

CRITICAL SURVEY

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The economics and politics of regulation

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The article provides a critical survey of the literature on the economics and politics of regulation. After some conceptual clarifications, the article surveys the evolution of perspectives on regulation during the post-Second World War period, emphasising especially the interactions between intellectual changes and real world economic and political developments. It then looks at some themes that are neglected in the current literature—the inevitability of regulation, the need to create (and not simply regulate) markets, distributional issues, dynamic considerations, and the politics of regulation—and suggests that incorporating these themes more closely into the discussion will improve our understanding in this area.

1. Introduction

During the last two decades, in the context of a broader disillusionment with the efficacy and desirability of state intervention, many countries have embarked on a path of extensive regulatory reform, mostly (if not exclusively) in the form of deregulation. This was in stark contrast to the mood of the first couple of decades after the end of the Second World War, when state involvement in the economy increased dramatically in most countries. Why was there such a sea change? What were the consequences of such change? And how can we improve our understanding and policy practices in this area? In this critical survey, we shall try to answer these questions by tracing the evolution of the perspectives on regulation (and deregulation) in the post-war era. In doing so, we shall

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also provide an overview of the economic and political developments in the real world, which affect and are affected by the evolution of ideas. Before doing that, however, some conceptual clarifications are in order.

Regulation is usually defined as the government (or the state)¹ directly prescribing and proscribing what private sector agents can and cannot do, so that their actions do not contradict the 'public interest'. Defined in this way, regulation is distinguished from the government provision of public goods out of tax revenues and from the provision of 'commercial' goods and services through public enterprises. It is also distinguished from activities that are intended to affect the behaviours of private sector agents indirectly by modifying price signals such as the administration of taxes and subsidies.

Of course, in reality, the picture is not so straightforward. To begin with, it is not easy to define the 'public interest'. What is called the public interest in conventional economic literature is defined in relation to the particular notion of social welfare derived from neoclassical economics, which is by no means universally accepted. Moreover, even within the neoclassical framework, there is an on-going debate as to the exact definition of social welfare (Stiglitz, 1988, ch. 4; Cullis and Jones, 1992, ch. 1). Lastly, even if economists (or other social scientists) can *theoretically* define the public interest in an unambiguous way, what the government *perceives* as public interest may not coincide with that definition—and this is even before we question whether the government actually *intends* and *is able* to promote public interest, an important theme to which we shall return later.

Moreover, the distinction between regulation and other types of government intervention drawn in the above definition is quite often blurred in practice. For example, taxes and subsidies, if they are significant enough, in practice can amount to outright proscriptions or prescriptions (Gray, 1995, p. 6). Also, the distinction between the public provision of goods and services, on the one hand, and regulation, on the other, is not clear-cut in practice, because there are some agents whose status is neither entirely 'public' nor entirely 'private'. For example, is a government which affects the decision of a public-private joint venture 'regulating' it or not, according to the definition used above? There are also countries where public enterprises have a high degree of autonomy and operate on the basis of a formal contract with the government (e.g., the French 'plan contract'). The real, as opposed to nominal, distinction between them and, say, publicly regulated utilities in the US is not entirely clear.

Let us sum up our discussion in this section. The conventional definition of regulation is government activity that is intended to affect directly the behaviours of private sector agents in order to align them with the 'public interest'. This excludes the provision of public goods through budget disbursement or the operation of public enterprise, as well as tax/subsidy measures, from the realm of regulation. Although we acknowledge that it has a number of ambiguities, this is the definition we adopt. Let us now begin our main discussion by looking at the historical evolution of perspectives on regulation.

2. Historical evolution

2.1 *The age of regulation (1945–70)*

The quarter century after the end of the Second World War, which for the purpose of our survey we call the 'age of regulation', witnessed a general rise in the level of government involvement across the world (for an overview of these developments, see Chang and

¹ We shall use the two terms interchangeably. Although there are many good reasons to draw a distinction between them, such a distinction is not crucial for the purpose of this survey.

Rowthorn, 1995, ch. 1).¹ For various reasons that we shall discuss below, during this period governments of many countries began to practise more 'activist' macroeconomic policies, nationalised many enterprises (or established new public enterprises), increased spending (as a share of national income) and, most importantly for the purpose of our survey, increased the range and the depth of regulatory activities.

In the developed countries, with the emergence of new reform-minded 'corporatist' political coalitions, there was a marked swing of political opinion against *laissez faire* economic policies, which were associated with the spectacular failures of capitalism during the interwar period. Full employment and the prevention of violent macroeconomic fluctuations were put at the top of the policy agenda, and were regarded as achievable through the use of activist macroeconomic policies based on 1930s Keynesian economics. Many countries in Western Europe nationalised a large number of enterprises in 'strategic' industries, in order to provide the government with a 'commanding height'. Many countries also used various regulatory measures in order to control the 'excesses' of capitalist institutions, and, more importantly for countries other than the US and the UK, to modernise their economies.

The US, despite its reputation as the quintessential free market economy, was in fact ahead of other developed countries in many areas of regulation. In contrast to most other developed countries which adhered to *laissez faire* policies during the interwar period, the reformist forces in the US had already succeeded by the late 1930s in establishing an extensive regime of natural monopoly regulation in various 'utilities' (telecommunications, water, electricity, gas, oil), transport (trucking, airlines, railways), wholesale and retail distribution, and finance (Viotor, 1994, ch. 1). These regulations were aimed at improving allocative efficiency in the face of significant scale economies, to improve productive efficiency (or *x*-efficiency—the term comes from Leibenstein, 1966) in the absence of competitive pressure, to prevent 'excessive' competition that often led to destabilising price wars, and to make services universally available.² In addition, the enforcement of anti-trust regulation was significantly strengthened during the period.

In the other developed countries, i.e., the Western European countries and Japan, regulatory regimes have taken different forms from that in the US, although these differences may be diminishing now (Majone, 1990, Introduction). There were three notable differences.

The first difference was that in most of these countries natural monopolies were usually dealt with through public enterprises, which, technically, were not 'regulated' whereas, in the US, they were the primary targets for regulation. This difference is, of course, in many ways more nominal than substantive, because the government ministries and agencies supervising the public enterprises in these countries had to deal with the same kinds of problems as those the US regulators faced.

Secondly, they did not put as much emphasis on anti-trust regulation as the US did. The anti-trust law in Japan, for example, was implemented in a notoriously lax way until recently. The French government, especially in the 1960s, explicitly encouraged mergers,

¹ In this survey, we exclude the discussion of the (now mostly vanished) socialist countries, where the notion of 'regulation' as we define it had very little meaning, as most of them did not have a private sector, outside agriculture (in some countries) and some services.

² What is interesting to note is that not all industries which were put under regulation were subject to large scale economies (the best example being trucking), and that not all industries with large scale economies were put under regulation. This partially reflects the fact the American regulatory system was significantly determined by court cases rather than designed by a centralised bureaucracy, which made the system rather 'haphazard' (Sherman, 1989, p. 15).

in the belief that French firms needed to become bigger in order to survive international competition. The anti-trust laws in the UK and West Germany had many provisions to absolve restrictive practices on the ground of 'mitigating circumstances' (Swann, 1988, p. 16). This was not simply, or even mainly, because the government-business relationship in these countries was much less adversarial than that in the US. It was more due to the fact that the view of competition held by their governments was closer to what may be called the 'Continental' view (represented by people like Marx, Schumpeter, and Hayek), which regards the existence of market power as an inevitable consequence of the competitive struggle through technological and organisational innovation, than to the neoclassical view (that was behind the American-style anti-trust legislation), which views the existence of market power as anathema to competition (on different notions of competition, see Hayek, 1949; McNulty, 1968).

The most important difference between the US and other developed countries, however, was in their *objectives* of regulation. In Western Europe and Japan, which were in 'catching-up' positions *vis-à-vis* the US, the regulatory regime was often shaped by 'developmental' objectives, which put emphasis on 'dynamic' considerations (such as improving productivity, upgrading technology, and achieving efficient structural change), whereas the US regulatory regime was mainly shaped by the concern for 'static' productive and allocative efficiencies, and some concern for equity.¹

In tandem with such developments in the real world, there was a series of new theoretical developments during this period in the area of welfare economics (Pigou, 1920, is the seminal work), which provided systematic justifications for state intervention. The most significant developments included the following (for some textbook presentations, see Musgrave and Musgrave, 1984; Stiglitz, 1988).

Samuelson (1954) systematised the theory of public goods, where the difficulty of exclusion of the non-payers (the 'non-excludability' condition) and the absence of adverse effect from the addition of extra consumers (the 'non-rivalness in consumption' condition) lead to a situation where people have incentives to free ride on others for the provision of goods, thus justifying government provision, or regulation of the private sector providers, of goods and services like defence, law and order, and physical infrastructure.

A direct extension of Pigou's work during this period was the analysis of externalities through the works of Scitovsky (1954) and others. It was argued that when externalities exist, individual costs and benefits diverge from social costs and benefits, and therefore unconstrained individual actions will result in too many actions with negative externalities (e.g., pollution) and too few actions with positive externalities (e.g., basic R&D). Although it is generally agreed that taxes and subsidies are *theoretically* better measures for dealing with externalities than regulation, the latter is often used for this purpose, owing to the administrative and political difficulties associated with tax/subsidy schemes (e.g., emission control on cars).

The area of welfare economics which had most direct link with regulation (as defined in this survey) is that of natural monopoly. It was argued that in some industries with significant sunk costs, the lowest costs of production will be achieved by a single firm producing for the entire market (or a small number of firms, in the case of 'natural oligopoly'), but that this will result in all those vices associated with non-competitive markets—'deadweight welfare loss' due to allocative inefficiency, productive inefficiency

¹ This distinction roughly corresponds to Johnson's famous distinction between the 'regulatory state' (exemplified by the post-war American state) and the 'developmental state' (represented by the post-war Japanese or French states) (Johnson, 1982, ch. 1).

(or *x*-inefficiency) due to lack of competitive pressures, increased possibility of collusion among firms, increased possibility of 'predatory pricing' or 'pre-emptive investments' and other 'wasteful' behaviour, increased possibility of exploitation of consumers and of input suppliers by the dominant firms. And, naturally, it was deemed necessary that the government regulate the behaviour of the monopoly firms (or even break them up) to minimise these vices.

All these theories suggested that the government should engage in direct provision (or at least funding) of public goods, use taxes and subsidies in order to encourage certain activities (those with positive externalities) and discourage certain others (those with negative externalities), and put restrictions on what the firms in natural monopoly (or natural oligopoly) industries can do in terms of pricing, investment, and so on. With these developments, many existing regulatory practices gained a firmer grounding, and some new practices could be provided with secure theoretical justification when they were introduced later (e.g., environmental regulation).

In the developing countries, developmental objectives played a much more important role in shaping the regulatory framework than in the developed countries during this period, given their desire to gain economic as well as political independence from their former colonial masters. Deliberate attempts were made to promote industrial development through a wide range of regulatory and other policy measures. A large proportion of investment decisions were either taken or regulated by the government through its controls over public enterprises, public sector investment programmes, and sometimes the financial sector. Regulations on imports and foreign direct investments were imposed in order to shelter 'infant' industries from foreign competition, control the pace and form of technology imports, and promote the development of indigenous technological capabilities. Domestically, industrial licensing and other forms of entry regulations were used in order to induce manufacturing investments by guaranteeing profit to investors who would otherwise invest in less risky non-manufacturing activities, to coordinate complementary investment decisions, and to influence the amounts and types of investments in accordance with the overall industrialisation strategy.

In the formation of this regulatory regime, the rise of the sub-discipline of economics dubbed 'development economics' provided some useful ammunition, although it would be wrong to believe that such theories were entirely, or even mainly, responsible for the regulatory practices that actually existed. The so-called 'big push', or 'balanced growth' theory argued that, in the face of scale economies and demand complementarities, entrepreneurs in developing countries with a small industrial base would not have the incentive to invest in modern industries, unless there were some extra-market guarantee of complementary investments through investment planning by the government (Rosenstein-Rodan, 1943; Nurkse, 1952; Scitovsky, 1954). While pointing out the uncertainties inherent in the developmental process and the lack of managerial resources that together make the balanced growth approach impracticable, Hirschman's 'unbalanced growth' approach also focused on the idea of complementarities between industries, and argued that the government should target and stimulate those industries with most 'linkages' with other sectors, which would then stimulate spontaneous growth in the related sectors (Hirschman, 1958).

The 'age of regulation' was a period when most countries, developed and developing, experienced rapid growth and unprecedented material prosperity. While it is impossible to make a general statement about the efficacy of the regulatory regimes across countries during this period, it is clear that in many countries the regulatory framework that came

into existence at the beginning of this period (and for some ex-colonial countries, by the early 1960s, after independence) worked reasonably well. Many developed countries of Western Europe and Japan achieved spectacular successes with economic modernisation. It is also considered that the regulatory regime in the US largely accomplished its own objectives of providing '[h]igh quality, widely available services, secure contractual arrangements, and stable (often cross-subsidised) pricing' during this period (Vieter, 1994, p. 9). The picture in the developing world was more mixed, but in most countries, the post-war regulatory regimes worked reasonably well during the period, and were indeed very successful in quite a few countries. Although there were some lone voices who attacked government regulation, and government intervention in general (Hayek, 1944; Friedman, 1962; Buchanan and Tullock, 1962), there emerged a firm consensus by the end of this period that an activist regulatory regime was necessary in order to improve efficiency, promote growth, and spread the fruits of economic progress more evenly.

To summarise this section: for various political and economics reasons, there was a general shift towards more activist policy regimes across the world after the Second World War. However, there were significant differences between the regulatory regimes in the most developed countries such as the US, and to a lesser extent the UK, and those adopted by the rest. The regulatory regimes in the former put more emphasis on the correction of 'market failures' in the neoclassical sense, while those in the latter put more emphasis on 'developmental' objectives. During this period, there emerged a range of economic theories which provided justification for a more activist role for government. In addition to the development of Keynesian macroeconomics, the developments of welfare economics and of development economics led to the increasing sophistication of interventionist arguments, which hitherto had not had the strong intellectual backing that *laissez faire* policies enjoyed. At least partly, and in some cases largely, thanks to the post-war regulatory regimes, the capitalist countries achieved unprecedented economic progress, and the 'interventionist' regimes and the theories backing them seemed to have become firmly established.

2.2 *The transition period (1970–80)*

The 1970s was clearly a period of transition in many ways. The world economy witnessed the end of its 'Golden Age', and plunged into a new period of less robust economic performances, spiked with a few massive shocks such as the two oil crises and the debt crisis. Politically, in many countries, there were noticeable shifts to the Right, which advocated a substantial reduction in state intervention and a wider application of market principles. Intellectually, also, this period witnessed an upsurge in pro-market theories which challenged the post-war orthodoxy of 'regulated capitalism'.

During the 1970s, many, although not all, of the developed countries went through a period of industrial crisis, as their firms lost out to the new competitors emerging from Japan and the East Asian NICs. When combined with the strengthening of the workers' bargaining power as a result of near full employment, this deterioration in economic performance often meant an intensification of distributional struggle (usually manifested in accelerating inflation), and led to a collapse in the corporatist political settlements of the early post-war period. The changing political climate of the time was exemplified by the end of more than 40 years of unbroken social democratic rule in Sweden in 1976, the large-scale deregulatory drive initiated by the Carter administration in the US in the late 1970s, and the election of the Thatcher government in the UK in 1979. (Hirschman, 1982, provides a fascinating account of the changing political climate around this time.)

Although many studies of the Golden Age provide explanations for its collapse in which increased or excessive government regulation plays at best a secondary role (Marglin and Schor, 1990; Armstrong *et al.*, 1991; Cairncross and Cairncross, 1992), the existing regulatory frameworks did not survive these changes unscathed. Partly because of the failings in the existing regulatory regimes, which became more apparent during the period of crisis, but mainly because of the changing political climate, there was a growing opinion that the existing regulatory regimes were not working well and were even impairing the effective functioning of the economy.

One observation that has to be added here is that not everything during this period was pointing to a shrinkage in the regulatory remit of the government. In many developed countries, with the rise in affluence, there was a serious re-assessment of the (human and environmental) costs of rapid industrialisation, and a resulting rise in political movements which demanded a reduction in such costs. As a result, an increasingly wide range of 'social' issues (e.g., consumer protection, labour standards, environmental protection) have been brought into the realm of regulation, which was previously mostly occupied by 'economic' issues. So, during this period, there was a broadening of the regulatory mandate of the government in social areas, while there started a process of shrinkage in such a mandate in economic areas.

In the developing countries, the 1970s also witnessed growing disillusionment with the existing models of state-led industrialisation, often (somewhat misleadingly) dubbed 'import substitution industrialisation' models. While, as we pointed out before, the state-led industrialisation experiences had been on the whole successful in some countries, these experiences had not been without their problems, and were downright unsuccessful in many other countries. Moreover, even in countries where the earlier state-led industrialisation was quite successful, the regulatory regime did not necessarily adapt effectively to the changes in domestic economic conditions (which were caused in part by the success of the state-led industrialisation itself) and to the changing state of the world economy.

However, in the case of developing countries, major deregulation drives came later than in the developed countries, that is, in the 1980s—although Chile was already embarking on a path of 'neo-liberal revolution' under the brutal rule of General Pinochet by the mid-1970s. Until the debt crisis, many developing countries could continue to finance their developments through the international capital market, and therefore could sustain their early post-war policy regimes. Nevertheless, the 1970s saw the gradual evaporation of the consensus in many developing countries on their existing models of state-led industrialisation.

Partly reflecting these real world experiences, and partly affecting the way real world policy-making evolved, a series of economic theories, which can be broadly called 'government failure' arguments, were developed during the 1970s (see Mueller, 1979; Cullis and Jones, 1987). The gist of the government failure argument is that the government is *not* the benevolent, all-knowing, and all-powerful agent that it is assumed to be in welfare economics, or in other pro-interventionist economic theories. First, it was argued that the government is an organisation which is run by groups of self-seeking individuals (politicians seeking re-election and bureaucrats seeking higher salaries and more power) and is influenced by interest groups, with the result that it implements policies that serve these groups rather than the public interest. Second, it was contended that, even if we can assume that the government has the intention of promoting the public interest, it does not have the ability to achieve this, because policy design and implementation are costly and

because it may create harmful unintended consequences such as the diversion of resources into 'wasteful' lobbying activities (the so-called 'rent-seeking' theory).

Although few economists who used the (often implicit) characterisation of the government as an all-knowing, all-powerful social guardian in their theories regarded it as a realistic description of actual existing governments (e.g., Toye, 1991), it cannot be denied that the earlier interventionist theories had relatively little to say about how, in reality, policies are formulated and implemented, as opposed to what the 'right' policies should be. By attacking this crucial weakness, the government failure approach played an important role in turning the intellectual tide against interventionist theories. Two arguments are notable for the purpose of this survey (see Chang, 1994, chs. 1–2, for a more detailed discussion).

First, the so-called 'regulatory capture' argument, first proposed by Stigler (1971) and Posner (1974) and developed by Peltzman (1976), proposed that the regulatory agencies, once they are set up, become the objects of 'capture' by interest groups, including producers, consumers, and 'public interest' groups such as the environmental lobby. Although no group may be successful in capturing the regulatory agency completely, it is argued that the producer groups are most likely to be effective in such a capture because they, being small in number and well-endowed with resources, are better at organising 'collective actions' (the term comes from Olson, 1965). Thus, the theory of regulatory capture predicts that regulatory agencies will end up promoting producer groups' interests rather than the public interest—by, say, implementing regulations which effectively set up entry barriers that deter new entrants, with little positive effect on social welfare.

Second, this period also witnessed the rise of the theory of rent-seeking developed by Tullock (1967), Krueger (1974) and Buchanan *et al.* (1980). According to this argument, monopolies (and the associated 'rents') are mostly, if not exclusively, created by the imposition of government regulations. Given this, it is argued, it pays for people to spend resources on influencing the government's decisions. The theory argues that such 'influence costs' (the term comes from Milgrom and Roberts, 1990), which are called 'rent-seeking costs', may be a worthwhile price to pay for those who acquire the rents, but will be a net reduction to the social output (and therefore a 'waste' from the social point of view). Thus, the theory argues that the social costs of monopolies are not just those allocative inefficiencies usually associated with them, but also the costs of 'creating monopolies', that is the rent-seeking costs.

Another relevant development during this period was the idea that 'franchise auctioning' could be better than direct regulation. The idea, which was developed following the seminal article by Demsetz (1968), was that government regulation of natural monopolies, which tries to simulate the competitive outcome, can be replaced by 'competition for the monopoly position'—that is, the competitive bidding process for monopoly franchise granted to the highest bidder, usually for a specified period of time. This idea was later applied, for example, to the franchising of regional TV channels in the UK, and is deemed to have provided an interesting alternative to the direct regulation of natural monopolies.

With regard to developing countries during this period, there was a growing theoretical attack, based on 'efficiency' concerns, on the existing regulatory regimes (see, e.g., Balassa *et al.*, 1982; Little, 1982; Lal, 1983; for a critical review of the literature, see Toye, 1987). This attack, sometimes called the 'get the prices right' argument, contends that attempts to go against the market logic and 'force' industrialisation in developing countries have resulted in a host of inefficiencies. The policies, it was argued, that made capital

'artificially' cheap with a view to promoting investments, especially when combined with policies such as minimum wage laws which make labour 'artificially' expensive, meant that the production techniques used in many developing countries were often of the 'wrong' (i.e., 'excessively' capital-intensive) kind, resulting in an inefficient use of resources. It was argued that these industries could survive only with the help of tariff protection and quantitative restrictions on imports, which created price distortions and further added to economic inefficiencies. This 'artificial' industrialisation, it was argued, also resulted in the atrophy of agriculture, and, when combined with other policies that discouraged cash crop exports (e.g., overvalued exchange rates), also limited the ability of these countries to earn foreign exchange, leading to further balance of payments difficulties.

In addition to the above 'efficiency' arguments, many 'political economy' arguments, which try to explain the emergence and continuance of particular policies in terms of political forces, were also put forward in relation to developing countries. During this period, a seminal rent-seeking model was developed by Krueger (1974) with specific reference to trade policies in developing countries (India and Turkey), but the more powerful political economy critiques came from a group of radical economists working in the tradition of the so-called 'dependency theory' (for a review, see Palma, 1978). They argued that the reason 'inefficient' regulatory regimes persist in many developing countries is that they serve the interests of imperialist countries and the indigenous 'compradore' interests. Another radical economist, Lipton (1977), proposed a model of political economy called the 'urban bias' argument, which was later utilised by many right-wing political economists (see section 2.3). The argument was that government policies in developing countries have an 'urban' (or 'anti-agriculture') bias that creates inefficiencies and inequalities, because urban groups such as industrialists and organised labour have disproportionate political influence when compared to the geographically dispersed and politically ill-organised farmers (for a critique, see Byres, 1979). One interesting point to note is that many of these radical arguments have a logic that is essentially the same as that behind Stigler's capture theory (on this point, see Chang, 1994, pp. 18–22; see also Toye, 1991).

The 1970s was a decade of transition. Although the post-war consensus on economic policy held through this decade in most developed countries other than the US and the UK, it was coming under increasing strain. Most developing countries had less difficulty in maintaining their earlier policy regimes during the 1970s, but even there this period witnessed a growing dissatisfaction with the existing state-led industrialisation programmes. There began to emerge a series of powerful arguments which questioned the (often implicit) assumption in many pro-interventionist theories that the government could be treated as an omniscient and omnipotent social guardian—the theory of regulatory capture and rent-seeking theory are notable examples. Similar arguments which question the 'intention' behind government intervention were put forward in relation to developing countries, mostly by radical economists, such as dependency theory and the urban bias argument. Regulatory practices in the developing countries also began to be criticised for their inefficiencies, by the so-called 'get the prices right' argument.

2.3 *The age of deregulation (1980–the present)*

The political and intellectual tidal wave against regulation and government intervention in general, that started to surge during the 1970s, began to sweep the whole world from the early 1980s. During this period, following various external and internal pressures, many countries embarked on the path of extensive restructuring of the relation between

state and economy, including regulatory reforms, budget cuts, and privatisation. There also arose numerous economic theories that built on the insights provided by the government failure arguments of the 1970s.

The continued lagging economic performance in the developed countries since the mid-1970s discredited, rightly or wrongly, their former models of economic management that relied on Keynesian aggregate demand management and extensive government regulation. In addition to the fall from grace of Keynesian macroeconomic policy and the attempts to reduce significantly the tax burdens imposed by the welfare state, there was a growing concern that excessive regulation was holding back many developed countries, especially in Western Europe, against the competition from countries like Japan and the East Asian NICs—the most famous of these arguments being the institutional ossification thesis of Olson (1982) and the so-called ‘Eurosclerosis’ argument (Giersch, 1986).¹

By the early 1980s, the US and the UK was in the middle of a significant drive for deregulation (and privatisation in the case of the UK) (see Swann, 1988; on the US, see Winston, 1993; Vietor, 1994; on the UK, see Vickers, 1991). Although very significant deregulation (and privatisation) have been, at least until now, confined to the US and the UK, other developed countries also moved, in varying degrees and speeds, towards deregulation and a general reduction in government involvement in the economy, through spending cuts, sales of state assets (if not wholesale privatisation), introduction of more ‘commercial’ criteria into the operations of public enterprises and welfare provision, and the introduction of more ‘market-oriented’ methods of regulation such as franchise bidding (see section 2.2) and ‘yardstick competition’.² Simultaneously, there was a significant reduction in the ‘developmental’ activities of the government in many developed countries, best exemplified by the slow demise of the French *dirigiste* industrial policy—although this period also saw, somewhat ironically, the emergence of a lively debate on ‘developmentalist’ industrial policy in the US, prompted by the success of such policies in its main competitor economy, Japan (for reviews of this debate, see Johnson, 1984; Chang, 1994, ch. 3).

We have already mentioned that many developing countries could sustain their early post-war policy-regimes during the 1970s thanks to the availability of cheap finance recycled by the oil-exporting countries. However, this option became increasingly expensive with the introduction of restrictive macroeconomic policies (especially high-interest policies) in the developed countries from the end of the 1970s, and finally became unsustainable with the Mexican default of 1982. With the sudden drying up of international capital, except for the most creditworthy (e.g., Korea), many developing countries, mainly from Latin America and Africa, plunged into a period of prolonged recession and economic decline during this ‘lost decade of development’ (the term comes from Singh, 1990).

Although it is still debated how exactly the ‘responsibilities’ for their economic troubles during this period should be allocated between poor internal management and adverse

¹ One problem with this argument is that most of the regulations which are accused of holding back the Western European countries already existed during the Golden Age. Another important point to note is that many of the regulations condemned by the ‘Eurosclerosis’ argument exist in the supposedly ‘flexible’ economies of Japan and East Asia (see Chang, 1995). Thus seen, while it may be true that in certain areas regulations have become excessive in Western European countries, it is difficult to believe that excessive regulation was the main reason, at least in the direct sense in which the proponents of the Eurosclerosis argument put it, for the recent difficulties experienced by these countries.

² Yardstick competition refers to the practice where the market is divided up between sub-monopolies (e.g., regional monopolies) and the regulator explicitly uses their comparative performances to set general performance targets (see Vickers and Yarrow, 1988, ch. 4).

external macroeconomic shocks (e.g., compare Sachs, 1989 and Hughes and Singh, 1991), it was clear that these countries could not go on as they had been doing. When combined with the spreading domestic dissatisfaction with the earlier models of state-led industrialisation, the external pressures from the international lending agencies led most developing countries to embark on serious reform of their regulatory regimes, and more generally of the way government relates to the private sector. Needless to say, not all countries embraced the reform policies with an equal degree of enthusiasm. Some countries simply refused to reform, often ending up having to do more later because of their economic collapse. Some did accept the need for reform, but did it in a very gradual fashion (notable examples include Korea, Taiwan, and China). And some did it more thoroughly than others (notable examples include Chile, Mexico, and Ghana).

The age of deregulation witnessed a marked development in the anti-interventionist theoretical literature, although the latter part of this period also saw the rise in new theories that provided further justification for government intervention, albeit in a more nuanced way than their predecessors, such as the 'strategic trade' theory (e.g., Krugman, 1988), the 'new growth' theory (e.g., the special symposium in *Journal of Economic Perspectives*, 1994), and the economics of technological change (e.g., Dosi *et al.*, 1988; Nelson, 1993).

The government failure literature which emerged during the 1970s was further developed during this period, and provided more justification for the drive towards deregulation and other state disengagement—although there was no new contribution that was comparable in originality to those made in the 1970s (see section 2.2). This period also witnessed a rise in the so-called 'new economics of regulation', which puts emphasis on informational and incentive problems in the regulatory process. The models in this vein analyse how the existence of informational asymmetry between the regulator and the regulated firms results in extra monitoring costs, 'slacks' (or *x*-inefficiency) in production, the use of 'wrong' combinations of factors of production, and other inefficiencies (see Tirole and Laffont, 1993, for a comprehensive treatment; Caillaud *et al.*, 1988, provide a technical review). One interesting recent extension of this literature concerns the issue of 'credible commitment' in regulatory reform (for some recent examples, see Levy and Spiller, 1994; Willig, 1994). A government, it is argued, that suffers from a credibility problem (e.g., due to a past record of policy volatility) should deliberately take actions that limit its policy flexibility in order to make its commitment to reform credible—possible actions include things like binding itself to some simple and rigid rules, setting up politically independent regulatory agencies, or even 'borrowing' the credibility of some external authorities (e.g., international financial institutions).¹

This period also witnessed the emergence of the theory of the 'contestable market' (Baumol *et al.*, 1982), which argued that government regulation of a natural monopoly may not be necessary, *if* there is no need for significant 'sunk' investments to enter the industry. The intuition behind this argument is that, with low entry barriers, the market becomes 'contestable', if not 'competitive', in the sense that new entry can happen easily and that the threat of new entry will keep the incumbent monopolist on its toes. If this were the case, it was argued, what appears to be a natural monopoly may in fact be approximating the competitive market outcome, making regulation unnecessary. Although its applicability is limited by the fact that natural monopoly situations usually happen *because of* the need for sunk investment, this argument led to a re-examination of some conventional wisdoms in the theory of regulation.

¹ However, such policy inflexibility can be costly in the long run, as it means that the country may not be able adequately to adjust its regulatory regime to changing conditions (also see section 3.4).

Another interesting theoretical development of this period is the extension of the literature on property rights, originating with Coase (1960), to issues pertaining to regulation (Barzel, 1989, provides a good exposition of this literature). According to this view, externality problems are in a sense problems of the absence of certain property rights, and therefore can be solved by redefining property rights and creating relevant markets—of course, with the important proviso, which was emphasised by Coase himself but often ignored by many of his followers, that the transaction costs of doing so are not too great. For example, it was argued (and put into practice in some areas) that a more efficient way of pollution control is through the establishment of the market for tradable pollution permits rather than by government directly regulating, say, the choice of production technologies by individual firms.

In relation to the developing countries, the new political economy models that have emerged since the 1980s have tended to emphasise the capture of the government apparatus by sectional interests (for a critical review, see Colclough, 1991). Bates (1981) applied Lipton's urban bias model (see section 2.2) and criticised the policies of many African governments as serving the interests of the industrialists, organised workers and powerful farmers, at the cost of unorganised workers in the urban area and the small farmers. Bardhan (1984) argued that the inability of the Indian state to impose order over the dominant proprietary groups of industrialists, rich farmers, and urban professional classes results in the limited tax base of the government (mainly thanks to its inability to tax agriculture) and in the frittering away of government resources, which could be invested in socially productive infrastructure, in the forms of subsidies and tax concessions. The so-called 'macroeconomics of populism' literature argued that the political power of organised working-class movements in some Latin American countries lead to the election of 'populist' governments which engage in unsustainable macroeconomic policies, including increased public spending and wage hikes, in the belief that this will lead to a continued expansion of the economy (which in their view is suffering from demand deficiency due to skewed income distribution)—with the often disastrous results of hyperinflation and soaring budget deficits (see Dornbusch and Edwards, 1991). Many (though not all) of these theories specifically recommended deregulation as a solution to the 'capture' problem, in the belief that the best way to prevent the capture of government is to make it pointless by taking away its power to change market outcomes.

It is not easy to make a general statement about the success or otherwise of the deregulatory moves in different countries during the 'age of deregulation', as the patterns of such reforms and their results vary across countries. The fact that in many countries deregulation was implemented together with a host of other policy measures—privatisation, macroeconomic stabilisation, etc.—also makes it difficult to isolate the effects of deregulation.

In certain areas, the deregulation moves were quite successful—especially when it concerned industries where there were few economic justifications for regulation in the first place, such as the US trucking industry,¹ or where technological changes made the old regulatory regime obsolete, such as long-distance telecommunications industries in many countries. In other areas, especially in the financial sector, there are many cases of disastrous outcomes, especially when deregulation was mistakenly equated with a complete withdrawal of the government, such as the financial deregulation disaster in Chile in

¹ Many commentators (e.g., Victor, 1994, ch. 1) point out that the most important motivation for the regulation of the trucking industry was to minimise its corroding effects on the regulatory regime of the rail industry.

the early 1980s (Diaz-Alejandro, 1985), the US Savings & Loans fiasco (White, 1993), and the recent Mexican *débâcle*. There were also many areas where the results were mixed.

At the level of the overall economy, the impact of deregulation seems much less positive. Despite some sectoral success stories, the two leading countries in deregulation, namely the US and the UK, have not succeeded in markedly improving their economic performances after their deregulation drives. The deregulation moves in other developed countries have not been as substantial as the Anglo-Saxon ones, but whatever their magnitudes, their impact is not very visible, at least as yet. In Latin America, countries which went for the most radical forms of deregulation (for example, Argentina, Bolivia, and Mexico) failed to raise their trend rates of growth, while the move is believed to have contributed to a significant fall in their investments, making their long-term growth prospects weak (Solimano, 1992; UNCTAD, 1995). In the case of the African economies, those which went for radical deregulation (for example, Ghana) did initially improve their economic performances quite substantially. However, this was mainly due to increased capacity utilisation and the improvement in the availability of imported inputs, and rather quickly seemed to run out of steam (Haque *et al.*, 1996, ch. 5). More positive effects of deregulation on the overall economic performance may be found in many Asian countries, where a more gradual approach was adopted and where an already strong investment performance was strengthened, partly through deliberate policy measures.

One apparent puzzle in interpreting this evidence is that, while there are many sectoral success stories of deregulation, there seem to be many fewer positive stories about its impact on the national economy. Two things must be considered here. One is that most of the sectoral studies come from the US, and to a lesser extent the UK, and therefore do not give an adequate picture of what has been happening in the rest of the world—more sectoral studies from other countries are needed. The second, more important, consideration is that sectoral assessments and economy-wide assessments are often talking about different things. Most sectoral studies, having been authored by neoclassical economists, assess the deregulation exercise in terms of static productive and allocative efficiencies, while the economy-wide assessments are often made in terms of ‘dynamic’ efficiency—that is, growth and productivity performances (see section 3.4). So it is perfectly possible that deregulation has led to significant improvements in static efficiency in certain sectors, but that such gains were essentially of a once-and-for-all nature and did not have much long-term impact, or even that they adversely affected the growth dynamic at the national level. As a result, many countries which went into a deregulation drive with the expectation that it would ‘revitalise’ the economy by freeing entrepreneurs from government restrictions and thus promoting innovation and productivity growth, rather than just hoping for static efficiency gains, were often bitterly disappointed.

Let us summarise the discussion in this section. Since the 1980s, most countries, developed and developing alike, deregulated their economies, at least to a degree. Deteriorating economic performances during the 1970s were often attributed to excessive government involvement in the economy, and consequently attempts were made to cut government spending, privatise public enterprises, and deregulate the economy. In the theoretical world, there was an impressive growth in the number of models developing the insights of the government failure approach that originated in the 1970s. It is difficult to make a general statement about the impact of deregulation during this period, but it seems fair to say that, while there are some notable sectoral success stories, at least when seen from a static efficiency point of view, the often-expected dynamic benefits of

deregulation at the economy-wide level do not seem to have materialised in any great quantity in most countries.

3. Going beyond: some neglected themes

Whatever the merits and demerits of the individual theories discussed in the previous section, it seems fair to say that we now have a better understanding of many regulatory issues than we had in the immediate post-war years. We have a better understanding of the causes and the mechanisms of market failures that call for regulation, or some other intervention by government. We are also wiser about the political processes around the operation of regulatory regimes, and around state intervention in general. However, we are still some way from a satisfactory understanding of this multi-faceted and complex issue called regulation. In this section, we shall suggest some ways to improve our understanding of the economics and the politics of regulation, by dealing with some important themes that have been either neglected in the existing discussions or dealt with in an inadequate way.

3.1 *The need for regulation*

Given the current anti-government mood, there is a popular belief that the fewer regulations there are, the better. However, it should be remembered that well-functioning markets need effective regulations regarding certain basic aspects of their operation, and therefore that less regulation is not necessarily better. Any market requires regulations not only on fraudulent activities but also, more generally, on what constitutes 'fair' trading (however defined), in order to maintain its integrity. In some markets where the buyer cannot know the value of the goods or services exactly even after the purchase (for example, markets for professional services or technical consultancy), certain regulations on who can supply them may be necessary. Ronald Coase, the 1992 Nobel prize-winner and a leading institutionalist economist, has pointed out that even the stock market and the commodity exchange, which are thought to approximate the ideal market described in textbooks most closely, can function well only when they have strict regulations on what can be traded, who can trade, how much prices can vary in a given period of time, and so on (Coase, 1988).

At a more theoretical level, recent developments in institutional economics have shown that complex modern economies require a certain degree of 'rigidity' imparted by things like intra-organisational rules, long-term relational contracting, and government regulations (see especially Simon, 1991; for some representative contributions, see Langlois, 1986). This perspective emphasises that human beings have only limited computational and decision-making capabilities and therefore cannot deal with complex problems, unless they use certain rigid behavioural rules which allow and encourage them to ignore certain possible courses of action—otherwise, they will not be able to cope with the complexity (the so-called 'bounded rationality' argument: see Simon, 1983; see also Arrow, 1974; Hayek, 1988, pp. 11–28). Somewhat paradoxically, then, the totally 'flexible' economy, without any rules other than those necessary for exchange to occur at all (such as property rules), which provide the ideal benchmark for many proponents of deregulation, may not be able to sustain much more, to borrow Coase's analogy, than lone individuals exchanging nuts and berries on the edge of the forest (Coase, 1992, p. 718). Complex modern economies need an array of 'rules' (and the consequent binding commitments and behavioural rigidities) in order to function at all.

Of course, many of these rules can be, and often are, provided by the private sector itself. As Coase (1988) points out, the ‘regulations’ in the stock market are often provided by the stock exchange itself. Many professions in many countries impose ‘self-regulation’ on their members’ qualifications and practices. In this sense, many markets which are apparently regulation-free are, in fact, heavily regulated—although not necessarily by the government. Choosing between government regulation and self-regulation is at one level a matter of relative efficiency—government regulation may have a cost advantage owing to scale economies in information processing, the possibility of moral hazard may make self-regulation less efficient, etc. However, government regulation and self-regulation are not, in the final analysis, full substitutes, because self-regulation has ultimately to be backed by the government through legislation and other directives that draw boundaries around ‘permissible’ behaviour. In this sense, deregulation should not be equated with the abolition of all government regulations, although which are the strictly ‘necessary’ regulations is another, very difficult, question.

It should also be pointed out that deregulation in certain areas may require *increased* government regulation in other areas. For example, deregulation of industry and finance may require increased regulation regarding protection of consumers and depositors, respectively (Swann, 1988, p. 1). The recent US Savings & Loans débâcle or the Chilean banking crisis in the early 1980s show how freeing financial institutions from certain regulations (say, on interest rates setting) should have been complemented by increased regulations regarding things like capital base, the kind of assets certain types of financial institutions can hold, and so on. Similarly, the removal of entry restrictions in industries with sunk costs may only be effective when anti-trust-type regulation on predatory behaviour is strengthened (Vickers, 1991). The recent tendency of many governments to apply more severe regulations to incumbent firms than to the new entrants in certain industries (e.g., telecommunications) also reflects a similar concern. It has also been argued, on the basis of the experiences of the UK and other countries, that privatisation often needs to be accompanied by fortified, rather than weakened, regulatory regimes, since it leads to ‘a significant increase in the number, scope and complexity of contractual relations, as relations which were previously internal to publicly owned industries are now the subject of market contracts between private firms, or of “contracts” between regulator and provider’ (Michie, 1995, p. 129).

3.2 *The need to create markets*

An important issue that is hardly recognised in the existing literature on regulation is that government intervention may be necessary not just to regulate markets, but also to ‘create’ them.¹ This problem of ‘creating markets’ is not absent in the developed countries, but is much more serious in developing countries and especially the economies in transition, where property rights are not clearly and securely defined and where an effective legal framework for business conducts does not exist. Some believe that ‘markets develop naturally’ (Stiglitz, 1992, p. 75), but this plainly is not the case. As Polanyi (1957) and Coase (1988) argue, even in Britain, where many believe the market system to have emerged totally spontaneously, the government’s role in establishing property rights and providing a basic regulatory framework for particular markets was essential. The problem is that creating markets is a much more complicated exercise than it first appears.

¹ Moreover, government regulations not only create markets but also their main protagonists, namely firms, by setting the rules regarding the constitution and dissolution of ‘legal persons’ and regarding their rights and obligations. I thank one of the anonymous referees for raising this important point.

First of all, the government needs to decide, in light of society's 'preferences', whether or not to create markets for certain goods and services. This decision is not purely 'economic', because there are certain goods and services which that society may *not* want to be provided by the market (and want to be allocated according to merits and/or needs), even if it is more 'efficient' to do so. For example, some societies simply will not accept markets in blood or human organs. Some societies are not willing to allow private firms to provide police services or prison services, whatever the efficiency gains might be. Different countries use markets in different degrees in the provision of 'merit goods' like health or education. Many societies have made deliberate decisions that certain utilities are not going to operate fully according to market principles, and so on. Some of these decisions may have been costly in economic terms (and some of them are now therefore being reconsidered), but it is important to recognise that the boundaries of markets are determined not only by efficiency considerations but also by non-economic, or even 'moral', considerations—such as legitimacy (police services and prison services), fairness (health or utilities), merit (education or health), or even the belief that 'there are some things that money cannot buy' (markets in organs or blood). Unfortunately, the current discussions on regulatory reform have little to say on this front.

Once it has been (at least implicitly) decided that some goods and services are going to be provided through the market, property rights have to be assigned and enforced. Assigning property rights is, again, not so simple as it seems. We usually think that owning something is a straightforward matter. However, even if one owns a resource, the uses to which it can be put are limited by the property (and other) rights of others. For example, I may own a knife but I am not allowed to kill you with it, because society values your right to live more than my freedom to use my property freely. Or you may own a certain piece of machinery but you may not (or may) be allowed to operate it if it pollutes my private lake, if society values my right to keep my property from getting dirty more (or less) than your right to use your machine as you like. In other words, the delineation of property rights is not independent of what rights members of society accept as legitimate, and as a result most, if not all, property rights are 'truncated' in a most complex manner (Demsetz, 1988; see also Barzel, 1989).

That this is the case is best illustrated by the example of child labour. Most people living in twentieth-century OECD countries, including most of those who could potentially benefit from employing children, would *not* regard the prohibition of child labour as a regulation in the conventional sense, because they value the right of children not to work more than the right of employers to hire whomever they find most desirable. However, many nineteenth-century European capitalists (and indeed many capitalists in current developing countries) *did* (and *do*) regard it as an unwarranted regulation that interferes with the 'free' workings of the labour market, because they did not (and do not) share the value judgement of twentieth-century OECD citizens. This shows that what a society regards as the *legitimate* system of rights differs across time and place, and therefore that an 'unregulated' (or 'free') market cannot be defined without explicit reference to the system of rights regarded as legitimate by the society in question. And as there are always disputes and struggles going on about defining the legitimate system of rights, creating a 'free' market is not as simple as some people think (for a fuller discussion, see You and Chang, 1993).

3.3 Distributional issues

Many real life regulations have been motivated by distributional considerations as well as by the concern for efficiency (Bryer, 1990, p. 36). Regulation of natural monopoly often

involves limiting, directly and indirectly, the amount of monopoly rents that the firm can appropriate. Through franchise bidding, governments can extract at least a part of the rent element from producers, which may be redistributed in the form of tax cuts or subsidies to some other groups. Many countries force firms providing things like electricity, telephone, postal service, and railway services to provide a 'universal service', on the ground that the fact that someone lives, say, on a remote island should not deprive him/her of, say, a postal service or electricity. This not only redistributes income from the producers to consumers, but also from other customers to the 'disadvantaged' customers. Regulations regarding the relationship between large assemblers and small subcontractors, which often limit the ability of large firms to increase their shares of joint surplus by exercising their superior bargaining power, are another example of distribution-oriented regulation. Regulations on labour standards, as another example, also have an element of redistribution from the employers (and consumers, if firms can pass on the cost to them) to the workers.¹ The examples could go on.

Recent deregulation moves, naturally, have also had significant distributional impacts. For example, many studies point out that often the biggest 'losers' in deregulation moves have been those 'disadvantaged' customers who were subsidised under the old regime but were now often denied access to the service or charged much higher prices, on the one hand, and the employees of the affected firms, who were sometimes made redundant or forced to work in worse conditions, on the other (see Joskow and Rose, 1989; and Winston, 1993, for a review of the empirical literature). While it is possible, and perfectly legitimate, to argue that the losses made by some groups are outweighed by the overall gains (according to the so-called 'compensation principle'; for a classic discussion of this issue, see Dobb, 1969, ch. 6), the distributional consequences of such moves need to be made explicit and discussed, which is not very often done, as this will enable policy-makers to deal better with the political implications of such consequences.

For example, even if there *is* a net social gain from deregulation, it may be difficult to judge it as positive, when we consider that the losers from deregulation may lose in a big way—especially when they are the owners of 'firm-specific' or 'industry-specific' physical or human assets whose values diminish sharply outside their current employments (on the concept of asset specificity, see Williamson, 1985, ch. 1)—while most of the gainers may not gain that very much individually. For example, do we (society) really want to make 1,000 airline employees redundant in order to give an average £100 savings to 500,000 customers? Or do we think that it is acceptable if those 100,000 who live in remote areas are denied rail services in order to allow the average rail traveller £25 savings per year? Maybe we do, and there is no God-given reason why we should not, but these questions need to be highlighted, rather than buried under some estimated figures for net gains and losses. This will also help society to devise acceptable 'compensation schemes', if the gainers care to pay out part of their gains actually to compensate the losers.

Even among the gainers of regulatory reform, there is still a problem of dividing up the gains. For example, recently there has been intense public debate about the massive increases (anything between 50% and 500%) in compensation among the top executives of the privatised British utility companies (gas, water, and electricity), which were put under relatively lenient regulatory regimes after privatisation. While many consumers gained from the increased cost-effectiveness and some also from the changes in tariff

¹ It should be noted that, if better labour standards elicit higher productivity, no one has to lose from it, although how much exactly employers, workers and consumers would gain respectively would depend on circumstances.

structure, many consumers who were gainers (not to speak of the employees made redundant or those 'disadvantaged' consumers who lost out) were not convinced that the company executives should get such a large share of the gain—although, again, there is no one 'just' way of dividing up those gains.

As Joskow and Rose (1989, p. 1487) point out, the traditional literature on regulation has unfortunately neglected the distributional implications of regulation and deregulation, in favour of static efficiency issues. While some 'aggregate' judgement across different individuals and groups is inevitable, distributional issues should not be neglected. Especially given that the concern for 'fairness' (however defined) of the outcome is often a very important factor determining whether people accept or reject a particular policy change, the success of a regulatory reform depends at least partly on making people accept the fairness of its distributional consequences. Although the more recent work on the politics of regulation has given more attention to distributional issues, our understanding in this area is still inadequate (Joskow and Rose, 1989; Noll, 1989).

3.4 *Dynamic considerations*

The existing literature on regulation does not give adequate attention to 'dynamic' issues, or what this survey called 'developmental' issues, as opposed to the issue of static efficiency. Some authors conduct their analyses of regulation and deregulation purely in terms of static efficiency, and the impacts of regulatory reform on productivity and growth are not even considered.¹ This is a highly inadequate approach, given that the gains (or losses) from improved static efficiency are usually relatively small and of a once-and-for-all nature, whereas the dynamic gains (or losses) could be very large and long-lasting.² Thus, even if the regulatory reform in the form of, say, increased 'anti-trust' activities reduces the productivity growth rate only moderately (which it may do, see below), the improved static efficiency gains from such a reform will quickly be more than offset by such losses in dynamic efficiency. Some authors *do* acknowledge the importance of dynamic efficiency, but believe that achieving higher static efficiency either by deregulation or by stricter anti-trust regulation (depending on the situation) will generally lead to higher dynamic efficiency. The well-known World Bank regression between price distortion indexes and growth rates across countries reflects such a view (e.g., World Bank, 1983, 1991). However, as even one of the leading neoclassical economists points out (see Krueger, 1980), there is no economic theory which tells us that achieving higher static efficiency will necessarily lead to higher dynamic efficiency (see also Taylor, 1993)—and, of course, there is a 'prior' problem that, at the economy-wide level, removing 'distortions' in more, but not all, markets does not *necessarily* improve even the static allocative efficiency of the economy (the so-called 'second-best theorem' of Lipsey and Lancaster, 1956).

¹ In their review of the empirical literature on the impact of regulation (and thus by extension deregulation) in the US, Joskow and Rose (1989) argue: 'It is distressing that so little effort has been devoted to measuring the effects of regulation on innovation and productivity growth. Much of what we do know is now quite dated. The static gains and losses from regulation are probably small compared to the historical gains in welfare resulting from innovation and productivity growth. Further research on what, if any, effect regulation has on the dynamics of productivity growth and the development of new goods and services therefore seems essential' (p. 1484). See also Winston (1993, p. 1268).

² The classic estimate by Harberger (1954) of the loss from allocative inefficiency due to monopoly in the US put the figure around 1% of GNP. Later estimates which took into account 'rent-seeking' costs put the figures around 4–5% of GNP. McCormick *et al.* (1984) argue that, as past 'rent-seeking' costs cannot be recouped through deregulation (as they already have been expended), '[t]he gain from deregulation is less than the Harberger costs, perhaps one-half percent of GNP' (p. 1078).

Schumpeter (1987) argued that monopoly rents (or what he called entrepreneurial profits) provide the incentive to innovate and, in the modern age of large-scale R&D, the resources to innovate. If this is true, there may even be trade-offs between static and dynamic efficiencies. If the regulatory reform involves reductions in market power and the associated monopoly rents (e.g., by intensifying anti-trust regulation), the rate of innovation and productivity growth may be adversely affected. Of course, as recent researches on the economics of technological change show, the story is not so straightforward (see Dosi *et al.*, (1988; Nelson, 1993). Market power is only one of many determinants of innovation and productivity growth which are also affected by many other institutional and technological factors. The point is not that a certain type of regulatory regime (e.g., lax anti-trust regulation) is necessarily good for dynamic efficiency or not, but that the current discussions on regulatory reform do not give adequate attention to considerations of dynamic efficiency.¹

It also has to be noted that the relationship between regulatory regime and technological change (which is an important determinant of dynamic efficiency) is not unidirectional. Above, we talked about the impact of changes in the regulatory regime on technological innovation and productivity growth, but changes in technologies can also affect the effectiveness of the existing regulatory regime. For example, if technical progress leads to larger (smaller) scale economy in a particular industry, the need for regulations to control the problems resulting from market power in that industry will increase (decrease).

Technological progress can also lead to the 'unbundling' of a natural monopoly industry, which makes deregulation of certain segments of the industry feasible and desirable—as seen in the recent developments in the electricity and the telecommunications industries (see Gray, 1995, p. 9). Technological progress may also blur the traditional boundaries between industries, calling for a 're-packaging' of existing regulatory measures—as seen in the recent inter-penetration of the computer and the telecommunications industries. Technological progress also leads to the emergence of entirely new industries, for whose future development a timely establishment of a stable regulatory regime, especially in relation to product and process standards, can be crucial (Chang, 1994, pp. 76–7). All these suggest that regulatory regimes should not be taken as given, but should be adapted to changing technological conditions in a dynamic way.²

Of course, all the above does not mean that the regulatory regime should constantly be changed. In fact, if it did, the notion of regulation would become meaningless, as regulation is supposed to provide *stable* rules defining the parameters that the private sector should take into account so that its activities do not contradict the public interest. If the regulatory regime changes too often, there may be excessive costs of adjustment.

¹ One useful way of highlighting the dynamic efficiency issues may be to distinguish, as we did in Section 2, between regulations which are intended to take care of static welfare (let us call them 'welfarist' regulations) and regulations which are intended to facilitate long-term productivity growth (let us call them 'developmental' regulations). Both types of regulation can involve the same measures—entry restrictions, pricing control, technology standards, etc., but the purposes they are intended to serve are often very different. Of course, at one level, both developmental regulations and welfarist regulations can be cast in the languages of 'market failure', as far as both talk about the failings of the market mechanism in achieving some supposed ideal. However, this interpretation is not very helpful, because it tries to lump together two very different bodies of theory, whose policy recommendations can even clash with one another, as we suggested above.

² Even without technological progress, continuous adaptation of the regulatory regime may be inevitable. Given bounded human rationality, it is inevitable that regulatory rules, when they are first written, cannot foresee every possible contingency. With the passage of time, this exposes the rules to increasing danger of 'inventive' re-interpretation and 'legal' evasion, thus making additional regulations necessary. I think one of the anonymous referees for raising this point.

However, it is crucial that policy-makers accept the fact that regulatory regimes should change according to changing conditions and try to provide a policy environment in which such change can be promoted (e.g., by regular reviews).

3.5 *The politics of regulation*

The politics of regulation is hardly a neglected issue in the current literature on regulation. In fact, it was the focus of the government failure argument and the recent literature on the politics of regulation is an extension of that. However, the current state of our understanding in this area still leaves a great deal to be desired. As there is not the space to go into detail (Noll, 1989, provides a very good review of this area), in this section we shall, without claiming to be comprehensive, take issue with some of the main underlying premises of the government failure approach (for more detailed criticisms, see Chang, 1994, chs. 1–2).

It would be wrong to deny the central proposition of the government failure school that the government is not an impartial guardian of the public interest with an unlimited capability to collect information and enforce decisions, but an organisation comprised of, and influenced by, self-seeking individuals and their groupings. However, this should not lead us to believe that self-interest is all that counts. Self-seeking, although very important, is not the only human motivation.

Even in the (largely) 'private' domain of the economy, where self-seeking is the dominant motivation, people often act according to certain moral values (e.g., rule-abiding attitudes, *esprit de corps*, class solidarity, pride in workmanship, generalised altruism), which are not merely 'veils of disguise' for self-seeking (McPherson, 1984) nor simply 'optical illusions' ultimately based on some hidden sanctioning mechanisms (e.g., social ostracism, reputation, psychological 'guilt' from breaking rules).¹ Indeed, as Simon, Arrow, and others have repeatedly pointed out, if human beings were totally selfish, all modern economies based on a complex division of labour would collapse under the weight of prohibitive bargaining and monitoring costs.² When it comes to activities in the 'public' domain, people tend to behave even more on the basis of moral values (e.g., the public service ethic, concern for the integrity of the government, desire for social cohesion, nationalism—in addition to the above-mentioned).³ Moreover, individual preferences are not unalterable data that people are born with, but are partly determined by the 'socialisation process', which goes on inside the family, schools, communities, places of work (including government organisations), and the media, which frequently inculcate (with substantial success) many non-selfish 'moral' codes.⁴

Now, if what we say above is true, it may be possible to limit the private usurpation of

¹ The sanctioning mechanisms themselves, being 'public goods' in the sense that those who did not contribute to their supply cannot be excluded from their benefits, will not be supplied in adequate amount in a world inhabited by purely self-seeking agents—unless, of course, we assume the existence of an *exogenously* imposed impartial third party, such as the state, as in the pro-interventionist theories criticised by the government failure approach.

² That this is the case is powerfully testified by the fact that one popular method of industrial action is to 'work to rule'. As formal rules can never specify the level of efforts by workers which are necessary for the production process to run smoothly, it is known that workers can easily reduce output by 30–50% by working exactly according to the rule book.

³ Indeed, Noll (1989) points out in his review of the literature on the politics of regulation in the US that there is robust evidence that the regulatory bureaucrats and politicians involved are motivated by many more things than pure self-interest—be they concern for 'public interest' or their ideological beliefs (p. 1281).

⁴ This, of course, does not mean that 'generalised' moral codes are enough to hold society together. Our morality is often embedded in the specific social relations in which we find ourselves (Granovetter, 1985). I thank one of the anonymous referees for this point.

public power, otherwise than by reducing the scope of state intervention as the government failure school believes. For example, if people are capable of holding 'non-selfish' values and if their values can be changed through socialisation processes, we may be able to mitigate many problems of government failure through moral persuasion against exploiting public offices or looting government coffers for selfish purposes. Although many proponents of the government failure argument would denounce this view as 'naive', this is one important way in which 'good' governments, or for that matter any other well-managed organisation (including private corporations), control the misuse of 'corporate' (including public) power by individuals inside and outside the organisation.¹ In fact, by preaching a 'cynical' view of political life (that everyone in politics is simply out to advance narrowly defined self-interest), the government failure school may be encouraging our politicians and bureaucrats to discard what little morality they had. And if we actually end up with politicians and bureaucrats who are exactly as described in the government failure literature, the consequences could be truly disastrous.

This is not to deny the possibility, and the reality, of the appropriation and misuse of government by sectional interests (inside and outside government) or even influential individuals. Nor do we believe that moral persuasion alone is enough to constrain such abuses. We believe that designing good incentive systems within and around government is extremely important, as this allows the aligning of the interests of holders of public office and powerful interest groups with the public interest—however incomplete such alignment may be. And, indeed, this concern is behind the so-called new economics of regulation and, more broadly, other extensions of the 'principal-agent' literature (on the principal-agent literature, see Stiglitz, 1987; Sappington, 1991).

One critical problem with the current state of this literature, however, is that, as Arrow (1991) points out, its models are too simple, in the sense that they do not describe even approximately what is going on in and around large complex modern organisations (including the government), while the 'prescriptions' they produce as solutions to the principal-agent problem are often too complex to implement. In contrast, real life solutions to various principal-agent problems are usually very simple which, according to Arrow (1991), is an inevitable consequence of our bounded rationality and transaction costs. As Arrow suggests, unless we understand why and how real life organisations are being run reasonably well on the basis of relatively simple incentive schemes, having complex models of incentive design is of little practical value in helping us construct better political, bureaucratic, and regulatory incentive systems. Such understanding is yet to come.

4. Conclusion

In this survey, after some brief discussion about conceptual difficulties involved in defining 'regulation', we reviewed the evolution of perspectives on regulation and deregulation during the last 50 years, trying to mesh this with economic and political developments in the real world which affected and were affected by this evolution.

¹ For example, the world's most renowned bureaucracies (e.g., the Japanese, the French, or the British) are those which are able to imbue their members with strong senses of public service, commitment to the national project, and *esprit de corps*, etc. Seen in this light, the high level of mistrust that the government failure models have of the state may reflect the fact that these models tend to originate from the USA, where such a bureaucratic tradition is missing. Even North, one of the founding fathers of this tradition (e.g., see North, 1981), acknowledges in his later contribution the problem arising from the American origin of many government failure models (North, 1994, p. 366).

Categorising the developments of half a century in this particularly complex and intensely-debated area is not without its problems, but we divided this 50-year period into three 'ages'. They were:

- (i) the age of regulation (1945–70), when most countries saw an increase in government intervention, in the forms of increased government expenditure, nationalisation, extension of regulation, with accompanying developments in interventionist economic theories;
- (ii) the transition period (1970–80), when the post-war regimes of intervention began to be exposed to significant political attack, helped by the rise of anti-interventionist economic theories;
- (iii) the age of deregulation (1980–the present), when many countries attempted to reduce government intervention, by privatisation, budget cuts, and deregulation, often drawing justification from the theoretical extensions of the anti-interventionist theories that originated in the 1970s and were elaborated during the 1980s.

Following the historical review, we then suggested some major issues that need more attention if we are to improve our current understanding in the area.

First, we pointed out that deregulation should not be equated with a total withdrawal of the government, as there are some regulations which are essential for the very existence, not to speak of the effective functioning, of many markets. We also noted that deregulation in certain areas may require increased regulation in other areas.

Second, we argued that, especially in developing countries and economies in transition, government needs to create markets, and not just regulate them. The difficulty of drawing the boundary around the market sphere and the difficulty of assigning property (and other) rights in creating markets were emphasised.

Third, we discussed the need to introduce distributional considerations more explicitly into our design of regulatory reform. It was argued that, while some kind of aggregate judgement about the overall efficiency consequences of a particular regulatory reform is inevitable, its distributional consequences also have to be carefully considered, especially if we want to increase the chance of its success.

Fourth, we emphasised the need to give more attention to dynamic issues, as the impact of a regulatory reform on dynamic efficiency could easily overshadow its impact on static efficiency. We also discussed the need for the regulatory regime itself to adapt to 'dynamic' changes in technology and other conditions.

Finally, we discussed the problems with the current state of the theories on the politics of regulation. We argued that, while very important, self-seeking is not the only motivation that determines people's actions, especially when they operate in the public domain, and that the designers of regulatory reform ignore the importance of 'moral' motives at their peril. The importance of the 'incentive design' literature was acknowledged, but its current lack of practical applicability was noted.

After half a century of the rise, development, and fall of various theories of regulation (and of state intervention in general), on the one hand, and of the successes and failures of various real life regulatory regimes in different countries, on the other, we are perhaps much wiser than we were 50 years ago. But we still have long way to go before we can pronounce, as many people have done before, that we have 'found the solution'. There are simply so many important issues that the existing theories have more or less ignored or have not explored in enough depth. The real world development towards regulatory

reform in many countries may look torturously slow to those who believe that they have the solution, but given the imperfections in our understanding in this area, this may not necessarily be a bad thing. If there is one lesson that we can confidently draw from the experiences of the past 50 years, it is that the world is much more complex than many of us believe, or wish, it to be.

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