange rate. If it did, the country would become increasingly uncompetitive and the credibility of the government's commitment to the exchange rate peg would be undermined. In a fundamental sense therefore, even an external nominal anchor ultimately relies for its credibility on the pursuit of prudent domestic monetary and budgetary policies. Anti-inflationary

credibility cannot be ‘imported’; it can at most be ‘borrowed’ from abroad. Ultimately anti-inflationary credibility is home-made (see IMF (1995b)).

Granted that the ultimate source of anti-inflationary credibility is domestic fiscal and monetary restraint, an open economy still has the option of pursuing an exchange rate peg (or some other rule for managing or targeting the exchange rate). This can be done through a conventional central bank or through a currency board. A currency board issues domestic currency only in exchange for convertible currencies at a fixed exchange rate. The whole monetary base is fully-backed by international reserves and is demand-driven. Small, very open economies may be advised to go for a currency board. Hong Kong in Asia, Panama and Argentina in Latin America and more recently Estonia and Lithuania in eastern Europe have been successful at stabilising inflation with the help of currency boards. One downside of currency boards is that the arrangement precludes the role of the central bank as lender of last resort in the event of a systemic banking crisis. Latvia recently was faced with this dilemma, when its main commercial bank collapsed. Argentina too found itself with its public sector hands tied in the face of a major banking crisis. The difference between a country managing a unilateral currency board and belonging to a common currency area became painfully obvious: with a common currency the common central bank has the option and the capacity of acting as a lender of last resort to banks in all member countries.

Faced with banking crises or major capital inflows or outflows, any fixed exchange rate regime other than a common currency is either unsustainable or (as with a currency board) extremely costly. A floating exchange rate (where the float can be managed or controlled, when circumstances permit) is likely to be the only realistic medium-term choice of exchange rate regime for any country that is unable to control international capital flows and unwilling to forsake the lender of last resort function of the central bank.

Whatever the regime, credibility is key: unless a particular institutional arrangement is adopted lastingly and in substance it is

unlikely to survive. Formal independence of the central bank is not strictly necessary but there is evidence that independence helps deliver macroeconomic stability and acts as a signal to domestic and international financial markets that opportunistic devaluations or depreciations of the currency are less likely.⁴²

Banking supervision

The supervision and regulation of the financial sector should be a top priority. High real interest rates and changing profitability across enterprises and sectors — both inherent to transition — can, in the absence of strong banking supervision, easily lead to non-performing portfolios. A big portion of the ‘bad loans’ will eventually be absorbed by the state.

Tax administration

The ability to levy taxes on a broad base, allowing both acceptable marginal rates and revenue levels, is key to the state discharging its obligations effectively and without recourse to the inflation tax. As noted above, in economies in transition this challenge is formidable.

Supplying the social safety net

Shifting the burden of providing the safety net traditionally supplied by state enterprises to the general government constitutes another major fiscal challenge in the transition economies. Even in the advanced industrial countries, the tension between declining active-inactive

population ratios and lower trend growth of productivity on the one hand, and on the other hand the demands made on the budget by social expenditures (especially health and pension benefits), is never far below the surface in the politico-economic debate. There is increasing recognition of the fact that the government need not supply directly the services it finances. A part can be contracted out to the private sector or the 'civil society'/not-for-profit sector. Note, however, that, except insofar as private provision is more efficient in the administration of social benefits and the provision of social services, privatisation merely changes the label on the sacrifices made by the currently active population, without reducing their nature and magnitude.

Transition economies also confront in extreme form the issue of intergenerational equity faced throughout the world. The older generations have shorter time horizons and their opportunity to accumulate wealth bypasses them in favour of skilled and dynamic younger workers and entrepreneurs able to earn high incomes in the private sector. Transition thus focuses attention on the role of the state in effecting intergenerational incomes transfers in a cost-effective way.

Coping with international capital flows

In principle, the ability to run current account deficits and surpluses is welfare-improving. A country that can lend abroad or borrow abroad can decouple domestic absorption from domestic income. International intertemporal trade permits improved consumption smoothing. Even 'pure consumption loans' — loans that do not result in increased domestic capital formation — can be welfare-enhancing as long as the constraints implied by the need to maintain intertemporal solvency are recognised and respected: the existing stock of net foreign liabilities has to be matched, in present discounted value terms, by a stream of future primary external surpluses.⁴³ In addition, foreign borrowing that finances productive domestic capital formation (domestic investment whose rate of return is at least equal to the cost of foreign borrowing)

further enhances the borrowing nation's current and future private and public consumption programme. Finally, as well as permitting international intertemporal trade, the ability to engage in international financial transactions allows international risk-sharing. Such international insurance can be obtained even without any net international inflows or outflows, with matching gross external assets and liabilities.

Granted that the ability to unbalance the current account enhances a country's opportunity set and that, with well-functioning markets and appropriate policies, there will be gains from international intertemporal trade and from international risk-sharing, it is nevertheless apparent that there have been cases in which poorly functioning markets and/or inappropriate policies have turned this potential blessing into a curse (see *eg* Williamson (1995)).

Many of the NICs, some of the Latin American countries that have successfully initiated macroeconomic stabilisation and structural reform and a growing number of the more advanced and successful transition economies, have experienced very significant gross and net capital inflows. The typical result has been an appreciation of the real exchange rate (either through an appreciation of the nominal exchange rate and/or through an increase in the domestic rate of price and cost inflation), a rapid increase in the money stock (fuelled by increasing international reserves rather than by domestic credit expansion), a financial market boom, characterised by rapidly rising stock market valuations and fast growth of bank lending and a rapid expansion in the level of domestic economic activity often driven by domestic capital formation.

Qualitatively, all these responses are consistent with a proper, equilibrium adjustment to a correctly perceived improvement in the rate of return to financial and real investment in the country in question. The appreciation of the real exchange rate (or increase in the relative price of non-traded to traded goods) could be the manifestation of a beneficial version of 'Dutch disease'. Quantitatively, however, the responses could be excessive and harmful for a number of reasons.

First, the perceived improvement in the rate of return to investing in the country experiencing the capital inflow could be based on an unrealistic assessment of the fundamentals. Financial markets, domestic and international, are subject to bouts of euphoria and gloom that at times seem completely detached from the fundamentals. In a world with incomplete markets, bandwagon effects, herding behaviour, noise traders, speculative bubbles (rational and/or irrational) can drown out the fundamentals that efficient financial markets are supposed to reflect and transmit. The capital inflows are therefore potentially ephemeral. They could be reversed suddenly, for reasons no better than the ones that prompted the original inflows. If real resources are invested and reallocated domestically in response to relative price changes whose degree of permanence is overestimated by enterprises and households, unexpected reversals of these relative price movements could inflict significant real resource costs, as capital formation and real resource reallocation is always characterised by sunk, (partly) irreversible, costs.

This problem is aggravated by the fact that domestic factor markets and markets for industrial goods and services are typically much less flexible and efficient than the international financial markets. The interaction of a floating exchange rate, determined in a reasonably efficient foreign exchange market, and domestic labour and output markets full of nominal and/or real rigidities can lead to ugly results. The example of real exchange rate overshooting, through the interaction of a flexible nominal exchange rate and sticky money wages in response to restrictive monetary policy under conditions of high international capital mobility (see Dornbusch (1976)) is familiar: anticipating the success of the anti-inflationary monetary policy, operators in the foreign exchange market bid up the value of the domestic currency. Unlike the nominal exchange rate, domestic costs and prices are not continuously renegotiated in fully flexible auction markets. When a sharp nominal appreciation meets a sluggishly responding level of domestic costs, a sharp real appreciation and loss of competitiveness results.

A further complicating factor is that domestic financial markets in reforming economies are often still in a quite rudimentary stage of development. The evaluation of the commercial merits of projects clamouring for loans is always a difficult and risky business. The capacity for screening projects adequately is often quite insufficient in countries faced with a sudden inflow of capital.

In the absence of unlimited deposit insurance, banking systems are always vulnerable to ‘runs’. The reason is that deposits have a fixed price and can be withdrawn on demand, while the majority of bank assets (mainly loans) cannot be securitised and are highly illiquid. The same fundamentals are consistent with a ‘good’ equilibrium, in which no depositor finds it individually rational to withdraw his deposits, as he or she does not expect anyone else to do so and a ‘bad’ equilibrium, in which it is individually rational for individual depositors to run because they expect everyone else to do likewise. Two ‘solutions’ to the bank run problem, unrestricted deposit insurance, and ‘bank holidays’ (limits on the amount that can be withdrawn by any depositor) are subject to obvious drawbacks. In the case of deposit insurance the problem is moral hazard. Bank holidays are indiscriminate as they penalise those who need to withdraw funds for good business reasons. The anticipation of possible future restrictions on withdrawals also encourages disintermediation by undermining the attractiveness of depositing one’s money in banks.

Bank runs are socially costly because banks are, especially in developing countries and transition economies, the main intermediary between ultimate savers and investors and because they play a key role in the country’s payment mechanism.

Policy responses to disruptive capital flows

a) Measures that can be taken by individual countries

The first and best approach to the co-existence of flexible, efficient financial markets and inefficient, rigid factor and product markets would no doubt be to ‘flex’ the inflexible, rigid markets. While measures to improve the functioning of domestic factor and product markets are clearly desirable and should be pursued resolutely, even in the absence of a capital inflow or outflow problem, turning all markets into perfectly functioning (Arrow-Debreu) markets is not a practical option. In addition, the problem of disruptive capital flows that do not represent a proper response to the underlying fundamentals would not disappear even if domestic factor and product markets functioned efficiently. Recognising this, Tobin (1982) and others have proposed, as a second-best solution, to ‘throw sand in the wheels’ of some of the highly flexible financial markets in order to stop them from creating havoc in their interaction with more sticky factor and product markets. ‘Tobin’ taxes on foreign exchange transactions (possibly with the tax rate decreasing with the length of the period between the purchase and sale of the domestic security in order to discourage quick reversals of positions without penalising long-term portfolio investment and FDI) are one of the more frequently proposed interventions. Others include administrative and fiscal controls on international capital flows, such as punitive reserve requirements on balances used for taking open positions to attack currencies.

When assessing the feasibility and desirability of such capital controls, it is important to differentiate between on the one hand the advanced industrial countries with their highly sophisticated and developed financial markets, and on the other hand the developing countries and transition economies. As regards the advanced industrial countries, it does not seem possible to put the capital flow genie back in the bottle through fiscal and administrative capital controls. The scope and efficiency of the global industry ready to take on the

authorities by supplying the means to avoid and evade controls is quite awesome. The rewards from taking on the monetary authorities are too high: given the ineffective penalties likely to be imposed and the low risk of being caught evading the controls, the odds on capital controls working effectively are virtually nil. Proposals for imposing non-interest-bearing reserve requirements on balances used for taking open positions to attack currencies appear naive because they ignore key developments of the last two decades in the international financial markets. There are myriad ways now of attacking a currency: through the spot markets, through the futures and swap markets and through other derivatives markets, including option markets. The authorities now operate in many of these markets, so 'net positions' would have to be identified and be subject to reserve requirements in all these markets. 'Tobin taxes' on foreign exchange transactions would likewise have to be expanded in their coverage to include transactions in the option markets and in markets for all other kinds of derivatives. They would also have to be imposed and enforced globally in order to be effective.

For countries that are not yet fully integrated into the global financial system and that have much less developed and sophisticated domestic financial markets, capital controls are a more realistic option. A number of general guidelines should be respected, however.

First, there should be no restrictions on the purchase and sale of foreign exchange for financing current account transactions. The repatriation of profits and interest on legal investments should likewise be unrestricted. It is well-known that capital account transactions can be disguised as current account transactions: leads and lags in the invoicing of imports and exports, under-invoicing of exports and over-invoicing of imports will cause slippage in the application of any controls that discriminate between current and capital transactions. The question is not whether this kind of evasion exists, but whether it takes place on a scale sufficient to substantially emasculate the controls. There are, we would judge, many cases where they can be

enforced tightly enough to reduce substantially the magnitude of sudden capital flows.

Foreign direct investment also should not be discouraged, as it is often bundled with the international transfer of managerial and technical know-how that would otherwise not enter the capital importing country on anything like the same scale. We recognise that the distinction between FDI and portfolio investment is not a clear-cut one and that it is possible to disguise portfolio investment as FDI, but again, the question is not whether the controls would work perfectly, but whether they would substantially reduce the volatility of capital flows. Again the evidence is consistent with the view that they can make a significant difference.⁴⁴

There are some obvious negatives associated with any attempt to impose or re-impose capital controls selectively. First, the authorities would have to keep records of foreign exchange transactions again. In a number of countries, foreign exchange market liberalisation has been accompanied by the complete dismantling of the information collecting apparatus of the authorities, alongside the administrative and legal enforcement capacity. Second, any (re-) imposition of capital controls generates new areas of administrative discretion and therefore inevitably creates new opportunities for rent-seeking and corruption. Simplicity and transparency of the new rules is therefore essential, to minimise such adverse side-effects.

There is an important further reason for practising caution in the application of capital controls. It is not difficult to come up with a long list of examples of countries where the main disruption caused by a sudden sharp capital outflow was the disruption of the government's undesirable and unsustainable policies. If capital flows respond to fundamentals only, they can impose market discipline firmly and swiftly on disruptive governments. Eliminating the scope for funds to enter or leave the country swiftly and with little notice is a positive development only if the capital flows are motivated poorly in relation to fundamentals and/or domestic factor and product markets are inefficient. It is a negative development if capital flows properly

respond to the right fundamentals and if restrictions on these flows encourage delays in policy reform and in the restructuring of domestic factor and product markets.

Should the currency be allowed to appreciate in the face of significant capital inflows?

Consider a small open economy faced with a sudden capital inflow. The cause could be internal (*eg* a combination of international financial liberalisation by the country and an improvement in its investment climate due, say, to successful macroeconomic stabilisation) or external (*eg* a change in the rules, laws or practices governing investment in emerging markets in one or more of the leading financial centres). If the desired net inflow of capital exceeds the current account deficit at the prevailing exchange rate, the country has two options. Either it allows the currency to appreciate or it continues to peg the exchange rate at the same level, thus allowing an increase in the stock of foreign exchange reserves. If the second alternative is chosen, a further choice has to be made. Either the increase in foreign exchange reserves is permitted to feed through into an increase in the domestic money stock or it is ‘sterilised’, that is, domestic credit is contracted by the same amount as foreign reserves are increasing, resulting in an unchanged domestic money stock.

Note that the statement that net capital inflows exceed the current account deficit at the prevailing exchange rate only makes sense as a statement about equilibrium,⁴⁵ if at the same time the increase in the demand for money at the current exchange rate and the current general price level exceeds domestic credit expansion. The increase in the demand for money (the shift of the conventional money demand function) could *eg* be due to the same improvement in confidence that prompted the capital inflows. Other possible causes of an increase in the demand for money include a reduction in the opportunity cost of holding money (due to lower domestic nominal interest rates reflecting

increased international financial liberalisation and/or a lower expected domestic rate of inflation) and an increase in the transactions demand for money reflecting booming domestic demand and rising real output.

Typically, surging capital inflows are associated with a booming domestic economy. While domestic output may well be rising, domestic absorption outstrips domestic production — this is the income-expenditure counterpart to the increased net inflow of capital. Even if the proximate cause of the capital inflows is an improvement in domestic supply conditions (an improvement in productivity or a change in the regulatory or tax environment), demand (typically led by investment) is outstripping domestic supply and an increase in the relative price of domestic non-traded goods to traded goods is required to restore balance. Such an appreciation of the real exchange rate (which may be accompanied by an increase in the relative price of exportables to import-competing goods if the country in question is large in the world markets for its tradable goods and services) is in principle the appropriate, equilibrium response to the shocks generating the capital inflow surge. It is essentially a benign version of the ‘Dutch disease’, where a windfall (say a natural resource discovery) raises national permanent income and thus causes an increase in the relative price of non-traded goods to traded goods and a movement of resources into the non-traded goods sector. ‘Overshooting’ of the required equilibrium real appreciation is of course always possible, especially if the nominal exchange rate is allowed to float freely, but some real appreciation is both necessary and unavoidable. A key policy issue remaining is whether the required real appreciation is to be achieved swiftly, through an appreciation of the nominal exchange rate, or more gradually, through an increase in domestic prices and costs at a fixed nominal exchange rate.

Consider the case where the nominal exchange rate is kept fixed. If financial capital mobility is perfect, sterilisation of the reserve inflows is not an option: the increased demand for real money balances (at the prevailing exchange rate and nominal price level) that is the counterpart to the inflow in foreign exchange reserves *must* be

accommodated instantaneously. Either domestic credit is expanded or a 'stock-shift' inflow of foreign exchange reserves will occur to ensure that the endogenous (demand-determined) money supply always equals the demand for domestic money. When capital mobility is imperfect, sterilisation can work for a while. Note, however, that sterilisation of foreign exchange losses is likely to cause an increase in the quasi-fiscal deficit of the central bank. The reason is that the interest rate earned on the additional foreign reserves acquired by the central bank is likely to be below that paid on the assets (typically Treasury debt) given up or the liabilities (*eg* central bank interest-bearing debt) incurred by the central bank in order to finance the acquisition of the reserves. Even if sterilisation is successful in the short run, the increase in domestic interest rates associated with successful sterilisation will encourage even larger capital inflows that will ultimately swamp the ability or the willingness of the authorities to persist in its sterilisation efforts. Sooner or later therefore, the reserve inflows will be monetised (or the exchange rate peg will be abandoned).

If the (nominal) exchange rate is allowed to appreciate, the capital inflows will be associated with an immediate appreciation of the real exchange rate (a loss of international competitiveness, an increase in the relative price of traded and non-traded goods and, if the country has any market power in world markets, an increase in the relative price of exportables to importables). If the nominal exchange rate is kept pegged, the same ultimate real appreciation will occur, but more gradually, with the domestic price level (and especially the price of non-traded goods) rising faster than world prices. The higher domestic price level is supported by the increase in the money stock that is the counterpart of the increased foreign exchange reserves. Sterilisation can further slow down this process. The choice between rapid real appreciation through a nominal appreciation of the currency and slower real appreciation through the gradual inflation of domestic costs and prices is not straightforward. If the capital flows are expected to be reversed in the not too distant future, and if the authorities believe that the private sector has a tendency to overestimate the degree of

permanence of changes in prices and exchange rates, a case can be made for attempting to slow down changes in the real exchange rate by continuing to peg the currency. If the changes are not expected to be reversed (or if the private sector responds appropriately to correctly perceived temporary changes in the real exchange rate), it may make more sense to float the currency (or an any rate to permit a significant nominal appreciation) in the face of a sudden increase in capital inflows.

b) Measures to be taken by the international community

Every country's capital inflow is some other country's (or countries') capital outflow. Every sudden currency appreciation is matched by a sudden currency depreciation somewhere in the rest of the world. Changes in external economic conditions that are (properly) viewed as exogenous by small or medium-sized individual open economies are the endogenous global outcomes of policies and other developments in the world as a whole. A systemic perspective on the problem of disruptive capital flows is therefore essential.

Traditionally, the task of dealing with systemic financial issues has been located with the IMF. Since its inception, the Fund has performed two distinct roles. The first is its systemic role; the second the provision of short-term financing and technical assistance to individual member countries in balance-of-payments difficulties. The systemic role — managing the adjustable peg exchange rate system established at Bretton Woods and providing it with sufficient liquidity — effectively came to an end in 1972 with the collapse of the Bretton Woods exchange rate system. Private capital markets increasingly took over the role of the Fund as a provider of global liquidity and a source of short-term financing for the more advanced industrial countries. Exchange rate surveillance is the surviving offspring of this systemic role, but it is just a pale reflection of the earlier systemic function.⁴⁶ There are several reasons for this. First, regular gatherings such as

those of the G3, the G7 and the G10 have taken over some of the earlier consultative functions of the Fund. More fundamentally, the Fund has neither the stick nor the carrots to induce the largest industrial countries (or even the medium-sized ones) to act on its recommendations. Since Healey went to the IMF in the autumn of 1976, no G-10 country has been in such dire financial trouble that access to the resources of the Fund (or obtaining the Fund's stamp of good house-keeping) has been essential for the maintenance of liquidity and solvency.

Still, there are obvious global gains from the collective pursuit of macroeconomic policies that are conducive to low and stable real interest rates and that avoid both short-term excess volatility and medium-term persistent misalignment of the exchange rates of the main industrial countries. Giving teeth to IMF (exchange rate) surveillance would therefore clearly be desirable. If pursued with determination, it would achieve three key objectives. First, it would put greater pressure on the governments of the main industrial nations to recognise the external effects of macroeconomic and other policies pursued for mainly domestic objectives. 'Benign neglect' would no longer be an option. Second, it would improve the quality of macroeconomic management world-wide, especially in developing countries and transition economies. Third, it would ensure that the global sum of policies that are individually rational to the member countries is a combined global monetary-fiscal mix that makes sense from the point of view of the whole international community.

Another desirable global economic policy development with a direct impact on capital flows would be a move towards greater international co-operation between national tax authorities, so as to minimise capital flows driven purely by tax arbitrage or outright tax evasion. The natural institutional 'home' of such increased co-operation between national tax authorities is less apparent than the case for locating the responsibility for enhanced surveillance in the IMF.

Building international economic institutions

There are public goods whose domain or scope extends beyond the boundaries of any nation state and externalities that likewise do not respect national boundaries. Building up the institutions or arrangements for supplying supra-national (including global) public goods and for internalising these supra-national externalities is a key task for governments and multilateral institutions (agencies). If, as seems possible, the rest of this decade is going to be a period of relative global stability and reasonable global economic progress, this must be the time to strengthen international institutions, agencies and arrangements.

Examples include the following:

- C Strengthen the WTO and extend its scope to include trade in all goods and services, including agricultural goods. The agency should have the authority to tackle the key (and sensitive) issue of the role of regional preferential trading arrangements in an integrated global economy.

- C Create a vehicle through which global environmental issues (greenhouse effects and global warming; the weakening of the ozone layer; pollution of the atmosphere and the oceans; acid rain; reductions in biodiversity; desertification; depletion of oceanic fish-stocks and other renewable resources subject to common property problems *etc*) can be monitored and tackled on a better than *ad hoc* basis. Maybe the World Bank could be given this task. Perhaps a purpose-designed new institution is required.

- C Extend and adapt the Basle agreements for capital adequacy in the global banking sector to other global financial intermediaries.

V BEYOND STABILISATION — THE GENERATION OF RECOVERY AND GROWTH

The one thing we can be certain of is the occurrence in the future of unanticipated shocks. It is also true, however, that, on the basis of currently available information, it is not easy to identify major systemic imbalances likely to lead to predictable conflagrations and calamities. In many parts of the world (India, Brazil and sub-Saharan Africa are obvious exceptions) structural adjustment is largely completed or at least well under way. China has proceeded a long way down the road of reform with striking results. A number of East and Central European economies have advanced impressively in the transition. How should policy makers at the national and international level take advantage of this relative absence of foreseeable traumas, that is, of the likelihood of a period of relatively steady growth and systemic stability?

The short answer is that good times should be used to take care of the future, that is, of the long run. Both the quantity and the quality of investment, broadly defined, need attention. Good times offer the political window of opportunity for looking after the future. That means raising saving rates and boosting capital formation, defined to encompass additions to the stocks of human capital (through education, training or other learning experiences), environmental capital and knowledge capital as well as the accumulation of physical capital.

In the remainder of this section we consider the long-term supply side economics of boosting saving and broadly defined capital formation.

Policies to promote saving in the industrial countries

Funding the state social security retirement schemes

Most industrial countries have a significant unfunded (pay-as-you-go) social security retirement scheme in which compulsory ‘contributions’ (indistinguishable from regular taxes on labour income) paid by the working population (the young and middle-aged) are used to finance the concurrent payment of retirement benefits to the retired population (the old). Such a scheme redistributes lifetime resources from young to the old.

An unfunded social security retirement scheme

To assess the effect of unfunded social security on private and aggregate saving, consider the introduction of a balanced budget social security retirement scheme in an economy in which previously there was only voluntary private saving for retirement. The scheme consists of a constant per capita contribution by the young (the working generation), shared out equally among those currently retired. We assume that households conform to the life-cycle model of saving, without any intergenerational gifts and bequests. For simplicity we ignore the possible effects of the introduction of such a scheme on the age of retirement. Uncertainty and precautionary savings are also not considered at this point, although we will refer to them later. To focus clearly on the direct effect of the introduction of the scheme on saving, we hold interest rates and wage rates constant, although there will, of course, be general equilibrium repercussions from the introduction of the scheme on these variables.

A pure unfunded social security retirement scheme is a balanced-budget (lump-sum) redistribution from the young to the old. There are therefore no direct effects on the government budget and on public saving. When the scheme is introduced, the existing old generation gets a pure windfall: they receive benefits during their old age without having made any contributions while young. Their consumption will be boosted by the amount of the windfall.⁴⁷ For the young, and for all subsequent generations, the effect of the introduction of the scheme on

the present discounted value of their life-time resources will be positive if the population growth rate (the ‘biological rate of return’ on the scheme) exceeds the real interest rate, negative if the opposite holds.

The effect of the introduction of the scheme on the saving of the young, and therefore on the total stock of financial wealth in the economy, is unambiguously negative: income is taxed away when young, while an unrequited benefit is received during old age. Wishing to smooth consumption over their life-cycle, the young will lower their saving. Since the scheme is balanced budget by assumption, the capital stock in the next period will be less than it would otherwise have been.⁴⁸

An aggregate funded social security retirement scheme

Now consider a change of this unfunded scheme to an *aggregate funded* scheme, administered again by the government. Contributions remain compulsory and benefits are still paid to individuals in such a way that there is no link, for the individual, between the individual contribution while young and the individual retirement benefit while old. The government, however, takes the contributions of each generation and invests them (earning the market rate of return). The aggregate retirement benefits of each generation are equal to the aggregate contributions made while young, plus the interest earned from investing them. From the point of view of its effects on individual saving behaviour, this scheme is not essentially different from an unfunded scheme. The contributions while young are effectively a lump-sum tax, while the benefits while old are effectively an unrequited, lump-sum transfer payment. Again, private saving by the young is discouraged, compared to a situation of only voluntary private saving. The negative effect on private saving is larger with the aggregate funded scheme than with the unfunded scheme if the rate of return on the fund exceeds the population growth rate, smaller if the opposite condition prevails. Note that such an aggregate funded scheme will

not, in general, be a balanced-budget scheme. Assuming the per capita contributions of the young are constant, the scheme will need money if the interest rate exceeds the growth rate of population.

Note that the negative effect of an aggregate funded social security retirement scheme on private saving behaviour will be present regardless of whether the scheme is administered by the government or by the private sector. As long as no individual contributor/beneficiary perceives a link between his or her individual life-time contributions and his or her individual life-time retirement benefits, that is, as long as the scheme is not an individual defined contribution scheme, there will be a negative effect on the saving rate.

A social security retirement scheme with individual accounts

Now consider modifying the aggregate funded scheme to one with individual accounts. The scheme is still compulsory, but each individual's contributions while young are invested (earning the market rate) in a named individual account. When he/she retires, each individual received as a benefit his/her own lifetime contributions, plus accumulated returns from their investment.⁴⁹ Such a scheme is effectively a compulsory saving scheme. If the rate of return on the individual account is the same as that on discretionary (voluntary) private saving, and if there are no constraints on the ability of the individual to vary discretionary private saving, such a compulsory saving scheme would have no effect on private saving by the young, compared to a situation with only voluntary private saving. It would, of course, raise their saving compared to the unfunded scheme or the aggregate funded scheme.

Compared to the situation with only voluntary private saving, the kind of compulsory private saving scheme we describe would raise aggregate saving by the young if the young cannot reduce their voluntary, discretionary saving one-for-one in response to the introduction of the compulsory scheme. This is likely to be empirically

significant if voluntary saving rates are low, private wealth is illiquid and financial markets make it hard to dissave or to borrow. The individually funded, contribution-defined scheme could be administered privately or publicly.

Compulsory saving schemes are attractive if households are myopic or if there are moral hazard problems that affect the private provision for one's old age. It could be that case that, without compulsion, the young would not have saved adequately, expecting to throw themselves on the mercy of the community when old age arrived. Forced saving (assuming offsetting discretionary dissaving is now possible) helps to solve this problem. The same moral hazard problem would also lead one to favour paying out the retirement benefit not as a lump-sum, but as a stream of annuity payments.

Clearly, the individual accounts, contribution-defined scheme could not, without additions or modifications, provide universal old-age security. The low-paid and those without an income could not make the required contributions. One solution would be to have the state contribute to the accounts of the poorer citizens, maintaining the individually funded character of the scheme. Another solution would be to preserve a basic unfunded scheme to provide the social retirement minimum.

Unfunded social security retirement schemes not only help smooth income over the life-cycle, thus permitting consumption-smoothing over the life-cycle, they also reduce uncertainty, permitting consumption smoothing across states of nature. While this is clearly desirable in its own right, it may lead to a further negative effect on private saving, if the precautionary saving motive is operative.

Current unfunded social security retirement schemes (and indeed the subsidised public sector health and disability insurance schemes) were designed on the basis of demographic projections that turned out to be wrong. The rapid greying of the populations of the industrial countries (and other developments that have lowered the active/inactive ratio for the population as a whole) has created a 'youth deficit' that makes it impossible to finance current and future benefit entitlements

(under current laws and regulations) with the contribution rates and obligations embodied in current laws and regulations. Unfavourable demographics (and to a certain extent also disappointing productivity growth) therefore have created conditions under which intergenerational conflict is unavoidable. If the younger generations lose, contribution rates will be raised or the contribution base will be broadened. If the older generations give way, benefit rates will be lowered or eligibility restricted.

An early start on reform will minimise the extent to which implicit or explicit clauses of the social contract will have to be reneged on. It would hardly be a propitious start to the new era of the rule of law and the sanctity of contract if among the first acts of the reforming government is the wholesale expropriation of the pension rights and entitlements of generations that lived through the Great Depression, the Second World War and (in the case of the FSU and east and central European nations) the bleak decades of central planning. As pointed out in the previous paragraph, however, the expectations of current and future contributors (based on the pre-reform record of pay-outs) are inconsistent. Either benefits will turn out to be lower than expected or contributions higher than expected, or both. Painless social security reform is not an option.

The way in which this intergenerational conflict is resolved will not just have distributional consequences. It will also have important incentive and efficiency effects. Raising contribution rates, for instance, would have adverse impacts on labour demand and supply. In the industrial countries too, demographic developments and disappointing productivity growth have made the old (implicit) social security contract inconsistent and unsustainable.

Reducing public debt-GDP ratios

Policies that reduce public debt-GDP ratios by raising current revenues are, similarly, redistributions from current to future generations. In

most of the industrial countries, however, the overall tax burden (and the marginal effective rates of taxation they imply) is already so high that, both on efficiency and political feasibility grounds, it is hard to make a case for a further increases that is politically convincing. Current spending cuts are likely, therefore, to be the main mechanism through which, in the industrial countries, the burden of the public debt is reduced. In many of the FSU countries and in many developing countries the overall tax burden is much more moderate, and well-designed tax enhancement measures (say through base broadening, improved enforcement and elimination of exemptions), if well implemented, need not have overwhelming adverse effects on incentives.

Raising the after-tax real rate of return to saving

Most of the available empirical evidence suggests that aggregate private saving does not respond significantly to moderate changes in the after-tax real rate of return on saving.⁵⁰ Policies to raise the after-tax rate of return to saving would therefore not have an appreciable effect on aggregate saving rates. Note, however, that the insensitivity of saving to its rate of return reflects the combined effect of the substitution effect (which has saving increasing with its rate of return) and the income effect (which goes in the opposite direction for net lenders). Policy reforms that raise the *marginal* rate of return to private saving (say by reducing the degree of progression in the tax rate on saving and thus lowering the marginal tax rate on saving), without reducing the average return to private saving (by maintaining the same average tax rate on private saving), will therefore affect behaviour only through the substitution effect.

Apart from policies to affect aggregate private saving, considerable efficiency gains can be achieved by reducing or eliminating distortions in the allocation of saving among competing instruments.

Policies to promote investment

Section III has dealt at length with the positive effects on private investment of policies to improve macroeconomic stability. Several additional policies to enhance the quantity and quality of investment, broadly defined, should also be pursued. The unique role of the state here lies in promoting forms of capital investment that either have a very long gestation- and pay-off period or have returns that are non-rival and/or cannot be fully appropriated by private investors. The following are of importance.

Education and training

Subsidising education and training is a natural function of the state. First, as we indicated earlier, there are ‘merit good’ and ‘rights’ arguments for partial or full public funding. Second, not all of the returns to education can be captured privately. More educated citizens make better citizens. Parents who were well-educated in turn facilitate the education of their own children. There are significant peer-group effects in education and socialisation. There is evidence that a worker’s productivity rises with the average productivity of the co-workers and associates. Enterprises are likely to under-invest in on-the-job training if such training is costly and if the human capital thus acquired by the worker is portable. Making workers pay for their own training may not be an option because most workers neither possess the financial resources to finance these training expenses, nor are in a position to offer effective collateral for ‘training loans’. Making workers ‘post bond’, to be forfeited in case the worker quits soon after being trained at the expense of the firm, runs into the same problem of inadequate financial resources. In addition, it would not be legal in many countries.

Education and training facilitate both the transmission of knowledge and the creation of new knowledge. Knowledge is the ultimate non-rival good.⁵¹ This provides an argument both for subsidising education and training and for subsidising fundamental R&D.

The arguments are not all one-way, however. Certain kinds of education have certification or ‘sheep-skin’ value, because they are viewed as signals of unobservable desirable characteristics such as intelligence, knowledge, productivity *etc.* Private agents may over-invest in educational qualifications which have these certification properties. The armies of lawyers produced in some developing countries may be the outcome of such a process. These problems are more likely to occur at the university level than at the pre-school, primary and secondary school levels. The merit good, rights and externality arguments are also likely to apply more strongly at these levels, particularly in developing countries.

Raising the active/inactive population ratio

Another means of raising the effective human capital stock in the industrial countries, and of doing so almost ‘at a stroke’, are legislative changes in the rules determining the active-inactive population ratio. Policies that reduce dependency ratios may well be desirable both from the point of view of economic efficiency, and from the point of view of distributional equity among generations. Dependents are the young, the sick and the old. Education, public health, preventive medicine and poverty reduction can have strong effects on morbidity. Education, rising living standards and availability of contraception can influence birth rates. In both cases, education of females is of special importance. Large-scale immigration by persons of working age is likely to be politically controversial in much of the industrial world (which is not to say that it will not happen). From an economic point of view, immigration affects different generations in very different ways.

The retired population will welcome the contribution of the young immigrant workers to their unfunded social security retirement schemes. They will also, as owners of much of the domestic capital stock, benefit from any increase in the rate of return to domestic capital brought about by the immigration. Younger workers, especially those in the same (lower) skill categories as the immigrants, will view the new arrivals primarily as competitors in the labour markets.

That leaves raising the labour force participation rate of the old as the obvious means for boosting the active/inactive ratio in the population as a whole. An increase in the age of retirement by, say, five years would help resolve many of problems faced by the unfunded social security systems of the industrial world. An increase in the retirement age here means an increase in the minimum age at which one becomes eligible for a retirement pension, and a matching increase in the number of years one is obliged to make contributions to the social security funds. Such an increase in the age of retirement could be combined with the abolition of the notion of automatic compulsory retirement at a particular age. The USA recently abolished compulsory retirement for the vast majority of workers. Complementary changes in seniority systems and arrangements would be likely to be associated with such changes.

The proposed increase in the age of retirement makes sense and is fair in view of the increase in the life expectancy of both men and women and the improved health and vigour enjoyed by many until well into their seventies.⁵² Note that raising the number of working years relative to the number of non-working years in an individual's life span, will not necessarily raise the long-run ratio of private wealth to income, but it will, of course, increase the viability, and reduce the disincentive effects associated with, any remaining unfunded component of the social security system.

It may seem strange, with so much of Western Europe still plagued by persistent high unemployment and with continued interest in many quarters in such measures as compulsory work-sharing, reductions in the duration of the working week and the encouragement

of early retirement, to advocate measures aimed at achieving a sizable increase in the effective supply of labour. Yet it seems likely that the problem facing the industrial nations in the coming decades will be one of insufficient labour (and of insufficiently skilled and educated labour) in relation to the real income expectations and aspirations of a greying population.

Unemployment in Western Europe, except for a cyclical component⁵³, is mainly a self-inflicted wound to be cured by structural measures which include the improvement of the skill level and mix, the reduction of the wedge between take-home pay and gross marginal labour costs, the reduction of the gap between the private and the social cost of hiring and firing workers, the encouragement of mobility of firms and workers and the facilitation of investment in long-term productive relationships by workers and employers.

Increasing infrastructure and other spending to enhance long-term growth potential

With a benevolent, omniscient and omnipotent social planner, public investment projects are undertaken whenever the social rate of return on the resources that are committed exceeds their opportunity cost, the social discount rate. There is no automatic presumption that the social rate of return on public sector investment is more likely to exceed the social discount rate in good times than in bad times. In the real world, however, political economy considerations produce the following robust empirical regularity: whenever the government budget gets squeezed (typically when recession, depression or structural decline depress current government receipts), capital budgets get slashed. Public sector investment spending and other productivity-enhancing expenditures (repairs and maintenance, R&D) are the first to be cut. Effective decision horizons shorten dramatically during a fiscal crunch, and any spending category that yields its returns in the future is a likely victim of political expediency. To restore the balance in the

composition of public spending, public sector infrastructure spending, other public investment, repairs and maintenance and all other public spending categories that functionally constitute investment (whatever their official designation) should be favoured when the ‘seven lean years’ are over and the ‘seven fat years’ arrive. The reason is simple: *if not then, when?*

When it comes to infrastructure spending, it is again important to distinguish between the operation and management of the social overhead capital stock and its financing. Roads and bridges, for instance, have some of the properties of a public capital good: up to the point where congestion sets in, road and bridge use is *non-rival* (marginal cost is below average cost). However, since road and bridge use are, at a cost, *excludable*, controlled access roads and bridges can, though tolls or other forms of road charges, be privately operated and managed. With marginal cost below average cost, competitive private operation is not feasible. Subsidisation and regulation may be required.

Not only is there no automatic case for the government owning and operating the stock of social overhead capital, but also the financing of infrastructure investment need not be the sole province of the sovereign. Many financial constructs for sharing the risks and returns to infrastructure investment between public and private sector partners have been designed and implemented throughout history, and new joint ventures of this kind are being tried and tested in a variety of economic and institutional settings. It is ironic that perhaps the strongest practical argument for involving the private sector in the financing of infrastructure investment is that without access to private funds, made available by private investors with effective decision horizons longer than those of the government, the public sector alone would be unable or unwilling to undertake a socially worthwhile investment. Political myopia, sometimes institutionalised in myopic public sector budgeting rules that do not distinguish between current and capital spending (such as PSBR targets or ceilings) prevents the public sector from fulfilling its ‘Platonic guardian’ role of overcoming private sector capital market imperfections (liquidity constraints *etc*) and enabling the

economy as a whole to take the long view. It would surely be sensible to try to implement political and administrative reforms that encourage the public sector to make use of its undoubtedly unique potential for taking the long view, born of its ability to tax current and future generations and to make use of seigniorage revenues.

Reducing the effective marginal tax rate on capital income

Policies to bring the private rate of return to physical capital formation more closely in line with the social rate of return include reductions in the average effective marginal tax rate on capital income and reductions in the dispersion of the effective marginal tax rate around the average. Different forms of private capital formation are subject to wildly different marginal effective tax rates, and most of these differences cannot be rationalised with reference to externalities or other sources of differences between private and social rates of return.

VI CONCLUSIONS

Macroeconomic policy during the years to come will have to operate in a more open, international environment than at any time since the beginning of World War I. Macroeconomic policy will also have to work through, and will be constrained by, markets (domestic and international) in a way that would be more familiar to the governments of the Gold Standard days than to governments of the post-World War II Keynesian era.

While our expectations of what government can do are more modest than those at the time of founding of the Bretton Woods institutions more than 50 years ago, it remains our view that the quality of the institutions of government and of the policies that it pursues may well be the single most important factor accounting for differential economic performance in the medium and long term. A limited but

strong state is likely to be a defining characteristic of economic success in the decades to come.

Macroeconomic stability is one of the key intermediate public goods that the government alone can provide. Its effect on the quantity and quality of private investment is one important channel through which the government, by stimulating capital formation, broadly defined, can take advantage of a relatively favourable global economic environment to lay the groundwork for sustained and shared growth. This should be complemented with policies to boost saving rates (especially in the industrial countries); policies to encourage investment in infrastructure and in environmental capital; policies to enhance the effective human capital stock through education and training; measures to raise the active-inactive population ratio; and policies to add to the stock of human knowledge through research and development.

ENDNOTES

1. In the sense that it is non-rival (one person's 'consumption' does not diminish another's) and non-excludable (it is not possible to exclude consumers from using the good).
2. Feldstein and Horioka (1980) and Feldstein (1983), using data for 17 OECD countries over the 15-year period 1960-1974, found that the gross national (private plus public) saving-GDP ratio and the gross domestic capital formation-GDP ratio were highly positively correlated. They interpreted this as indicating a relatively low degree of international capital mobility. If this interpretation is correct, sustained (exogenous) increases in the domestic saving rates would induce approximately equal increases in domestic investment rates, rather than spilling over into current account surpluses. Both the empirical analysis and the interpretation have been contested.
3. This holds also for trade in real goods and services. Gross inflows and outflows (imports and exports) matter and not just the net trade balance.
4. See Obstfeld and Rogoff (1995). For a detailed discussion of the recent growth of the international financial markets see Goldstein and Folkerts-Landau (1994).
5. See *eg* Schadler et. al. (1993) and Khan and Reinhart (1995).
6. During the days of the gold standard, the international movements of both labour and financial capital were subject to few political barriers. While political and administrative obstacles are probably still higher today than they were between 1870 and 1913, the technology of mobility of the 1990s surely dominates that of the earlier 'open' era.

7. SOPEMI 'Trends in International Migration' Annual Report 1994—1995 edition, OECD.
8. It must be remembered, and it is a major theme of this paper, that markets do not occur in a vacuum and there are many other relationships and institutions which are crucial to effective economic organisation and performance.
9. The first welfare theorem says that any competitive equilibrium (with complete markets and complete market participation and without externalities) is a Pareto Optimum. The second welfare theorem says that, without externalities and with lump-sum redistribution (and with appropriate convexity assumptions concerning production and consumption), any Pareto Optimum can be supported as a competitive equilibrium.
10. This controversy revolved around the possibilities of rational and efficient resource allocation under socialism, or more specifically, in centrally planned economies with publicly owned means of production. See *eg* von Mises (1920), Hayek (1935), Hayek (ed.) (1935), Hayek (1945), Wootton (1935), Lange (1938), Lerner (1944) and Bergson (1948) and Eckstein (ed.) (1971). Hayek and von Mises emphasised the role of private ownership in providing incentives for work, effort, saving and investment and for revealing economically useful information. Private ownership was in their view essential for the price mechanism to aggregate and disseminate information, thus permitting efficient decentralised decision making. Market prices in an economy with private ownership were therefore fundamentally different from the shadow prices generated by the (mythical) omniscient central planner. Central in Hayek's theory of informational efficiency and decentralisation was his emphasis on the universality and inescapability of bounded rationality, leading him to view the

market system not as a static resource allocation mechanism but as a dynamic discovery process.

11. See *eg* Lin (1992) and Hussain and Stern (1991).
12. See, for example, Burgess and Stern (1993) and IMF (1989).
13. See, for example, the EBRD Transition Report Update, April 1996, and IMF Government Financial Statistics.
14. It would have been more useful to have comparative figures for developing countries and for some of the NICs, rather than for the OECD. However, figures for *general* government revenues (and spending) are extremely sparse for non-OECD countries. Only *central* government data tend to be available. These are not appropriate for our purposes.
15. See, for example, Hussain and Stern (1991) and Wall Street Journal, 16 July (1996) (p. 8A)
16. This Section touches on some of the same issues covered at greater length in the contribution by Stiglitz in Volume 1 (Stiglitz (1996)).
17. Note that the national accounts classify such activities as public consumption, which makes only limited economic sense in most cases. On the whole, citizens do not consume law and order. Law and order, however essential, are intermediate public inputs into the safe and untroubled consumption of marketed goods and services and leisure.
18. What follows is based largely on Stern (1991).
19. Note that *compulsion* is applied vis-à-vis the 'isolated' individual

- only. The reluctant tax payer may rationally vote for higher taxes.
20. Essentially the rate of growth of the economy is fast enough to absorb service payment on debt. Government solvency means that the initial debt plus the present value of expenditure is no greater than the present value of revenues, including seigniorage. Under reasonable restrictions on the government's ability to tax, this implies an upper bound on the debt to GDP ratio in the long term.
 21. See Appendix 1 for a more precise statement.
 22. See Appendix 1.
 23. Like any price change, a change in the interest rate (the reciprocal of the intertemporal relative price less one) has distributional consequences. Net lenders (the old, for instance) will benefit from an increase in the real rate of interest; net borrowers will be hurt.
 24. On this see Blanchard and Summers (1985), Barro and Sala-i-Martin (1990), Group of Ten (1995), Qureshi (1995).and IMF (1995c).
 25. This is not inconsistent with spending on disability compensation (and on pensions) having increased sharply in many transition economies, which have used disability and early retirement as means of reducing recorded open unemployment. The anticipated life-time degree of protection against ill-health, disability and unemployment-related income declines can fall for the representative citizen (with the implications for precautionary saving described above) at the same time that total expenditure on these three categories increases on a temporary basis.

26. See, for example, Hubbard, Skinner and Zeldes (1994a,b, 1995), Caballero (1991).
27. See Appendix 2.
28. A 10 percentage points higher average annual inflation rate between 1960 and 1990 was associated with a 0.2 to 0.3 percentage point lower average annual growth rate of real GDP over the same period.
29. In the popular dissemination of these findings, Barro's argument gets rather muddled (Barro (1995b)). It is, for instance, hard to make sense of the following sentence: "But while the impact is not statistically significant when inflation averages less than 15%, this does not mean lower rates of inflation are costless: the adverse effect on growth of inflation below 15% is close to the effect when it is in the higher ranges. (Barro (1995b))". Even though the point estimates may be similar, the lack of statistical significance of the estimate for the low inflation range surely means that the point estimate should be taken rather less seriously. Actually, not only is the point estimate of the coefficient of growth on inflation statistically insignificant for the low inflation countries, the magnitude of the estimated coefficient is smaller for the low inflation countries (-0.016 with a standard error of 0.035) than for the middle range inflation countries (-0.037 with a standard error of 0.017) and the high inflation countries (-0.023 with a standard error of 0.005). Note also that Barro's research, which focuses on the medium- to long-term relation(s) between inflation and output growth, has no bearing on the existence and magnitude of the 'sacrifice ratio', the (transitional) output or unemployment cost of achieving a sustained reduction in the rate of inflation. That is, it tells us nothing about the existence or absence of a short-term trade-off

between inflation and some measure of real economic performance, such as output or unemployment. Here too, Barro's popularisation of his research findings is only loosely connected to the actual research: "There is, in other words, no empirical support for the idea that more inflation must be tolerated to achieve higher output and unemployment."(Barro (1995b)).

30. In Sarel (1996) a non-linear relationship between inflation and growth is estimated. The author concludes that there is a threshold for the inflation rate below which the effect of inflation on growth is small and insignificant (and may even be slightly positive) but above which the effect is negative, large and significant. The threshold is estimated to be an average annual rate of inflation of 8%. Some scepticism about the reliability of Sarel's numerical estimates is in order, however. He considers but a single structural break, rather than multiple structural breaks (*eg* stable price level regimes, moderate inflation regimes, high inflation regimes and hyperinflationary regimes) or a more general non-linear relationship between growth and inflation, without a single key discontinuity. The results are also affected by the surprising choice of the *logarithm* of the rate of inflation as the inflation variable in his regressions. As the inflation rate is negative in a small number of cases, the author is forced to make arbitrary *ad-hoc* adjustments to his data. Taking the logarithm of (1 + the rate of inflation) as his inflation variable would have avoided this problem (the price *level* did not become negative in any of his observations).
31. See *eg* Fischer and Modigliani (1978).
32. 'Shoe leather' refers to frequent trips to the bank so that as little money can be held as possible; 'menu costs' refers to the

frequent relabeling of prices in restaurants, *etc*

33. The term 'insurance' is hardly descriptive. A worker gets paid a contingent benefit (contingent on being unemployed). There is no experience rating for individual workers and only in some countries (like the USA) is there (partial) experience rating for individual firms. Even in the aggregate, there is no necessary (actuarial) link between total contributions (by workers and employers) and total unemployment benefits.
34. Compulsory unemployment insurance can mitigate the adverse selection problem; it does nothing to reduce the moral hazard problem.
35. This need not create any tendency towards positive drift in the public debt-GDP ratio.
36. The countries of operations number 26 from April 1996 with the joining of Bosnia.
37. See EBRD, Transition Report 1995, Table 2.2, p. 21 and Chart 2.2, p. 23 for the behaviour of the social indicators in the transition economies, Table 2.1, page 11 and Chart 2.1 for indicators of progress in transition in the transition economies and Annex 11.1, pp. 185-186 data on real GDP growth and inflation in the transition economies.
38. The income *per capita* of Czechoslovakia at the time was only about one-third lower than that of France. In these countries some generational memory of the market is still there.
39. In China collectivisation was initiated in the 1950s and the agricultural reforms of the 'household-responsibility' system came in the period 1979-83.

40. Privatisation does not, of course, by itself solve the problems of management of those enterprises.
41. A recent extreme example of the sort is New Zealand's Fiscal Responsibility Act that makes politicians accountable for economic promises.
42. It seems that it is *de facto*, rather than *de jure* independence that matters (see Bruno, (1994) and Cukierman (1992)).
43. The external primary surplus is the current account surplus minus net foreign factor income, roughly the sum of the trade surplus and net transfers from the rest of the world.
44. See, for example Eichengreen and Wyplosz (1994), Eichengreen, Rose and Wyplosz (1994), and Bosworth, Dornbusch and Laban (1994)
45. Even if the equilibrium is strictly temporary or momentary.
46. A second surviving feature of its global or systemic role is the Fund's participation, and often leadership role, in putting together financial rescue packages for countries whose financial troubles are of sufficient magnitude for them to be deemed to threaten the stability of financial markets generally. The recent Mexican crisis is a frequently cited example of this function.
47. If the introduction of the scheme was anticipated by the currently old during their youth, they would have raised their consumption while they were young by reducing voluntary private saving or, if financial markets are efficient, by dissaving.
48. We are assuming a closed economy for simplicity. In an open

economy, the stock of net claims on the rest of the world could be reduced.

49. The scheme is technically a 'defined-contribution' scheme.
50. Clearly, moving from a situation in which there is a serious risk of savings being confiscated or wiped out by hyperinflation to one in which positive real rates of return can confidently be expected will boost the saving rate.
51. This is in the (correct) formal sense that the use of the laws of physics, for example, by one individual does not prevent their use by another. Differential availability of knowledge might, of course, affect the profitability of certain positions but, while important, that is a different story.
52. Fair, here, is used in the sense of the rising life expectancy implying a higher present value of benefits than was anticipated when the schemes were conceived.
53. The cyclical component of unemployment can also be a self-inflicted wound. An example is the UK joining the ERM in October 1990 at an overvalued exchange rate and then having to follow German interest rates up in the wake of the German macroeconomic mismanagement of German re-unification after May 1990. The UK then aggravated its problems by creating doubts about its commitment to ERM, thereby adding a devaluation risk premium to its interest rates.

APPENDIX 1

The change in the government debt-GDP ratio in period t , $\Delta b(t+1)$, equals the initial debt-GDP ratio, $b(t)$, times the excess of the real interest rate, $r(t+1)$, over the growth rate of real GDP, $g(t+1)$, minus the government sector's primary (non-interest) surplus as a fraction of GDP, $s(t)$, minus seigniorage (new issues of base money) as a fraction of GDP, $s(t)$, that is,

$$\Delta b(t+1) \equiv \left(\frac{r(t+1) - g(t+1)}{1 + g(t+1)} \right) b(t) - s(t) - \mathbf{s}(t)$$

Note that the debt-GDP ratio declines ($\Delta b < 0$) when $s + \mathbf{s} > b(r - g)/(1 + g)$.

APPENDIX 2

Seigniorage (as a share of GDP), denoted s , is the change in the nominal stock of base money (currency plus commercial bank reserves with the central bank), expressed as a fraction of GDP. It represents the real resources appropriated by the state through its ability to issue non-interest-bearing base money. If H denotes the nominal stock of base money and Y denotes nominal GDP then:

$$s \equiv \frac{\Delta H}{Y}$$

The inflation tax (as a share of GDP), denoted t^p , is the reduction in the real value of the outstanding stock of base money due to inflation, expressed as a fraction of GDP. If p denotes the rate of inflation, g the growth rate of real GDP and $h/H/Y$ the base money-GDP ratio, and a subscript $_{-1}$ denotes a value in the preceding period, we have:

$$t^p \equiv p \frac{H_{-1}}{Y}$$

or

$$t^p \equiv \frac{p}{(1+p)(1+g)} h_{-1}$$

The following identity links seigniorage and the inflation tax:

$$s \equiv t^p + \left(\frac{g}{1+g} \right) h_{-1} + \Delta h$$

Thus, seigniorage exceeds the inflation tax either if there is growth in real GDP or when the base money-GDP ratio is increasing (the income velocity of base money is declining).

TABLE 1
General Government Revenues in Some Transition Economies
 (% of GDP)

	1991	1992	1993	1994	1995 estimate
Kazakstan	25.0	24.6	22.3	17.7	16.4
Kyrgyz Republic	35.7	12.7	23.3	21.6	14.5*
Lithuania	41.4	32.1	28.5	24.5	22.4
Russian Federation	NA	41.7	37.8	33.3	NA
Ukraine	36.5	41.5	41.1	44.3	41.3**
OECD	37.3	37.3	37.6	37.5	37.8

Source: 1991—1992: IMF; 1995: EBRD Transition Report Update, April 1996

General government includes central, state and local government, social security funds and off-budget transactions. It does not include state enterprises.

* Government expenditure and net lending plus government balance.

**State budget revenue.

TABLE 2

LONG-TERM INTEREST RATES IN THE MAJOR OECD COUNTRIES 1850-1993												
	1850s	1860s	1870s	1880s	1890s	1900-13	24-29	30-32	33-39	56-73	74-80	81-93
Nominal Interest Rate												
USA	5.1	5.1	5.0	3.6	3.5	3.9	3.6	3.4	2.6	4.7	7.9	9.5
Japan										5.6	8.2	6.0
Germany	3.9	4.2	4.3	3.9	3.3	3.7	7.1	9.3	5.2	7.0	7.8	7.7
France	4.5	4.4	4.7	3.7	3.0	3.3	5.1	3.6	4.2	6.6	11.1	11.2
UK	3.2	3.3	3.2	3.0	2.5	3.1	4.5	4.3	3.2	6.9	13.3	10.5
Italy							5.7	5.0	4.6	5.9	12.6	13.6
Canada						3.8	4.7	4.8	3.5	5.8	9.7	10.9
4 country avg*	4.1	4.2	4.3	3.5	3.1	3.5	5.1	5.1	3.8	6.3	10.0	9.7
Real Interest Rate												
USA	4.3	1.7	7.6	5.2	5.4	2.3	3.6	11.5	1.1	1.1	-0.3	5.6
Japan										0.3	0.5	4.4
Germany	1.8	3.3	3.6	3.8	2.9	3.5	5.3	17.1	4.9	3.0	3.0	4.5
France	2.0	4.7	5.1	3.8	3.8	1.8	0.2	7.1	-1.2	1.0	0.4	5.7
UK	1.8	2.8	3.2	3.7	1.9	2.7	5.5	6.4	2.1	1.8	-3.3	4.5
Italy							5.7	12.7	0.4	1.1	-5.0	4.2
Canada						1.6	4.9	10.0	1.8	2.2	0.3	6.7
4 country avg*	2.5	3.1	4.9	4.1	3.5	2.6	3.7	10.5	1.7	1.7	0.0	5.1
GDP Growth Rate												
USA	3.2	3.1	6.2	3.7	4.5	4.1	3.5	-11.1	4.9	3.5	2.1	2.6
Japan										9.1	3.6	3.6
Germany	2.6	2.1	2.1	3.3	2.7	3.5	2.4	-7.1	10.6	4.7	2.2	1.8
France	1.3	1.8	1.0	1.4	2.1	1.6	3.4	-5.3	2.0	5.2	2.8	1.8
UK	2.2	3.0	1.8	1.3	2.1	1.7	2.3	-1.7	3.7	2.8	1.0	1.9
Italy							3.0	-1.0	3.4	5.2	2.9	1.8
Canada						5.1	6.1	-8.9	7.7	5.1	3.8	2.4
4 country avg*	2.3	2.5	2.8	2.4	2.8	2.7	2.9	-6.3	5.3	4.1	2.0	2.1
Interest Rate - Growth Rate												
USA	1.1	-1.4	1.4	1.5	0.9	-1.9	0.2	22.5	-3.8	-2.4	-2.4	3.0
Japan										-8.8	-3.1	0.7
Germany	-0.7	1.3	1.5	0.5	0.1	0.0	2.9	24.2	-5.8	-1.7	0.8	2.7
France	0.7	2.9	4.1	2.4	1.8	0.2	-3.3	12.4	-3.2	-4.3	-2.4	3.9
UK	-0.4	-0.2	1.3	2.4	-0.2	1.0	3.2	8.1	-1.6	-1.0	-4.3	2.6
Italy							2.7	13.7	-3.0	-4.1	-7.8	2.4
Canada						-3.5	-1.2	18.9	-5.9	-2.8	-3.5	4.3
4 country avg*	0.2	0.6	2.1	1.7	0.7	-0.2	0.8	16.8	-3.6	-2.3	-2.1	3.0

Source: OECD Historical Statistics for 1966-1990; OECD Main Economic Indicators and OECE National Accounts, supplemented as required by data on interest rates from Homer (1991).
 Pre-World War II data on interest rates are from Homer (1991); pre-World War II data on GDP and prices are from Mitchell (1992) and Mitchell (1993).
 Conversion to real terms is based on the GDP deflator.
 *4 country average - USA, Germany, France, UK.

TABLE 3
Some Macroeconomic Characteristics of Fast and Slow Growers
(1960—1989)

	Fast Growers	Slow Growers	t- statistic
Inflation rate	12%	31%	-1.7
Black market exchange rate premium	14%	57%	-3.8
Investment/GDP	23%	17%	5.2
Export/GDP	32%	23%	2.3

Source: Levine and Renelt (1992, Table 3).

Sample of 109 countries; fast growers are the 56 countries whose growth rate of pre-capita income exceeds the mean; slow growers are the remaining 53 countries.

TABLE 4
Progress in Transition and Macroeconomic Performance
(measured by the median of each group)

	Private Sector GDP share %	Score on enterprise restructuring & privatisation	Score on markets' liberalisation	Score on Banking Reform	Score on Investment Laws	Government Fiscal balance in 1995 % of GDP	Cumulative Decline (1989-93) in Fiscal Revenues % of GDP	Annual Inflation Rate %		Ratio of lowest registered GDP to 1989 GDP	GDP growth % 1995	Increase in infant mortality rate %
								1992	1995			
Advanced transition countries	60	37	3.3	3	3	-1	-5	93	22	76	5	-15
Intermediate transition countries	42	27	2.8	2	2	-7	-20	237	28	65	0	7
Early transition countries	27	2	2.3	1.8	2	-4	-18	1364	125	49	-5	156

a/ Source: 'Transition Report 1995', pp. 11, 185, 186, EBRD. The qualitative index of reform in columns 2 to 6 ranges from 1 to 4*, with 4* classed as 5 when medians were calculated. Most advanced industrial economies would qualify for the 4* rating for almost all of these indicators in the qualitative index of reform. 1 indicates negligible change from the old position.

b/ Source: de Melo *et al.*, World Bank, 1995

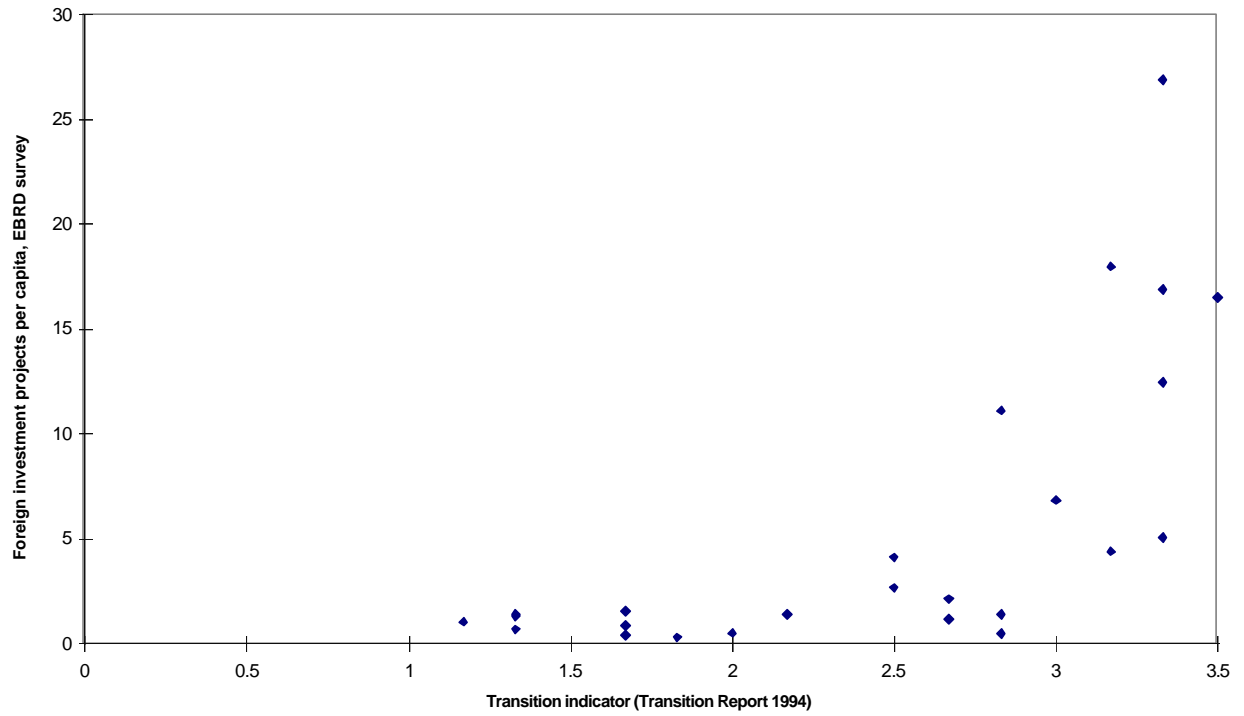
c/ Source: 'Crisis in Mortality, Health and Nutrition', p.6, UNICEF.

d/ Projection. It excludes the Central Bank quasi-fiscal deficits. Cash balances used when other figures not available. Data not available for Tadjikistan, Belarus, Turkmenistan.

Note: The groups include:

- (i) Advanced Transition (Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, Slovenia)
- (ii) Intermediate Transition (Albania, Bulgaria, FYR Macedonia, Kyrgyzstan, Romania, Russian Federation)
- (iii) Early Transition (Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Moldova, Tajikistan, Turkmenistan, Ukraine, Uzbekistan)

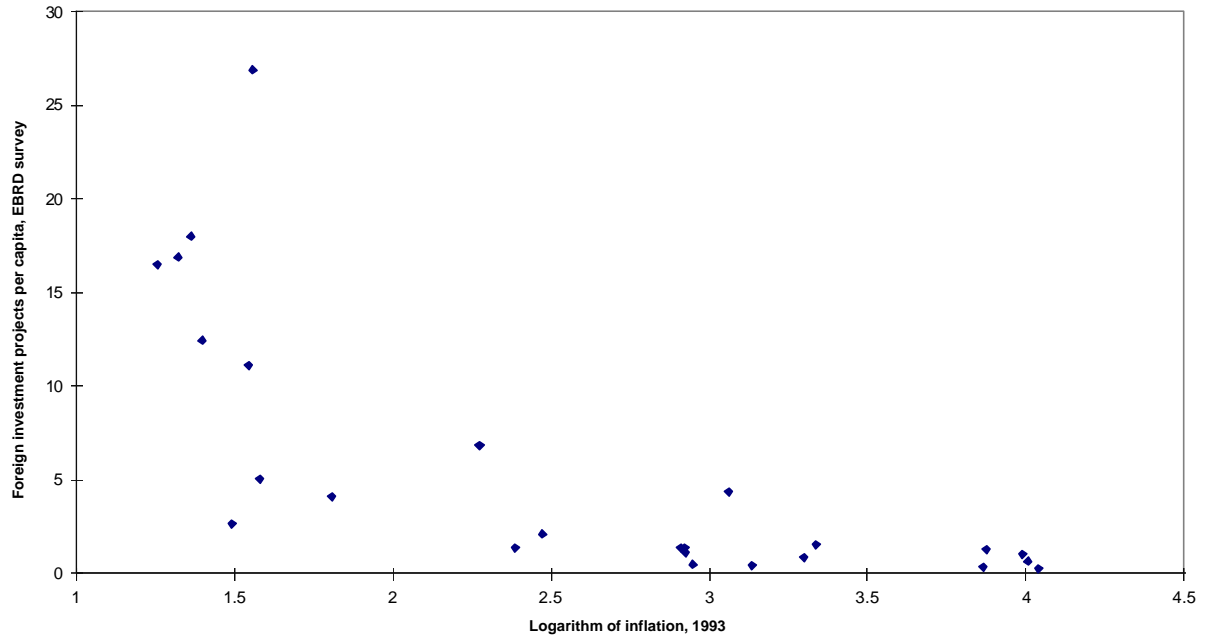
**Chart 1 Foreign direct investment and transition level
25 countries in transition**



Note: Each point reflects the number of investments in a country that had been undertaken by the companies in the survey, divided by population size (in millions), and the average of six scores that a country received in different areas of reform.

Source: EBRD (1995, 1996)

Chart 2 Relation between inflation and foreign direct investment
25 countries in transition



Note: Each point reflects the number of investments in a country that had been undertaken by the companies in the survey, divided by the population size (in millions), and the logarithm of the rate of inflation.

CHART 3

Prototype Path of Monthly Inflation in Transition Economies: Before and After Reform Breakthrough^a

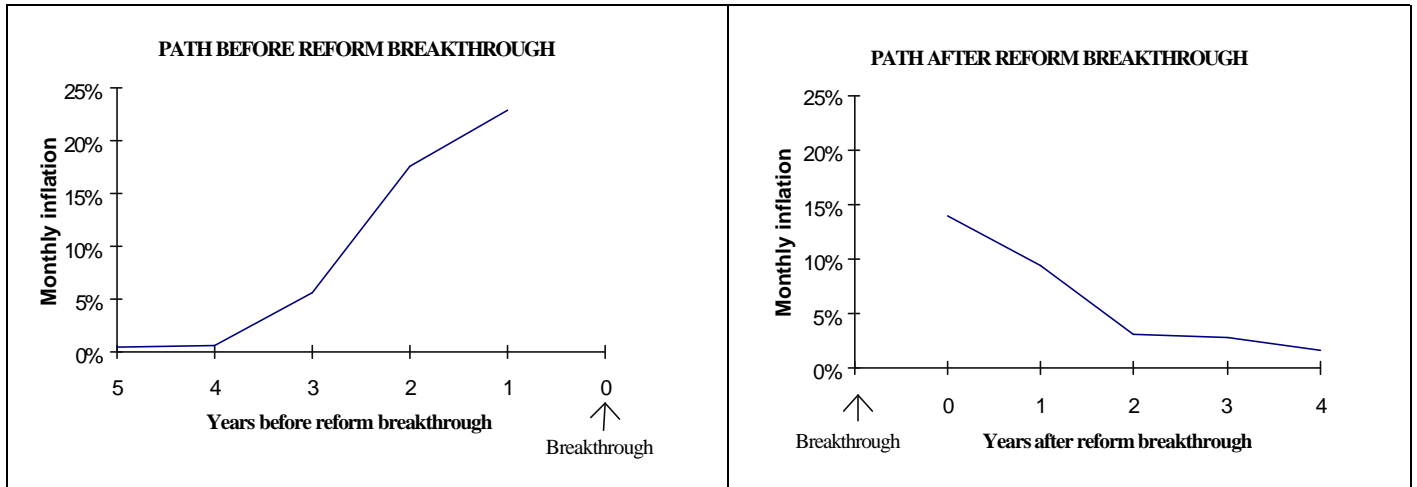
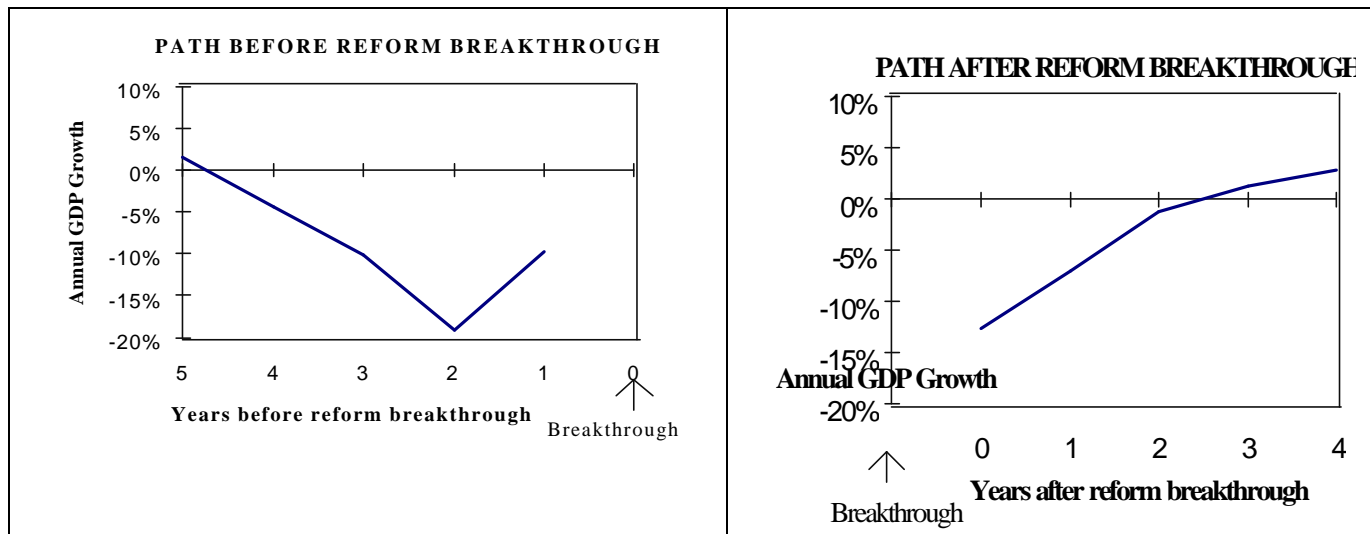


CHART 4

Prototype Path of Annual Real GDP Growth in Transition Economies: Before and After Reform Breakthrough^a



Source: De Melo *et al* (1995)

a/ Data for 25 countries of operation of EBRD, plus Mongolia. Results come from an statistical method known as 'switching regime regression'. The breakthrough is defined as the year in which a specific country has reached a set of transition indicators comparable to those of Poland as of 1990.

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