

Transformative Social Policy and Innovation in Developing Countries

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Social policy is today receiving greater attention in the field of development studies. Much emphasis is placed on the important issues of reproduction, redistribution and social protection. However, in the context of development, one must add to these concerns the vital issue of production. This article argues that social policy can be innovation-enhancing, through its effects on human capital and skill formation; its capacity to alleviate risk and uncertainty by underpinning the social pacts necessary for managing the contractual nature of labour markets; its incorporation of labour into the saving-investment regime and inducement of long-term perspectives in the financial sector; and its contribution to political stability. These roles underscore the transformative role of social policy that is often overlooked. The recognition of these roles is quite recent in the case of developed countries and much more research is required, with special attention to the problems of catching up.

Les politiques sociales sont l'objet d'une attention renouvelée dans le domaine du développement. On y donne une importance grandissante aux questions de reproduction, de redistribution et de protection sociale. Cependant on doit y ajouter les questions de production. L'article part de l'hypothèse que les politiques sociales peuvent être source d'innovation, grâce à leurs effets sur le capital humain et la formation; leurs capacités à réduire le risque et l'incertitude en mettant l'accent sur les accords sociaux qui doivent réguler les marchés du travail; les liens entre travail et épargne et leurs conséquences sur le secteur financier et leur contribution à la stabilité politique. La reconnaissance de ces effets des politiques sociales est très récent dans le cas des pays développés et nous avons besoin de plus de recherche sur ces questions.

INTRODUCTION

Social policies are deployed in pursuit of a wide range of goals including nation-building, equality, ensuring the reproduction of society through family and care policies, and enhancing the productive capacity of citizens. This article focuses on the last goal, examining the relationship between social policy and innovation.

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In developmental contexts, where the emphasis is on catching up, this transformative dimension of social policy will receive greater attention than in the more developed countries because of the more pronounced exigencies of accumulation in such contexts. A developmental social policy will seek to reconcile economic policies that are constrained by the larger social goals listed above with social programmes that are productivist and investment-oriented.

This is not to suggest that the transformative role of social policy is only relevant in the process of catching up and not in the process of forging ahead of the more developed countries. In today's highly competitive environment, there is a growing realisation that even in the advanced capitalist countries, social policy is a productive source of social investment, and not merely a redistributive mechanism for resources generated in a separate sphere. In this 'productivist' rationale for welfare states, there is greater insistence on the incentive compatibility of social policy with the capitalist system within which it is embedded, and a greater demand for the demonstration of the productive benefits of social welfare within market economies.

This establishment of the investment-oriented benefits of social programmes – as opposed to exclusive focus on 'consumption and maintenance-oriented social programs' (Goldberg, 2001) – is necessary to overcome the perception that social services are unproductive and that social expenditures do little more than impede economic growth through negative effects on investment incentives and labour market flexibility. It is this exigency that lies behind the new rhetoric of 'work-friendly welfare states' (Kuhnle *et al.*, 2000) or the 'social investment state' of Anthony Giddens (1998). Although these ideas are presented as somehow new, it should be stressed that the most redistributivist regimes of Northern Europe have tended to be the most conscious of the productive role of social policy, and indeed social policy has been a constitutive element of the 'production regime' (Kangas and Palme, 2005). There is a growing literature articulating this position with some insights that I believe are relevant to catching up. Curiously this literature is less known in the developing countries.¹

I borrow from Alexander Gerschenkron (1962) the notion of 'late industrialisers' to place the link between social policy and innovation in the context of 'catch-up'. In linear models of economic history, development is viewed as the passage through various teleologically determinate stages previously traversed by the pioneers. In terms of technology, development involves adopting increasingly more capital-intensive technologies that have been progressively abandoned by the leading countries. Such a linear view, which assumes that all new technologies flow from advanced countries to technologically backward developing countries and that the recipient countries have ready access to complete information relating to new technologies, leaves little room for analysing the supply-side determinants of technological progress in developing countries (Deraniyagala, 2006). In contrast to this view, Gerschenkron argued that one of the advantages of late industrialisation is access to experiences and knowledge accumulated by the forerunners. Latecomers can telescope development, thus adopting certain measures at much earlier stages of their development than the pioneers. They can even embark on entirely new and unprecedented trajectories to

speed up development. However, there is no technological shelf that latecomers can draw from without cost (Dosi *et al.*, 1994).

One implication is that 'the process of catch-up involves innovation in an essential way' (Cimoli *et al.*, 2006: 5), for as Dosi and associates note: 'Successful late comers have combined heavy imports of technology with strong expansion of indigenous efforts devoted to technological change. Imports of technology and autonomous innovative efforts are not alternative but complementary activities' (Dosi *et al.*, 1994). Another implication is the premium placed on context-specificity of learning and innovation in light of a country's historical circumstances. Although Gerschenkron focused attention on banking and industrial organisation among late developers, his approach has equal force in looking at social policy in general and how it helps countries to catch up (Mkandawire, 2001; 2005; Pierson, 2004).

The catch-up process demands what Abramovitz and others (Abramovitz, 1986; 1995) refer to as 'social capability' which includes the attributes and qualities of people and institutions that condition a society's capability selectively to adopt, adapt and improve technologies. The notion of social capability is also the recognition of externalities that create a wedge between social and private efforts. Significantly it includes a number of things upon which social policy has an important bearing: human capital, social institutions, social cohesion, and social adaptability and flexibility. In light of the far-reaching implications of social policy for social capability, it is surprising how rarely the link between social policy and innovation is made in the development literature.

I will also borrow two points from the 'Varieties of capitalism' literature² that has sought to explain differences between the 'Anglo-Saxon' market system of the UK and the US and the more coordinated market systems of much of Europe and of some late developmental states. The first is the notion of a 'production regime', which highlights the synergies among various policies, and underscores the institutional complementarity of rules and regulations that govern the internal functioning and mutual coordination of activities of various actors within different national policy frameworks. The second is the notion of distinct 'skill-formation and training regimes', defined as the 'ensemble of institutions...and specialized actors...engaged in the organization and provision of education and training as well as the specific customs, rules, and regulations governing their internal functioning and mutual coordination within different national policy frameworks' (Buechtemann and Verdier, 1998). What this analysis suggests is that skill formation and training regimes are often embedded in much larger welfare policy concerns with ramifications beyond the economic, and influence political and social relations (including gender). It further posits that in the advanced economies, at least, one finds a strong correlation between key components of social protection (employment, unemployment and wage protection) and the dominant character of the workforce (Estevez-Abe *et al.*, 2001; Mares, 2003; Bowman, 2005; Thelen, 2004)

The article is divided into four sections. The first deals with the effects of social policy on human capital and acquisition of skills. I then turn to the effects of social policy on savings, financial resource mobilisation and the time-horizon of the financial sector. The third section looks at the effects of income distribution on

patterns of industrialisation and technological choice, while the final section discusses the contribution of social policy, through political legitimisation, to sustainability of chosen development strategies and technological innovations.

SOCIAL POLICY, HUMAN CAPITAL AND INNOVATION

Human Capital Formation

Social capability is important in the process of catching up because technological capability, defined as 'the ability to scan, assess, select, use, assimilate, adapt, improve and develop technology that is appropriate to changing circumstances' (Dahlman and Nelson, 1995) is embodied in people not machines. The process of acquiring, using and diffusing, improving and developing technology requires a skill formation and training regime that builds on a well-developed educational system that lays the necessary foundation at all levels, and provides on-job-training to cope with the rapidly changing nature of technology (Dahlman and Nelson, 1995). The education system performs the vital tasks of reproducing and expanding the knowledge base of a society, by socialisation of subsequent generations into the productive structure of a society and by enabling individuals to master technology, providing them with the ability to combine existing knowledge in novel ways, thereby inculcating into the population and culture the capacity for innovation (Buechtemann and Verdier, 1998). This public good nature of education has induced active social policies even in societies that strongly adhere to the market, and it gave the idea of 'manpower planning' a central role in many development endeavours.

The deliberate generation and acquisition of technology differs from the neoclassical economics view, which has tended to treat technology as exogenous to growth. Recently new growth theories have accorded human capital a central role through their recognition of technological change as endogenous to the growth process. This recognition should have highlighted the transformative importance of social policy and led to an elaboration of the social institutions and policies that that would link social policy to economic growth. After all, it is social policy that links education and training regimes and economic performance by determining levels of schooling enrolment, degrees of accessibility to various institutions of training by different members of society; and provision of incentives to firms and individuals to acquire skills.

However, the recognition of the endogeneity of technological change has not led in this direction. This can be blamed on the neoclassical framework which equates human capital to other forms of capital so that, rather than argue for a more explicit role for social policy, the arguments has instead led to financial policy. It is argued thus that the failure of the poor to invest in their own human capital even in the face of potentially high returns can be blamed on the absence of access to finance. This, in turn is blamed on financial repression which should be removed through financial liberalisation. This translation of the human capital problem into a financial policy issue is in sharp contrast to the experience in the developed countries where the

recognition of the externalities of human capital has immediately led to addressing market failures in the process of skill formation through social policy

The Labour Market Question and Innovation

Closely related to the formation of human capital is the allocation and deployment of labour. This links together industrial relations and social policy which, as Brandl and Traxler (2005) note, have evolved separately. In real systems of production the two are interdependent because they both deal with risk associated with the commodification of labour and the presence of different actors whose interests must be constantly balanced and reconciled. In neoclassical models the major premise is that absent interventions, labour markets set wages at opportunity cost levels and determine Pareto-efficient levels of employment: 'since the unfettered market meets optimality conditions, interventions can only make matters worse' (Freeman, 1992). However, real labour markets are not spot markets and wage setting is not through perfectly competitive markets. In these contexts the distributional variables, such as wages and profits, are determined by collective bargaining, and consequently contracts play an important role in managing risk sharing in labour markets. Labour markets play an important role in innovation both as a site for the enhancement of human knowledge and skills and for the manifestation and resolution of deep-seated conflicts of interest – both core aspects of social capability.

Innovation poses a number of problems that often lead to market failures in the labour market. These include technological externalities or spillovers that encourage free riding by rival firms because of knowledge leaks, imperfect patenting and movement of skilled labour to other firms. There are incentive problems if the innovator does not appropriate all the social gains from innovation. The scarcity and specificity of skills in rapidly industrialising countries means that firms have to contend with the ever-present danger of their skilled employees being poached by other firms.

A related problem faced with respect to labour skills is that of 'hold-up'. Hold-up describes a situation where workers are in a position to bargain successfully for some of the economic returns to their activity, over and above the lowest wage for which they would actually be prepared to work. The situation arises notably in technologically changing contexts where the workforce has specific skills and there are costs to the employer of losing them once trained. The implication – demonstrated using game theory (Malcomsen, 1997) – is that a skilled workforce can renegotiate their contracts to capture some of employers' profits. An individual employee may accept one wage when training, in the expectation of being able to bargain for a higher wage once trained. Collectively too, workers may expect to renegotiate wages after retraining, relying on firms to invest profits earned through initial wage restraint, expectations that may however not be fulfilled.

These problems of poaching and hold-up constitute veritable concerns in the labour markets of developing countries. Poaching can act as one of the major constraints on firm-level training of workers (Middleton *et al.*, 1993). Hold-ups have appeared in the context of import substitution strategies that generate a wage-technique spiral of technological change and rising wages. In these cases, highly

protected oligopolies with relatively good access to cheap capital (from development banks and favourable exchange rates) tended to adopt capital-intensive techniques (Arrighi, 1973). This created high levels of surplus and produced what was pejoratively known as 'a labour aristocracy' in a strong bargaining position, since the protected and highly capital-intensive industries often required firm-specific skills. The conglomeration of workers in modern industry made them better organised and better able to make demands, which in turn, both pushed technological choice in a capital-intensive direction and improved the workers' share in the surplus through higher wages and better working conditions. The Ivory Coast provides an example of the continuing relevance of these concerns even post-liberalisation: Azam and Ris (2001) report that the bargaining power of the workers allows them to impose some *ex-post* renegotiation of the wage agreements in response to new investments by firms.

The problems of poaching and hold-up can sometime be solved by employers. Employers can apply collective pressure to force employees to take on the social responsibility for training or to adhere to certain wage practices, adopt industry-determined wages or set up standardised training of workers. They may also use non-transferable pension schemes to tie labour down. All these arrangements, however, assume a high level of organisation and in situations of extreme informalisation, such measures are unlikely to be effective. Even in the most coordinated, developed countries of Northern Europe, collective pressure on employees has only become effective through selective social policies such as subsidisation of training, or by the state underwriting the labour codes developed by corporatist arrangements. As for hold-ups, when there is no collective solution individual firms may, for instance, reduce their investments or distort their technology choices so as to support their bargaining power in subsequent wage negotiations, or they may choose to adopt strategies of deskilling.

Such private solutions are ultimately costly for both the firm and society. In general, solutions to these skills problems have involved state action, if only to ensure the enforcement of the private arrangements. Social policy has been used to affect both the size and appropriability of innovation rents and to correct market failures through more directly productive process of skill formation (Mares, 2003). Many of the problems of externalities and coordination can be alleviated by the state, which guarantees certain rules and principles of equitable distribution (such as incomes policy, enforcement of social pacts, and so on), all of which have the effect of making innovative investment by the firm no longer dependent on the bargaining power of its own workers and ensures that they will be rewarded for acquiring firm-specific skills. The 'varieties of capitalism' literature and its related concept of training regimes suggest that social policy measures such as employment protection and wage protection make workers more willing to invest in firm- and industry-specific skills that *increase* their dependence on particular employers and their vulnerability to market fluctuations (Estevez-Abe *et al.*, 2001). As D'Antoni and Pagano (2002) argue, the main advantage of state intervention is that it can insure specific resources against the hazard that the firm or even the entire industrial sector fails to survive the Schumpeterian process of creative destruction, while insuring

this kind of systemic risk is beyond the reach of private firms (or private insurance companies).

One important role played by states among late industrialisers has therefore been to underwrite and reinforce labour market codes and social pacts whereby trade unions and business associations find it in their common interest to deploying their quasi-public powers through upgrading of skills, work organisation and technological and product innovation. Social policy measures or 'industrial citizenship' have been used to reduce turnover through job-security (Jackson, 2001). In Japan, the state forced employers to establish company welfare schemes of specified standards, while in Germany, the state established a framework of collective government between social partners in which the unions played an important role. Such 'compulsory welfare capitalism' has made the contractual arrangement credible and allowed the long-term economic coordination between employers and employees to address the 'labour question' (Manow, 2001a). Phillip Manow observes: 'Central for the long-term economic coordination in Germany and Japan was the *quid-pro-quo* of workers' wage restraint given in exchange for employers' credible commitment to reinvest the major part of the profits into the company, instead of paying out high dividends to the company's (share-)owners' (Manow, 2001b). In this way the welfare state becomes 'an insurance device that makes lifetime careers safer and enable people to engage in productive and risky activities that they would otherwise not undertake' (Vartiainen, 2004: 208).

The experience of more recent developmental states points in the same direction of interventionist social policy. The successful developmental states of East Asia adopted 'aggressive, proactive manpower development strategies based on a medium to long term vision of occupational skill requirements rather than short-term market driven considerations' (Bennell and Segerstrom, 1998: 286). These included agreements trading cooperation for long-term employment and real wages, which required external employment and wage protection. The East Asian Tigers' enterprise paternalism, together with national legislation mandating a number of employment benefits, gave workers a modicum of security. Although such welfare schemes were private, they assumed a statutory and non-voluntary character as the private firms became a holder of public social rights. One should contrast this experience of the quintessential developmental states with the current Latin America case, which Schneider describes thus:

Labor relations in Latin America are atomistic and often anomic because workers have fluid, short-term links to firms, and weak or no horizontal links to other workers through labor unions. Among other things, worker turnover is high, few countries in the region have any special institutions (like co-determination) for micro coordination within firms between labor and management). Labor markets in Latin America are characterized by the paradox of high labor turnover despite employment rigidities and protections (especially in the costs of lay-offs (Schneider, 2004: 9)

The danger in such social arrangements is ossification and rent seeking, reasons why the contemporary neoliberal orthodoxy blames many of these arrangements for

inflexibility in the labour market. They are also said to undermine a country's competitiveness through their effect on wage costs, savings and investment, labour supply and incentives. Social policies that insist on labour standards and workers' protection are therefore viewed as market distortions. This notion of static allocative inefficiency has been extended to the more dynamic arena of innovations, leading to calls for deregulation of labour markets.

Under neoclassical theories of supply and demand, and on the assumption of free disposal of redundant commodities, the notion of flexibility in the labour market is often reduced to the right of the employer to hire and fire. However, free disposal for a firm may involve significant cost for society. Related to social capability is the notion of 'social flexibility', which is not simply the aggregate sum of the flexibility of individuals but the capacity of society as a whole to adjust to changing circumstances. The retrenchment of labour in the 1980s and 1990s in many developing countries has led to increased informalisation, which has weakened the training regimes that rely on formalisation of labour markets and training, and in Latin America has led to the devaluation of skills acquired during the import substitution phase (Cimoli and Correa, 2002). Thus some of the rigidities created by social policies may actually provide the Schumpeterian space for innovation and planning, by closing off exit options that militate against growth-inducing commitment (D'Antoni and Pagano, 2002). Reduced employment flexibility, and longer tenure may raise the time horizon of workers, who consequently may not try to maximise current wages and may limit their search for alternative jobs (Acemoglu, 2002). Michie and Sheehan show in an empirical study 'that the "low road" labour flexibility practices encouraged by labour market deregulation – short term and temporary contacts, a lack of employer commitment to job security, low levels of training, and so on – are negatively correlated with innovation' (Michie and Sheehan, 2003: 123).

These considerations partly explain why societies use social policies to internalise the costs of disposal of labour and prevent firms from acting myopically. These include basic labour laws dealing with occupational hazards, minimum wages, working hours, anti-discrimination laws and job security laws. In addition, rehabilitative bankruptcy laws take into account the social and political costs of liquidation, allowing 'creative destruction' while trying to mitigate the destruction through reorganisations rather than liquidations.

Finally, in certain economic and social contexts, labour standards serve as 'selective' or 'focusing devices' which shape innovations (Rosenberg, 1994). Thus as international labour organisation (ILO) economists have argued, standards force employers to 'overcome the misguided preoccupation with cost-cutting (via lower wages), and attention to the strengthening of productive power (via training, technical innovation, etc.)' (Sengenberger, 1991: 249). Where development is premised on cheap labour rather than increased labour productivity, the country can inadvertently end up in a 'sweatshop' equilibrium in which cheap labour leads to lower productivity. Social policies can move an economy towards more preferable equilibria by setting labour standards, by providing incentive to stimulate demand for skilled labour and by insuring employers against some of the risk of moving up the skill chain (Lauder *et al.*, 2006)

Social Policy, Accumulation and Innovation

There is a dynamic complementarity between the growth of the economy on the one hand, and the acquisition of technology and the accumulation of skills, on the other. The only way to harness human skills as a dynamic force in development and social transformation is through providing the necessary tools, machinery and equipment through investment. Innovations are usually embedded in or aligned with new technologies that demand investment. As a consequence, human and physical capital are jointly endogenous to growth: high capital stock spurs individuals to acquire more education and skills and high levels of human capital encourage investment in physical capital (Grier, 2002).

Social policy influences investment and helps incorporate labour into what Vitols calls a 'savings regime' (Vitols, 2001). The most direct effect of social policy is through the various statutory funds that often come in its wake, including social security funds such as pension and health insurance funds. Social policies, by channelling an increasing amount of household savings into social security schemes, can shape the demand for financial assets which can, in turn, influence investment and innovation. Pensions can thus serve the multiple roles of protection, redistribution and production, and there is always tension among these roles.

The funds may be either publicly or privately managed, a choice that can have enormous implications for the development of the financial sector. The World Bank and the IMF have held the view that the promotion of private pension funds is more efficient because it leads to the expansion and deepening of the equities and bond markets. This, in turn, may raise economic growth by increasing aggregate savings and investments and their productivity (World Bank, 1994). Pension funds have thus been used to kick-start stock markets, or for establishing new social classes such as a black capitalist class (Hendricks, 2006). From a developmental point of view, such funds should be used to ensure both good returns to the funds and a contribution to savings and investment in a manner that enhances economic development and technological transformation.

History is replete with useful lessons in this respect. In Germany, tax and pension policies encouraged companies to provide for future pension obligations through a system of book reserves, so employees' future pensions were in effect relet to the company (Vitols, 2001: 194). There was a similar case in Japan, although the Japanese public pension schemes were partially funded and accumulated substantial capital channelled directly into the industrial policy apparatus rather than into open capital markets. In Finland, pension funds were used to industrialise by financing the electrification of the country (Kangas and Palme, 2005). In Singapore, the central Provident Fund has been crucial to the country's economic growth by providing a long-term, predictable and large flow of funds for investment (Quah, 1998). In the Republic of Korea, one of the reasons for introducing pensions was to finance heavy and chemical industries. The design of the pension system reflected these productivist objectives and downplayed the welfarist ones that had guided the initial scheme proposal by the Ministry of Health and Social Services (Kwon, 2004; Kim, 2006).

The ways in which labour incomes and welfare are regulated influence the flows of savings into the banking system (including public versus private) or into marketable securities (Vitols, 2001: 177). In its early phases of development, first-order technological innovation is not a central preoccupation of the development state (Amsden, 1989; Krugman, 1994; Wong, 2005) and long-term investment in the processes of accumulation and learning is required. Consequently a major policy challenge in relating labour and financial markets is one of finding systems that ensure both 'patient capital' and 'patient labour' insensitive to the vagaries of current profitability, with long exit horizons and driven by long-term success of the firm and of innovation systems (Hall and Soskice, 2001a; Crouch *et al.*, 2005; Boyer, 2005a). Social policy has been used to induce both labour and capital to lengthen their time horizons, horizons much influenced by the structure of financial markets.

Thus the full-funded market-based and individualistic schemes, such as those of the UK and the US, which the Bretton Woods institutions have been pushing in the developing countries, will tend to encourage demand for securities. In contrast, the solidaristic schemes associated with Northern European welfare schemes and some of the late industrialisers such as Japan, with tenure-contingent wage contracts based on the transfer of incomes between generations, involve less demand for securities and have been behind the growth of the bank-based system of the 'Rhein model'.

Stock markets, while appropriate for countries at the technological frontier, may not be the most appropriate way of funding catch-up that involves learning by doing and longer time horizons than stock markets allow. Singh (1996) argues that institutional frameworks most appropriate for this type of innovation are what Hall and Soskice refer to as 'coordinated market economies' (as opposed to 'liberal market economies') (Hall and Soskice, 2001a). Singh evokes the Gershenkron argument that in such late industrialisers, unlike the small individual investor in a stock market system who has no incentive to gather the costly information to supervise and discipline managers in management-controlled large corporations, the banks have both the incentive and capacity to subject corporate managers to much more stringent supervision. The German-Japanese types of banks are thus able to cope far better with the problems of asymmetric information, agency costs, and transaction costs than the Anglo-Saxon stock market system (Singh, 1996).

Pension funds in such systems can lengthen time horizons of financial markets:

The Japanese main bank system and the German *Hausbank* system gave business access to these relatively patient and 'modest', that is, low-revenue expecting, household savings. It thus buffered managers from shareholder control and allowed firms to strategically enter into new markets and invest into new technologies with a long-term perspective. (Manow, 2001b: 2)

Pension schemes have thus underpinned the bank-based system that Gershenkron noted as an important component of catching up for late industrialisers (Gershenkron, 1962).

INCOME DISTRIBUTION AND INNOVATION

Social policy is a major determinant of income distribution, which, in turn, can affect rates and patterns of accumulation, political stability and social cohesion, both of which are critical elements in Abramovitz's (1995) notion of 'social capability'. On the supply side, income distribution can determine the wage-profit shares, which in turn can affect the rate of accumulation. High wages might compel capitalists to use more labour-saving techniques and thus undermine employment-creation efforts. If capitalists have a higher propensity for saving than workers, a technique that favoured investors would lead to higher levels of growth and eventually higher levels of employment and consumption for wage earners. Conversely, however, sweat shop wages might lead to low productivity and low income technology.

On the demand side, social policy can affect innovations through its effect on income distribution and consumption patterns. Structuralists have argued that unequal distribution encourages the consumption of imported goods or goods that are produced domestically through capital-intensive techniques (Stewart, 1978). It has also been argued that skewed income distribution can enhance the international demonstration effects, tending to bias technological choice and innovation towards imported or capital-intensive goods, and disrupting the learning process that could lead to a more orderly modernisation of consumption patterns (Felix, 1974, 1977). The endogenous growth literature suggests that a relatively equal income distribution favours those goods likely to be demanded by the middle class, producing high returns to middle-income skills and consequently higher spending on middle-class education (Rebeggiani, 2005). These competing effects of income distribution on technology and innovation will be influenced by social policy.

Income distribution has been influenced within late industrialisers by redistribution among workers through within-firm wage compression. Late industrialisers have tried to avoid wide wage dispersion through repression and social pacts, while in the more democratic developmental states, 'solidarity' wage policies have been used. Low-wage dispersion reduces the danger of poaching by reducing the wage differentials between those with general skills and specific skills. Furthermore, workers are observed to regard a fair wage system as one with pay differentials that are more compressed than productivity differentials. The consequence is that firms with wage compression will have more harmonious labour relations and thus achieve higher output per worker (Akerlof and Yellen, 1988). In the social democratic model, the wage squeeze was used to induce structural changes 'by reducing profits in low productivity firms and increasing profits in high productivity' thus making incomes policy into industrial policy (Moene and Wallerstein, 2006: 155).

The distribution of income and opportunities also touches upon some of the interactions between social arrangements and the incentive structure that link social status and the allocation of talent. Social impediments to access to opportunities caused by high levels of inequality can hinder the full allocation of talent, and thus lower the frequency of innovations, which in turn reduces growth. One should add

here that even redistributive measures of the nation-building type can have far-reaching effects on societies' productive regime. D'Antoni and Pagano (2002) argue that the investment by states in 'homogenous national cultures' (through the formation of education, professional and legal standards) can help increase the 'liquidity' of their citizens and thereby address both the poaching and hold-up problems by decreasing the specificity of many human capital investments.

THE POLITICAL CONTEXT OF INNOVATION

The effects of social policy on technological innovation are mediated by the political-social context and the policy regime to which it is tethered. Few variables identified in the literature on the determinants of growth are as robust as political stability. This asserts itself through its favourable impact on investment via the security of property rights, one of the most basic requirements of a market economy. Property rights are secured both by laws and also by the political and moral legitimacy that such rights enjoy. Perhaps the single most important function of social policy is the legitimization of relations of production and property rights. Furthermore social policy lends legitimacy to the hierarchies and status inherent in capitalist production and, through education, inculcates citizens with values and norms that underlie social collaboration.

Rapid industrialisation produces enormous social dislocations and strain, challenging the social acceptance of innovations. In a dynamic market economy there is a continuous process of creative destruction, and specific investments in human capital can be particularly risky. There is a painful trade-off between the advantages of market flexibility and those of specialisation. Excessive social polarisation can create pressures against change, so that every innovation is likely to be viewed in zero-sum terms (Gradstein and Justman, 2002). Where new technologies have been introduced in a manner that has threatened people's livelihoods through retrenchment or reduced payoffs from new necessary qualifications, it has provoked resistance and even a Luddite response by workers (Zwick, 2002). Social policy, by ensuring job security or bearing the costs of retraining, can therefore serve as an important means of making technological change and innovation less threatening to societies and more socially acceptable.

The political management of such conflict between winners and losers, both individuals and societies, gives social policy a central role in sustaining social cohesion. In the late industrialisers, the labour question was how to integrate labour into the new industrial order without compromising the accumulation process, and also how to enhance the skills and capacity of labour without shifting power in favour of labour.

Most of the development states were authoritarian, and repression was an important tool in ensuring the acquiescence of labour. However, repression was not the only tool at their disposal. All these states devised social policies that sought to complement repression and to integrate labour into their developmental projects. Indeed in many cases social policy was deliberately designed to pre-empt the action of labour through paternalistic solutions that sought to limit welfare privileges

selectively to the workforce that was vital to economic growth. Politics was an important arena because, Deyo (1989) suggests, people in the development process could use it to influence the direction of development and technological change. They could do this through: (a) the definition of development needs to which political action partly responds; (b) the determination of an array of human, and socio-cultural and organisational resources or constraints which influence the success of particular strategies; (c) the generation of distributional and welfare demands on elites; and (d) the mobilisation of demands for political reforms. Through these actions and political mobilisation, workers can exclude certain technological trajectories. Sweat shop industrialisation strategies were therefore difficult in countries such as Argentina because of popular mobilisation. Even within the capitalist classes there may be contests over development strategies. Capitalists who own enterprises whose competitive advantage is based on low wages and flexibility will be strongly in favour of labour-market liberalisation, while those with skill-intensive products will be keen to cultivate long-term contracts with skilled workers and will support strong statutory employment protection.

The acquisition and distribution of skills in a society is a highly political affair, not only because it involves decisions on the distribution of state resources but also because it determines people's life chances and overall relations to society and the economy. Education has always been seen, not just as the creation of human capital, but as a major instrument in the socialisation of citizens and as a social force of cohesion by shrinking the social distance among individuals.

CONCLUSION

After years of being viewed simply as a camouflage for special interests and thus inimical to fiscal responsibility, and after being reduced to the marginal role of safety nets, social policy is back on the development agenda. Much of the new emphasis on social policy is on the extremely important issues of redistribution and social protection. However, in the development context, one must add to these concerns the vital issue of production. This article has propounded several roles of social policy in underpinning the process of innovation in developing countries. I have argued that social policy can contribute to the social capability that underpins technological capacity and has a vital role in the process of catch-up. Social policy can be innovation-enhancing, through its effects on human capital and skill formation; through its capacity to alleviate risk and uncertainty by underpinning social pacts that are necessary for managing the contractual nature of labour markets; through its incorporation of labour in what Vitols (2001) refers to as a saving-investment regime; through its shaping the structure of demand via income distribution, inducing long-term perspectives in the financial sector; and through its contribution to political stability.

These roles underscore the transformative role of social policy that is often overlooked or only implied in the analysis. I have also stressed that the relationship between technological innovation and social policy is affected by and characterises the policy regimes of different economies. The purpose of the article has been to

identify some areas that must be considered in relating social policy to innovation, and to highlight some relationships that often escape attention in relating social policy to development. The recognition of this role of social policy development roles is quite recent and much more research is required with special attention to the problems of catching up.

This article suggests that useful conceptual gains can be obtained by drawing on the literature that relates innovation to regimes within which social policy plays a defining role. It also suggests that while in much of the literature on late industrialisers the coherence between social policy and the strategies for catching up appears *ex post*, for developing countries there is an important opportunity to generate such coherence by *ex ante* design (Boyer, 2005a).

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NOTES

1. Exceptions include Huber (2002) and Stephens (2002) which relate the 'welfare regimes' literature to the development literature.
2. Including the literature from the French regulations schools (Boyer, 2005a, 2005b), the 'social structure of accumulation' (Kotz *et al.*, 1994) and the explicitly 'varieties of capitalism' literature. (Hall and Soskice, 2001b; Thelen, 2001).

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