

**LABOUR MARKET
PAPERS**

10

**The firm,
human development
and market failure**

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Foreword

This paper began as an intended commentary on a paper proposing that the ILO should seek to promote what is called the Human Development Enterprise, that is, firms with exemplary labour and employment practices. Given Stephen Smith's extensive work on related issues, it was clear that he was an ideal person to extend the analysis by taking account of the issues associated with "market failure". The end result was the following paper, which was presented in draft form at our Technical Meeting on Enterprise Restructuring and Labour Markets, convened in the ILO's Turin Centre on May 31-June 2, 1995.

Work on the characteristics of Good Firms is continuing, mainly through the series of Enterprise Labour Flexibility Surveys that the Labour Market Policies Branch is conducting and analysing around the world. At the time of writing, we are in the fieldwork stage of an ELFS in South Africa, where the types of issue discussed by Stephen Smith are particularly relevant.

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1. Introduction

Why don't more enterprises appear to foster human development? Is it because doing so is fundamentally inconsistent with profit maximization? Or because regulations are not in place or remain unenforced? Or are more subtle forces at work?

The human development enterprise (HDE) has been defined as a firm which has "exemplary labour and employment practices and mechanisms to ensure development in terms of skill, social equity, economic equity and democracy" (Standing, 1994). Preliminary reports for the transition economies of Russia and Ukraine suggest that firms rating highly on these four dimensions tend also to be efficient using simple performance measures. These findings follow a large accumulated evidence that higher skill and higher employee voice are associated with each other, and in turn are associated with higher total factor productivity (for surveys covering different aspects of these findings see Bonin, Jones and Putterman (1993), Blinder, ed. (1990); Rogers and Streeck, eds. (forthcoming), and Smith (1994d)).

Clearly, a set of findings that efficiency and perhaps total profitability are higher in individual high human development enterprises would represent a key argument in favor of the HDE. Certainly, the HDE survey results for Russia and Ukraine (Standing, 1994) leave unsettled several important econometric concerns; but correcting for these,¹ and assuming the results hold and that there still remain further unrealized benefits of HDE investments, a fundamental question remains: if this type of enterprise is so good, why don't we see more of them? A primary purpose of this paper is to address this question.

In doing so, it must be borne in mind that presence of coordination failures might mean that greater measured efficiency is *not* observed among firms with high HDE characteristics, though higher efficiency might be observed if all firms in an economy adopted an HDE approach (this is discussed further in Section 3). Thus the interest and importance of the HDE research program does not depend on the substantiation of the hypothesis that existing HDE investments lead to measured increases in firm efficiency. An additional primary purpose of the paper is to argue this in detail.

Further, for some purposes, firm efficiency may simply be an inadequate measure of economic performance. In particular, the economic flexibility of a region in changing products and production processes quickly may be an important supplemental measure of predicted future performance under conditions of rapid changes in technology and tastes, as discussed in the industrial districts literature (see for example Piore and Sable, 1984; Becattini, Pyke, and Sengenberger, 1990; and Feigenbaum and Smith, 1993). A secondary purpose of the paper is to argue for examining the HDE in a broader context of the long run performance of an economic system. Of course, both efficiency and flexibility are only means to a social welfare end; HDE attributes like skill and voice may be a direct means to that ultimate end as well as intermediate means via efficiency or flexibility.²

Definition and Possible Extensions. The HDE has been defined in terms of skill; social equity, or absence of discrimination against women, minorities and physically challenged employees; economic equity, or narrow pay differentials within the firm; and democracy, or employee participation in decisions (Standing, 1994). Before considering each of these dimensions individually, the list itself may be expanded in three ways.

First, economic equity as defined so far considers only relative income levels within the enterprise, and does not yet take into account absolute income levels (adjusted for the national and industry averages). However, if all employees receive the same income, but this income is very low by national standards in relation to income of labour in other activities, or by standards of countries with similar average real income, one might wish to impute a lower value in an human development index like that proposed by the ILO.

Second, social equity can be expanded into a broader social solidarity dimension; not merely avoiding negative discrimination, or affirmative action programs, but actively seeking the potential benefits of diversity; this is developed in detail in Section 4 below.

Third, it may be useful to add a fifth attribute: employee health, including occupational safety. There is a four-fold rationale for this addition (section 7):

- Health is considered one of the major attributes of development; for example it is one of three components, with income and education, in the UNDP (1990, 1994) human development index³
- Maintenance of high occupational health standards is widely recognized as an "exemplary labour and employment practice" in the labour law and regulation of most countries.
- Minimum health levels are prerequisites for some of the other goals of the HDE.
- As explained in section 6, employee health is also subject to market failure problems, not necessarily solved with higher wages.

Definition and measurement issues raised in the paper are summarized in Table 1.

Types of Market Failures. The following two paragraphs offer a review of types of market failures that may be relevant to the HDE. This paper will examine the presence of certain market, coordination and organizational failures⁴ (developed in detail in section 3) that might lead to too little investment by firms in several human development enterprise characteristics. There are three general forms in which market failure can be observed: the market cannot function properly or no market exists; the market exists but implies an inefficient allocation of resources; or the market produces undesirable results as measured by social objectives other than the allocation of resources. Market failures can occur in situations in which social costs or benefits differ from the private costs or benefits of firms or consumers; public goods, externalities, and market power are the best known examples.

With public goods free riders cannot be excluded except at high cost; it is economically inefficient to exclude individuals from participating. With externalities, agents do not have to pay all the costs of their activities, or are unable to receive all the benefits. Coordination failures occur when several agents would be better off if they could cooperate on costly but Pareto-improving actions if all or most agents participate, but worse off if too few participate; the familiar prisoners' dilemma model is a simple example. Market power occurs when firms can influence price by restricting quantity; this power is most common under increasing returns to scale, but increasing returns appear to be increasingly widespread as the shift to a knowledge-based economy proceeds.⁵ Capital markets are particularly prone to failure due to their intrinsic connection to information generation and transmittal; information has public good properties.⁶ With organization failures, activities carried out less costly within firms rather than across markets are nonetheless subject to inefficiencies made possible by the joint presence of asset idiosyncrasy and opportunism.⁷ Also potentially important to the HDE, specifically to economic equity, a more equal distribution of income itself can be considered a public good, when it is an agreed social objective. So too can agreed merit goods, such as health, education and basic welfare be considered as public goods. Note that the presence of market failures does not always mean that firms would make no investments in human development, only that too little investment is undertaken.

Plan of the Paper. In Sections two through six, measurement and possible market and organizational failures regarding skill, social equity, economic equity, and democracy or employee participation in decision making—and the proposed fifth area, health—are considered. In each case, it is assumed that the overall objective is aggregate social welfare and the level of these components are evaluated accordingly. In each of these sections, short discussions of definition and measurement, and of the general benefits of the HDE component, is followed by an investigation of potential market failures. For convenience, these will generally be classified as only one of labour market, capital market, coordination or organizational failures, though these categories sometimes overlap. The order in which issues are presented is largely arbitrary, as the five areas turn out to be substantially interdependent. Sections two through six are thus interrelated; indeed the five HDE components examined generally function as economic complements (although there are also some tradeoffs, as noted). As a result, a number of network externalities among HDE firms emerge.

It should be noted that the paper aims to contribute both to the theory of the HDE and its measurement. To some extent these are inherently different tasks. For example, as we will see, while the theory of the HDE cannot omit consideration of the role of informal training, this is virtually impossible to measure accurately. Every effort is made in the paper to be clear about which task is addressed, and to avoid the potential inconsistency that might be apparent if the distinction were not made. Note also that market failure can have an adverse impact on human development outside of the firm, and this in turn can affect efficiency of firms; however, these links lie outside the scope of the paper. The main points of these sections, which represent the core of the paper, are summarized in Table 2. The final section of the paper introduces additional future directions for this research.

2. Skill

Employee skill development is an important source of productivity growth. As such, it provides the means for higher employee incomes. At the same time, investment in higher skills helps to justify the participation of labour in some of the decisions of the firm. Finally, high skill serves as a source of employees' continued and evolving interest in work and general self-esteem.

Definition and Measurement. By definition, the HDE fosters continued development of employee skills. This can be difficult to measure. *General* skills acquired off the job site are normally measured in labour economics research by years of formal education, diplomas, and special certificates. Often, skills specific to one firm are measurable by formal certificates only if the employer or employee, or both together, have made arrangements for outside training, or continued vocational education and training. Though some firms offer in-house certificates, these are rarely comparable across firms. Hours of formal instruction within the workplace or length of tenure within the firm might offer crude measures of firm specific human capital. But quality of training is highly variable in formal settings and both quality and quantity of training is highly variable and its level and degree of effectiveness is subject to considerable measurement error in informal settings. The degree of informal training taking place as an inherent part of the daily work experience is most difficult to measure. At the same time probably one of the most fundamental attributes of the HDE is ongoing skill upgrading as a norm of enterprise practice. Moreover, this is closely correlated with other aspects of the HDE. For example, the more participatory the firm (Section 5), the more important for productivity gains and profitability is the role of ideas contributed by ordinary employees in innovation and market strategy (Smith 1994a). This correlation may suggest later strategies for approximate measurement of specific training that will supplement those noted here. Finally, it is methodologically useful to distinguish how much training results from regulation and how much from voluntary firm choice.

Market failures. Standard labour economics suggests that incentives to invest in firm-specific skills will require some confidence on the part of both firms and employees that employees will have an adequate expected length of job tenure to justify training expenditures (e.g. Hashimoto, 1981). Conversely, employees already holding firm-specific skills will have a disincentive to change jobs if they will have to give up a stream of income deriving from their existing specific human capital. Although there are advantages to employee mobility across jobs, when firm-specific skills play a significant role in the economy, frictionless mobility is not optimal. Thus, it will be useful for the development and evaluation of the HDE project to know both the current relative and absolute importance of general and firm specific human capital, and their long term trends. For example, in business periodicals such as the Wall Street Journal, the US is often described as an economy leading world trends toward a shorter term employment contract and increased job mobility. Loyalty between employers and employees is widely reported in business journalism to have been waning steadily over the last 15 years. If true, and if this trend might actually lead to greater efficiency (Heckscher, 1994), a major tenet of the HDE would be placed in doubt. The first question to address is whether this is true in practice as it is believed in

journalistic narrative. The second is whether, to the extent this is true, it is really optimal, or may instead indicate market failure. The US case is examined in detail both because it is widely believed to be the OECD country that has gone furthest down the path of short-term employment and employee mobility; and because this trend has actually been heralded by some analysts in the US as a source of potential future competitiveness.⁸

Figures 1 and 2 show rates of single employer job tenure in the US since 1951 for prime age male and female workers.⁹ Figure 1 shows that tenure for males in the early 1990s was actually higher than in the 1950s, 1960s or 1970s. Although median tenure tended to decline somewhat since 1983 as is consistent with journalistic reports tenure for younger male workers aged 25-34 is actually at an all-time high. Even for older male workers aged 55-64, the decline in median tenure is only from 13.6 to 12.4 years, or 8.8%. Moreover, these tenure rates are much higher than in the 1950s, often described as the golden age of the lifelong job in the US. Among prime age females, trends are unambiguously positive: job tenure is at an all-time high.

An important subject for further research is whether long job tenure has been increasingly concentrated among the more educated. Data comparable over time is not readily available, but in 1991 the median years of tenure with one employer for workers of all ages was 4.5; this ranged from 3.5 years for workers with less than 4 years of high school, 4.6 years with 4 years of high school, to 5.4 years with four years of college or more.¹⁰ It is known that more than half of formal internal training is geared toward a fraction of already highly-educated employees.¹¹ Research needs to be undertaken into whether there is a trend toward dualism in training and employment stability. Under a diminishing marginal utility principle, a social welfare function might weight HDE characteristics for those scoring at the bottom of the firm distribution more than for those at the top. Moreover, market failures may be responsible jointly for underinvestment in training and low job tenure among those initially less well educated.

Training, Voice, and Organization Failure. Since Coase's seminal work, it has been understood that it is the presence of transaction costs, broadly construed, that makes it often optimal to organize economic activity internally within firms, rather than externally across markets. Such transaction costs often reflect some form of market failures, particularly those related to information costs. But while the organization of economic activity within firms can improve efficiency and help solve market failures, it may often result in other departures from efficiency when bounded rationality in the presence of firm-specific assets works in concert with opportunism (Williamson, 1975, 1985).

Management opportunism is one important class of opportunistic behavior within organizations in the presence of asset idiosyncrasy, and may be interpreted as an example of what Williamson (1975, pp. 124-126) refers to as "subgoal pursuit." This includes management opportunism toward employees, as well as shareholders.¹² Management opportunism toward employees as a class of organizational failure has been developed by Gregory Dow (1987, p.21-22):

A recognition that opportunistic behavior can crop up on both sides of the authority relationship...(involves more) than just an awareness that employers and employees alike suffer from the moral flaws of 'human nature as we know it.' The deeper difficulty is that authority relations generate the *structural preconditions* under which employer opportunism is most likely to be encouraged; namely, information impactedness, small numbers, and availability of a tool (decision by fiat) which is tailor-made for unilateral pursuit of self-interest...what is needed to limit opportunism by authorities is reciprocal monitoring by subordinates and a capacity to impose sanctions when abuses are detected.

Thus unchecked authority relations particularly facilitate management opportunism when few agents are involved so labour markets cannot serve as a check, and information is hard for investors to acquire so capital and managerial markets cannot serve as a check; these characteristics are common to most medium and large size firms.

Dow notes that since the same set of incentives hold for all managers, the owners of the firm may be able to do little about the problem merely by dismissing management. Thus, Dow asks (1987, p. 24): "who monitors those in positions of authority, in order to ensure that their self-interest does not threaten collective interests?" In the presence of firm-specific human capital and other transaction costs exit or its threat is insufficient. Dow concludes that "the unaided market cannot accomplish" the creation of managerial monitoring by employees "in part because asset idiosyncrasy is often substantial on both sides of the authority relationship, and in part because the relevant information is unlikely to pass easily across organizational boundaries... thus disabling reputational protections which might emerge via the managerial labour market."

Moreover, employee fear that management will unilaterally introduce technological changes which have the effect of undercutting labour's bargaining position can lead to underinvestment in specific human capital (Dow, 1985). Indeed, unilateral control by management may distort the choice of technique away from firm specific human capital and lower total surplus more generally (Dow, 1993)¹³.

In summary, unchecked hierarchy might be a first-best solution from the point of view of informational efficiency if not for two distinct problems: managers are fallible; and managers have an incentive to behave opportunistically (cf. section 5 below). Indeed, their fallibility increases their incentive to organize the firm and treat information opportunistically (Smith, 1991).

Smith (1991) combines Dow's (1987) organization failure critique of Williamson's (1975) theory of efficient hierarchy with a number of capital market failures to propose an economic rationale for works councils and employee board representation based on underinvestment in firm-specific human capital. An analysis of five types of management opportunism is introduced, defined as credit-taking opportunism, time horizon opportunism, information flow opportunism, authority-hoarding opportunism and human resource hoarding opportunism (Smith 1991). Each of these forms of opportunism, together with some additional effects derived from the way these interact, are argued to lower incentives for employees to invest in firm-specific training. There is

some evidence that both training and efficiency is higher when legally mandated programs for employee voice are active.¹⁴

An HDE may reap long-term performance benefits from the investments it makes in maintaining a cooperative game solution. It is difficult to maintain a cooperative solution between workers and owners within firms. Like investments in innovation or other goods subject to market or organization failure, from the social viewpoint the market is likely to undersupply investments in internal cooperative solutions. But perceived incentives for cooperation may require improved information flows and other threats to possibilities for management opportunism. Moreover, even without opportunism, although all firms might be made more profitable in the long-run if each made investments in achieving internal cooperative solutions, these investments are not equally valuable at each point in time. Financial markets cannot easily place a value on such investments. If one firm discontinues these investments during a period in which they are less important (for example, a period of rapid growth), it may be able to earn higher short-term profits and take market share from firms which continue them. This may bankrupt the investing firm in the competitive marketplace before the value of its investments have a chance to be revealed (for example, during a time of adversity). This type of coordination failure is similar to the classic prisoner's dilemma; but an economy based on HDEs may be better able to generate investments in management-labour cooperation.¹⁵

This example illustrates a more general point. Presence of coordination failures might mean that greater efficiency or profitability is *not* observed among firms with high HDE characteristics, despite their value to employees, and despite their contribution to long-run efficiency, and or to sector or community economic flexibility, when implemented in the economy as a whole. For example, similar observations of coordination failure apply to investments in employee health (section 6). For this and other reasons, it is necessary to consider HDE attributes of an economy as a whole, and not just individual firms, in empirical evaluation.¹⁶

As David Levine (1995) has similarly argued, investments in skills and investment in reputation as an honest and dependable employer go hand in hand. Each type of investment may take several quarters or years to pay off. In capital markets, investors will always have better, more quantifiable information about investments firms make in tangible goods that are comparable across companies. For example, the quality of a given expenditure on training may differ across firms. It is inherently easier to measure physical asset specificity than human capital asset specificity.¹⁷ Some of this easier quantifiability is due to fundamental information problems. Also, there are no agreed accounting standards for firms to report investments in human resources; those very few which report these investments at all do so in widely divergent ways, variously reporting expenditures, numbers of employees trained and types of skills (Council of Economic Advisors, 1995). Compounding difficulties arise from management practice, possibly from management opportunism (Smith, 1991).

Financial performance information is available in publicly reported financial statements in many countries. Skills and internal reputation investments, on the other hand, are neither precise nor easily comparable across firms: they are described in various terms according to a firm's "corporate culture" (Deal and Kennedy, 1982). Further evidence for this is found in the results of a recent survey of US firms, in which managers ranked "employee satisfaction," labour turnover, and training expenditures to be the three least important of 19 potential measures of company performance to report to outside investors. These items even lagged "corporate ethics statements," ranked 16th (Council of Economic Advisors, 1995, pp. 197-198).

A similar result was reported in a recent survey by Towers Perrin Co., which found that 98 percent of 300 executives of medium and large firms agreed that improving employee performance would significantly improve company productivity, and 73 percent agreed that employees were the company's most important asset. But "investment in people" ranked fifth on a six item list of priorities, behind customer satisfaction, financial performance competition, and quality of marketing. As the report concludes, "what companies seem to be overlooking is the crucial connection between customer satisfaction and employee performance." Thus, academic studies of the value of "investment in people" and widespread journalistic reports of them have led executives to give lip service to the issue, but in all but a few heralded cases little more.¹⁸ While employees accept job offers in part based on employers' promises about the level of job security and of employee say over company decisions that affect them, the presence of a large number of firms in an economy which make such promises but do not keep them will tend to damage the credibility of firms which make them sincerely. Regulation is needed in part because voluntary company policies are unenforceable.¹⁹

These types of failures in the market for information strongly suggest that in the absence of policy, HDEs will have a higher cost of capital than conventional firms, despite potentially higher efficiency. HDE investments will be undervalued, or discounted due to moral hazard since they are imperfectly observed, or simply treated as a pure discretionary expenditure, and will have to be financed at a higher cost than investments in physical capital. Indeed, their presence may lead capital markets to effectively demand higher expected return on other investments the firm makes. This theme recurs in each of the five HDE features examined. It represents an important part of the answer to the question, why don't we see more HDEs? And it suggests that information provision is an area in which an HDE index at the firm or at least sector level, as might be offered by the ILO, could lead to a real improvement in labour market efficiency as well as to human development.

Another market failure issue is raised by Levine and Parkin (1994), who review evidence that both training and worker participation in decision making are more effective when employers avoid layoffs. When one company's choice to avoid layoffs affects the relative costs of layoffs for other firms, a positive externality is generated. If all firms lay off workers in recessions, then recessions will be deeper. Deep recessions, in turn, raise costs to firms with high levels of training, participation, and employment security. But if all firms have no-layoff policies, recessions will be shallower, lowering the costs of such policies. Levine and Parkin present

econometric evidence that training and participation are more common in companies with high levels of job security. Such firms are particularly successful if there are few and shallow declines in the demand for their output. While such conditions benefit all firms, the analysis of Levine and Parkin implies that they particularly benefit firms with high levels of training and participation.

Finally, in recent years growing attention has been given to the distinction between a high wage path, using efficiency wages and continual skill upgrading to produce productivity growth that validates wage increases; and a low wage path characterized by low wages and repressed union activity to compete with low wage countries in the face of low productivity growth.²⁰ This concept should be generalizable to a high human development enterprise path. Both ideas still lack proper formulation as a dynamic model; however, tools are being developed that would facilitate this.²¹ This may be a useful research priority for the HDE project, since doing so would help HDE ideas enter a mainstream of economic discourse.

3. Social equity

Measurement and Benefits. Social equity has been defined as the absence of discrimination against women, minorities and physically challenged employees, which can be measured by incidence of employment at various levels of the organization (Standing, 1994). In addition, a case may be made that there is more to social equity than the negative prevention of discrimination, and we may seek measures of the degree to which firms actively cultivate a diverse workplace.

The social costs of excluding or restricting minorities from careers can be substantial. In the presence of restrictions, on the margin the talent of those arbitrarily excluded is likely to exceed those included. Failure to internalize fully the social costs of day care (and other childrearing costs) can lead to the exclusion of talented women from careers even when there is no overt intent of discrimination by individual firms. Moreover, costs of crime, welfare payments and social services for the community at large are generally higher in the absence of social equity. One mechanism is the feedback from discrimination to lower efforts by minorities to join the socio-economic mainstream. Again significant coordination failures are involved. Note that it will be important to distinguish voluntary firm choice from enforcement of regulations on social equity. This paper assumes that the reader is generally familiar with this set of issues.²² Folbre (1994) shows *inter alia* the impossibility of resolving social equity issues only at the level of the firm. However, the discussion in this section, in keeping with the focus of the paper, will be on the role of diversity within firms.

Introducing the potential benefits of workplace diversity for individual firms, it is perhaps useful to motivate the discussion with a metaphor. The premium the American university places on diversity illustrates and helps justify the idea that cultural diversity benefits efficiency in the workplace (Smith, 1992).

Major American universities place great emphasis on achieving heterogeneity in the faculty and student mix. Some of this is a response to government affirmative action requirements. And a student mix may be sought as a shield against regional and national downturns and demographic shifts.²³ But much of this emphasis is due to the idea that diversity is a good in its own right: for scholarship, narrowly defined, as well as the total educational experience of the students.

The intentional diversity of American universities comes with its own principles and standards. Tolerance is required of all; each is encouraged to think independently, but forbidden from imposing religious, political or other views on others, however deeply felt. This set of principles and standards has come under attack as a "political correctness" which itself hinders free thought. But a principle of not imposing cannot readily be lumped with principles that mean active impositions; and some uniform social principles are necessary to gain economic benefits of diversity. Finally, the building of an inclusive university "community" is emphasized by university faculty and administrators, in part because of the complaint that campus diversity leads not to mixing, but to fragmented cultural "ghettoes." So coexistence of different communities on the same campus is not all that is sought, but effective interactions among the communities or at least among individuals from the separate communities. The tacit assumption is that this mixing creates synergy, or at least provides benefits to the separate groups that could not be had otherwise, or at least at low cost. For example, it is far less expensive to talk with foreign students on campus than to travel to foreign countries.

Advanced economies place an ever-growing emphasis on knowledge generation. So the university is not too farfetched as a symbol of the future of the advanced society and economy. And American universities, with their relatively high diversity, continue to be world leaders in research and in attractiveness to students.

These considerations raise two sets of questions, the ramifications of which extend well beyond the university campus. Holding ability constant, are there conditions under which a culturally diverse group of students measurably learn more and will exhibit greater creativity in their later work, in either a homogeneous or heterogeneous setting? One might ask, for example, whether a diverse university stimulates later entrepreneurship by students of all types of backgrounds. And whether cultural familiarity makes it easier to later market to those countries (or groups within the country), to which culture they have been exposed. After accounting for factors such as family income and parents' education, do students in diverse schools perform better, at least by some long-term measures?

Second, holding ability constant, are there conditions under which a culturally diverse group of researchers is measurably more creative? We may ask whether cross-cultural teams of scholars in at least some areas of research are more creative. For example, many joint research projects in development economics are undertaken by economists from the U.S. and India. Such cross-cultural teams may form in part because they are more creative in devising propositions about economic development than a team of two economists picked at random from one or the

other country. It would of course be hard to measure and test these ideas decisively; but they give some flavor to the issues at stake for the general workplace, to which we now turn.

Diversity in the nonacademic workplace is also growing in the U.S. in an unprecedented way, and 70-85% of new workers in the U.S. labour pool by 2000 are predicted to consist of women and minorities such as blacks, Hispanics, and Asians.²⁴ Much of the emphasis in the management literature to date has been on the challenges these changes pose to companies, as an increasing percentage of new entrants into the labour force come from poorer, less educated backgrounds. Much of the entering workforce will have skills that managers evaluate as subpar. Employers and consultants are bemoaning the challenge of training, retaining, managing and motivating a more culturally diverse workforce. Workplace ethnic conflict is a serious concern to employers.

Some American labour historians have argued that ethnic diversity was engineered deliberately to inhibit unionism by maintaining divisions in the labour force.²⁵ The low incidence of unionism in America by international standards probably in part does reflect its workplace diversity. Unions, while providing economic benefits (Freeman and Medoff, 1984), have tended to negotiate contracts that treat employees uniformly. Unions tend to be stronger in homogeneous countries like Germany and Sweden, though unions in Japan are weaker by some conventional measures. And there is no inherent reason to believe that a firm taking the utility of employees into account would be more responsive to social equity in the broad sense than a strictly profit maximizing firm; indeed the former may well be less responsive. As examined in the next section, greater employee diversity may make it more difficult for the HDE to realize the advantages of employee participation for provision of collective workplace goods.

But workplace diversity can have benefits which need to be considered alongside the disadvantages (Smith, 1992). Employees with roots in other countries and cultures bring insights to the effort to design for and export to countries to which they are connected. Diversity may thus offer a strategy for reducing information costs. To some extent, the external market is modeled internally in the diverse company. Expenses of survey research and international travel, as well as the familiar difficulties of information transmittal across the boundary of the firm may be economized on through a diverse workplace. More generally, greater diversity would be expected to bring more perspectives to decision making and problem solving. Diverse organizations may be more flexible and able to evolve in response to rapid change. Diversity may be expected to encourage creativity as differences among employees widen and the premium on conformity decreases. In principle this is measurable: on average more diverse but otherwise comparable firms should score higher on patents or other measures of innovation when tracked over a long period of time; but this will not be easy to test, not least due to problems of rigorously measuring diversity.

Market failure. Efficiency advantages of diversity may not be realized by the unaided market. If most benefits of workplace diversity as reviewed in the previous paragraphs are found in high-skill, high-creativity jobs, this reflects the interrelatedness of HDE characteristics; with encouragement of firms that practice them, skill, creativity and employee diversity may evolve together over time. But there is no reason to expect this cluster of characteristics to emerge through market forces alone across countries or universally in any one country. In particular, if some managers and employees dislike diversity it will in general add to the firm's compensation and other costs. For example, the firm may have to pay higher salaries to retain some valued personnel. Moreover, managers may in effect spend part of the firm's rents to achieve the traditional ethnic and gender mix they prefer.²⁶ But if all firms had to be diverse, the firm seeking to operate with social equity would not be unduly disadvantaged in the marketplace. In the meantime, a few U.S. companies such as Levi's are deliberately fostering diversity among their employees, to better design and market products to a diverse clientele.²⁷ Still, we may anticipate that in general, since such programs require initial investments, of a type difficult for capital markets to monitor and evaluate, once again in the absence of policy, HDEs will have a higher cost of capital than conventional firms.

However, capital markets should be able to reward some investments in social equity when their value is revealed through extraordinary information. Evidence for this is found in a recent event study of share prices of publicly listed U.S. firms: U.S. Department of Labour awards for excellent affirmative action programs had some measurable positive effect on stock prices, while damage awards from the settlement of discrimination lawsuits had some measurable negative effect (Wright et al, 1995).

These findings may be interpreted as supporting the view that workplace regulations may offer positive economic benefits. In this case, enforcement of laws proscribing discriminatory hiring and workplace practices provide information (a public good) on important internal company practices, that may assist efficiency in both labour and capital markets. In doing so they provide incentives for managers to value social equity (which generates positive externalities). These effects may be strengthened with improved reporting on firms' human development characteristics (such as the ILO might help provide), and by the spread of human development oriented international labour practice standards.

4. Economic equity

Measurement. Economic equity has at least two major dimensions. The first is horizontal pay equity, that equally situated employees should be compensated equally; of course, this concept exists in constant tension with the notion that individual employees should be compensated for their special efforts for the firm. In HDE measurements, we would perhaps not wish to penalize a firm with higher income dispersion as much if the dispersion were due to incentive related pay that was approved by an independent union, say, as compared to substantial salary differentials among equally situated workers that many workers perceived as arbitrary or unfair.

Second, a human development index would be more consistent with the HDE definition is if awarded positive weight to a firm in an industry which generally uses high-skilled, high-paid labour, but which also provides employment for lower-skilled and relatively lower-paid labour which might otherwise remain unemployed, underemployed, or in income-immobile employment (in informal terms in a dead-end job). More weight would be awarded in the index in such cases when (a) the firm was in a developing economy in which labour-intensive, lower-skill employment is appropriate in terms of opportunity costs and (b) closely related to skills issues raised in section 2, when the firm attempts to train such workers to provide them upward mobility within the firm. This second dimension we might call vertical equity of opportunity. This latter dimension raises complex issues, however. For example, whether or not employees are more or less mobile in a hierarchical work environment may be less important than whether the levels of hierarchy are necessary and efficient in the first place. Not all such levels reflect real, or at least nontrivial differences in skills; management opportunism is a concern here (Smith, 1991). Further, when these differentiated skill levels do reflect important skill differences, firms may undertake more or less investment to narrow these gaps. In any case, while narrow pay differentials within the firm may be a useful operationalization of the concept of economic equity for some purposes, it may be misleading for others.

Further, we may wish to consider absolute income levels (adjusted for the national and industry averages), or in relation to nonlabour income. This is necessary to offer meaningful measures of opportunity costs of improved occupational health, for example.

One way to measure internal distribution is to employ internal firm Lorenz curves. This would provide greater generality, as such curves summarize all fractile share measures of distribution and ratios of these measures, and suggest overall summary measures such as Gini coefficients. One could also use decomposition analysis to explain what part of inequality is due to education, job tenure and other factors which might affect assessment of economic equity.

Market failure. The horizontal equity idea gains support on efficiency grounds when much employee effort is team work, in which individual contributions are difficult to measure. In such cases, group-based pay is a natural choice of compensation system. The greater the share of group-based pay in compensation, other things equal, the smaller the pay differentials, at least among those in the pay group. Note that narrow pay differentials within the firm is also associated with group cohesion and trust of management; and with productivity gains (Levine, 1992). Such cohesion and trust is a prerequisite for effective decision making participation, again showing the interrelatedness of HDE characteristics.²⁸ Note further that such pay arrangements can increase employee income risk, which is more feasible when a universal safety net is in place (Meade, 1989).

Cowherd and Levine (1992) argue that small pay differentials between lower-level employees and upper-level managers will lead to high product quality by increasing lower-level employees' commitment to top-management goals, as well as effort and cooperation. The authors determined economic equity in a sample of corporate business units by comparing the pay and voice of hourly workers and lower-level managers and professionals to the top three managerial levels. They found pay equity to be positively related to business-unit product quality; and that the decision-making role of lower-level employees was increasing in union power, the degree to which process technology permits worker control, and the presence of quality circles.

When there are relatively flat pay scales in all firms, high-productivity individuals cannot easily exit for higher incomes in other firms. If some firms pay very unequal wages, this penalizes firms practicing economic equity. This could represent a type of coordination failure with negative welfare consequences, perhaps warranting incomes policy. An extreme example due to Frank and Cook (1991) will illustrate. Due to proliferation of recording, television and other media, those who become successful in entertainment can leverage huge fortunes. This distorts occupational choice, so that millions may enter effective employment lotteries, becoming football or guitar players when their highest social product probably lies elsewhere. These effects are particularly obvious in the U.S., but are arguably growing elsewhere. In this way increasing income inequality can decrease economic efficiency. Part of the answer for corrective policy may be to restore higher marginal tax rates.

But whether such effects carry over to more standard economic activities and warrant economic equity policies is a question for later study. But capital flight, and even human capital flight-emigration of talent-represents a serious risk here that must be addressed.

In sum, flatter pay scales may improve employee performance, but often interfere with managerial self-interest; or cannot be properly valued by labour and capital markets.

5. Workplace democracy

Measurement. Workplace democracy, or less strongly employee participation in decisions, is a complex element of the HDE. We may measure workplace democracy with the presence of an independent union; the presence of works councils and the scope for information, consultation, veto power or full co-management rights they may provide; the percent share of seats on relevant board of directors bodies; the presence of (largely) self-managed work teams; and informal scales based on the extent of consultation with various classes of firm management and other employees.

These dimensions and varying degrees of workplace participation may be illustrated for the case of Germany, where prior consultation with the works council²⁹ is necessary before the dismissal of any employee is deemed legitimate; employees have a right to continued employment until a judicial resolution or a settlement with the works council is reached. In the case of manpower planning and hiring new employees, the works council has only the right to be informed and make recommendations. Special activities such as employee questionnaires must have the approval of the works council. The works council must be informed of all important financial matters, including "the economic and financial situation of the company,... the production and investment programs, rationalization plans, production techniques and work methods, especially the introduction of new work methods," plant closings, "changes in organization," and "any other circumstances and projects that may materially affect the interests of the employees of the company." Rights over training vary depending on the issue, though greater rights may be contractually negotiated (Smith, 1994c). The powers of the works council can be quite broad. On some issues, the works council has the right to information and consultation, in others a veto power over management initiatives, in still others the right to co-equal participation in the design and implementation of policy. Measures for conciliation and final resolution in the event of conflicts or disagreements are spelled out in detail. For other countries, we may look for comparable employee due process and other rights in others laws or institutions; but the presence of each may matter for the HDE. Of course, outward forms can be misleading, and it is difficult to measure the effectiveness of participation.

Market failures. Dreze (1976) and Dreze and Hagen (1978) show that in general equilibrium HDE-related characteristics will be undersupplied. Fully correcting the problem essentially requires solving a public goods problem within the firm, but a HDE should be able to provide improvement. This analysis was carried out in a formal general equilibrium framework. But its essence can be captured in a simple partial equilibrium model at the level of the firm suitable for empirical testing (Smith, 1993).

In part because of the incentive to create advantageous circumstances for management opportunism once again, and in part resulting from any direct managerial utility from authority, workplace participation is a preferred workplace characteristic in systematic undersupply, perhaps adding to the firm's compensation costs or otherwise lowering efficiency.³⁰ Dreze and Hagen

(1978) show that "competitive profit maximization does not imply an efficient choice of working conditions." Participation might lead to a more efficient allocation of job characteristics; indeed, Dreze (1976, p.1130) argues that "labour control over working conditions seems to offer a natural remedy." Surveys show that in the United States, a country without codetermination law, workplace participation is favored by most employees. A U.S. Chamber of Commerce-commissioned poll found that 84% of the American workforce would like the chance to participate in management decisions, while a survey by Peter Hart Associates showed that two-thirds of Americans would prefer to work in a participatory environment (Jones 1987, p.493). Here, we have a clear interaction with the undersupply of firm specific skills, since employee confidence in firm specific human capital investments depends on employee voice (see section 2).

Moreover, the incidence of stress has been found to be highest among workers who are rated as having little control over their jobs, other things held constant. This stress has definite medical consequences; men whose jobs combine high psychological demands with little control over their work face heart attack risk twice to three times as great as other male workers (Karasek, et al, 1988). Cited stressful occupations included those of cooks, waiters, computer operators, gas station attendants and assembly line workers who had to work quickly and face heavy workloads with little control over one's work to "deal satisfactorily with its psychological demands." Again, the complementarity of HDE characteristics is noted, in this case with occupational health.

The market may be particularly unable to communicate employee preferences over job characteristics (such as stress) when they overlap with the characteristic of participation. Surveys of entrepreneurs indicate that they are motivated at least as much by the goal of controlling an organization as they are by financial rewards (Ronen, 1983). This helps to explain why, when there is entry, it is not more often by participatory firms.

It is a cliché that entrepreneurs create firms but cannot manage them; but decision-making hoarding is more than just another manifestation of the problem. Klein (1984) found that first-line supervisors are also strongly resistant to "employee involvement" programs, and that "most revealing, perhaps, is the finding that although nearly three-quarters (72%) of the supervisors view these programs as being good for their companies and more than half (60%) see them as good for employees, less than a third (31%) view them as beneficial to themselves." Among other causes, Klein's surveys point to supervisors' fear of loss of status and power in the workplace. In general, the corporate ladder-climber may be just as motivated by the desire for authority as the entrepreneur. Or, as Herbert Simon has put it (1976, p.268), "desire for power and concern for personal advancement represent an intrusion of personal goals upon organizational role."

Workplace democracy works best in an environment in which most firms practice it. Such firm interactions have the features of network externalities.³¹ A relevant example is offered by Levine (1995, p. 103), who suggests that "just in time" (JIT) inventory systems work best with high employee involvement, but success with operating the former depends on other firms using JIT. Thus the realization of the full benefits to individual firms of workplace participation, as well as efficient JIT systems, may require their general adoption in the economy. Moreover, new

managers will more likely have had previous experience with democratic management when they change firms, if most firms practice workplace participation. And employees will encounter similarly empowered counterparts when they work with other HDEs on joint projects. Further work on network externalities would be a valuable direction for HDE research.

Workplace democracy, while it provides benefits of efficiency, innovation and attracting and retaining valued employees, requires initial investments, and ongoing costs of running institutions such as works councils. Again, these are harder to monitor and evaluate than other investments and in the absence of policy, HDEs will have a higher cost of capital than conventional firms.

In addition to up-front training investments, democratic decision making in firms carries ongoing costs. For example, in Germany firms must pay the costs of the operation of the Works Council. Moreover, the aggregation of preferences that employee participation entails itself is costly and prone to market failure. The Dreze and Hagen results rely on the solution to a public goods problem, and while this may be easier in small firms than in large communities, effective decision making may be expected to be facilitated by relative homogeneity of preferences. Democratic firms may be more efficient but subject to degeneration through rent seeking when preferences are diverse.³² There is some evidence that democratic firms can be successful if they recognize and implement an effective strategy to adapt to the costs of collective decision making (Benham and Keefer, 1991). Apparently, there is a potential tension here between the goals of effective workplace democracy and social equity. If the latter implies a diversity of preferences as well as of knowledge and skills, as the examination of social equity in Section 4 suggests it may, in practice these two HDE goals may to some degree have to be traded off. In any case, this flags an important area for future research on the HDE.

Employee participation in decisions, backed by an incentive system emphasizing group-based pay for performance, makes possible a motivation system based on peer monitoring and group identification (Blinder, 1990), rather than on the fear of dismissal in the conventional efficiency wage argument (Shapiro and Stiglitz, 1984). While models of group-based performance pay resemble efficiency wage models in that the incentive system leads higher expected wages to be matched with higher average productivity, under the former one of the major recognized sources of equilibrium unemployment would be substantially eliminated.³³ An economy with lower unemployment, on the other hand, would reinforce mechanisms of workplace democracy, as fear of dismissal for open criticism of management would be lower. The combination of lower unemployment and worker voice, in turn, would facilitate longer-term employee tenure, encourage firms to adopt a strategy of higher investments in skills, and impose higher costs on firms that fail to practice social equity.³⁴

Further, we may wish to consider the social value of reducing the disutility of work. Conventional economic models predict that markets will provide compensating wage differentials in proportion to work disutility. This may in principle include compensation for drudgery,

boredom, and a sense of socioeconomic inequity, as well as danger. In sociological terms, workers may be alienated--frustrated or otherwise unhappy with the social context of work. But, the argument would run, under perfect competition wages, arrived at by mutual consent, would fully compensate for that alienation.³⁵ The Dreze and Hagen results reported earlier nullify this argument even under competitive general equilibrium. That high pay and status is empirically associated with work that is not alienating has never been adequately explained by the compensating differentials framework. Firms may treat unalienating work as a tournament prize--a privilege of surviving to executive ranks. Moreover, models allowing for learning and path dependence³⁶ would place such market efficiency arguments in stronger doubt. For example, as could be developed in a search model, lacking sufficient endowment many workers cannot search for jobs long enough to find unalienating work; and since they cannot, employers do not have the incentive to provide it. Returning to measurement, if reasonable measures for alienation could be devised, we may wish to measure economic equity in part by the level of workplace alienation.

Beyond the firm, fundamental to a good society is democracy. This has positive as well as normative dimensions, as civically active local communities are more efficiently run (Putnam, 1993), and democratic polities are associated with higher levels of development as measured by income per capita; and despite a handful of exceptions, democratic countries are at least as likely to exhibit higher growth.³⁷ But skills for democratic participation must be learned (Dahl, 1985). This is easier to do when democracy touches the citizen directly in daily life. Smith (1985) provides econometric evidence from the U.S. that skills of participation learned in the firm have a measurable spillover to civic participation in the community. But this spillover is a social benefit that will be undervalued by individual firms. This provides yet a further rationale for regulation encouraging democracy in the firm, particularly applicable in the emerging democracies.

6. Health

Measurement. Health levels in enterprises may be measured with data from occupational health and safety reports to and from government where available, and by the presence of plant safety committees, but in general may require primary data collection.

Market failure. The UNDP's *Human Development Reports* and the 1993 *World Development Report: Investing in Health* have presented evidence on the complex interrelationships between health and income. They indicate that a government role in health care is necessary due to market failures. Taken together this evidence shows that we cannot automatically expect income to rise among the poor without improvements in their health status; and on the other hand, increases in income do not automatically result in improved health status.

The *Human Development Reports* have proposed a framework in which the level of a country's development is dependent not just on per capita income but equally on benefits from health (H), education (E) and per capita income with lower weight awarded at higher income

levels (Y). Thus, the human development index, HDI, is a function of all three elements, $HDI=f(H,E,Y)$. Increases in income are always assumed to positively affect welfare, though at a steeply declining rate after a given point. Health is measured by life expectancy. Education is measured by a combination of the level of literacy and years of schooling according to world norms. In the HDE framework a good enterprise increases the wellbeing of employees, including skill levels, promotes social and economic equity and forms of democracy. Basic to wellbeing is health. In the context of the UNDP's HDI, skill would be represented in the education indicator; as described in the introduction, health is so far a missing component.

Inevitably, since not all citizens work, and not all firms are solvent, society as well as the firm must help pay for health. This very fact, however, provides an incentive for firms to not fully internalize their occupational health and safety costs.

A nutrition efficiency wage may operate in developing countries, with a higher than market clearing wage making possible higher calorie and nutrient intake, in turn leading to improved employee performance.³⁸ More broadly, we can consider a health efficiency wage. In theory, part of this efficiency wage effect would be internalized by employers. But general health is a form of general human capital, and a firm faces the same investment disincentives here as with investments in general training. After an employer gets an employee up to high health, he or she may be hired away by another employer. If all firms invest in health, then firms cannot poach in this way. Further, investments in occupation safety and health would be rational if workers could not be costlessly hired to replace those injured on the job; costs of reduced employee health may be avoided in an unregulated labour market. Improved employee incomes combined with investments in health and nutrition education should lead to improvements in household food security, children's nutritional status, and other benefits. Better health is a function of financial resources, increased health knowledge and intentions, neither of which is alone sufficient to produce sustainable improvement in health.

Moreover, mental health is also an important aspect of the HDE; it is closely linked with employee decision making participation, as seen in Section 5. Finally, we may wish to consider the physical workplace and interior space design, as well as the general architectural design, and its impact on human development.

Implicitly, the HDE concept does not accept that compensating differentials will work efficiently in the general case. We cannot assume that employee preferences over health characteristics will be represented in firm decision making any more than other job characteristics; the arguments of Section 5 apply generally to the case of the firm's health characteristics.

Speculatively, in future work organizational failures may prove important, as benefits of improved employee health may accrue to shareholders as well as to employees, but not to management.

7. Extensions and conclusions

In the previous sections, market and coordination failures in five HDE dimensions have been analyzed separately. However, it should be borne in mind that the very interrelatedness of these aspects of the HDE suggests an overarching coordination failure. For example, German works councils, apprenticeships, further training, and large scale union bargaining fit together as a system of industrial relations (Rogers and Streeck, 1994). Similarly, components of the HDE fit together, both at the economy-wide level and at the level of the firm.

To gain the synergies of the HDE, a firm must introduce these components together. A focus on skill without workplace democracy, or on social equity without economic equity, for example, could limit the benefits of the individual components. Organizational failures may systematically inhibit a firm from introducing some of the complementary HDE features while introducing others. Key parties, such as owners, unions, top management, and works councils, may draw the wrong conclusions from the failure of one component when it is introduced without its HDE complements.

At the economy-wide level, HDE firms may be expected to function better in an environment of other HDE firms than among non-HDE firms. For example, employees will encounter similarly empowered counterparts when they work with other HDEs on joint projects; as we have seen this facilitates efficient systems like just-in-time inventory management.

In this paper, the objective of policy has been taken to be the maximization of aggregate social welfare. The objectives of the firm are a constraint on policy. In analyzing the choice of the level of investment, broadly construed, of each of the HDE components, it will be useful to consider more systematically how constraints on policy may vary with firm objectives. For example, the presence of independent unions are weighted positively in the HDE formula; and firms with strong unions may behave as if they had different underlying objectives than other firms.³⁹ More generally, while HDE may turn out to be more profitable, this does not mean that their objective is likely to be simple profit maximization, certainly no more so than the corporation with managerial discretion.

This paper has centered its examination on the role of market failures in inhibiting the emergence of the HDE. It is of course also true that not all logically consistent market failures are equal in empirical significance. And policy cannot improve on all market failures; in some cases policy failure may be worse than the original market failure. Empirical work will be needed to determine which are of greater importance and more correctable and so warrant priority policy. Further, the problems may not be exclusively caused, or limited to, conventional market failure; failure to adopt human development enterprise characteristics may be due to simple organizational inertia. To the extent that organizational inertia is to blame, the difficulties are in some ways less intractable, and the informational and regulatory efforts proposed in the paper would be predicted to have stronger positive effects, and might be needed for a shorter period of time.

Objectives of HDEs and non-HDEs will need to be considered explicitly. For some purposes, HDE practices may be modeled as emerging as an incidental byproduct of the maximization of profit that might benefit the company's owners under certain circumstances; or perhaps emerge as a joint production with the standard output of the firm. Alternatively, under certain assumptions the HDE may be modeled as including the utility level of its employees among its objectives and therefore considering the impact on employee wellbeing in its decisions (Vanek, 1971; Smith, 1993). In addition, either due to a direct objective, or more likely as an indirect consequence of the weight it places on the utility of employees, such an HDE may consider the impact of its activities on the wellbeing of the communities in which it operates. In fact, under some circumstances, a profit maximizing firm with a long time horizon could similarly consider some community impact (see Porter, 1990, for the case of involvement in community education and training). In any of these scenarios, but especially under pure profit maximization, the unaided market may supply too few "exemplary labour and employment practices" in the Pareto efficiency sense.

Each approach is important for theoretical and empirical reasons. The HDE project is concerned with human development results; but current results are less likely to continue under changed circumstances in the absence of human development intention, or an objective of employee welfare. On the other hand, stated intention is obviously not necessarily the same as actual intention, nor can actual intention guarantee results in the absence of adequate resources. So the HDE research program will wish to examine under what circumstances the objective of profit maximization is (or can be made to be by imposing effective constraints) consistent with the human development of employees. Further, the HDE research program will have to investigate how sensitive firm behavior is toward human development, as assumptions of underlying firm objectives are changed. Relatedly, as a practical matter we would need to know how we might distinguish a firm's underlying objectives.⁴⁰ And it would be useful to examine in detail how those firms that do qualify as HDEs made the decision to invest in HDE characteristics, whether and how their investments were repaid in firm performance, and whether they plan to maintain or expand these investments.

In sum, no HDE is an island. The distribution and performance of HDEs must be understood in the context of the broader markets of which they are a part. There are strong reasons to hypothesize that an economy comprised of HDEs will improve social welfare; however, given the scope of market failures reviewed in the paper, a transition to HDEs is unlikely to be accomplished in the absence of policy. Certainly, much research remains to be done to determine the magnitude of these market failures, as well as possible offsetting costs of HDE policies. But whether research continues to find efficiency advantages for individually identified HDEs or not, because of network externalities and other market failures, it is clear that HDE studies will need to be supplemented by further theoretical and empirical research at regional, industrial and more aggregate levels.

But given this context, once the HDE project is sufficiently developed, the ILO might set out criteria for firms to be selected as designated Human Development Enterprises. This would require firms to meet targets on skill, social equity, economic equity, democracy, and perhaps occupational health. The ILO could suggest to countries that one of the criteria for evaluating potential government contractors be whether a firm has met HDE guidelines. The ILO could also lobby to have HDE targets among the guidelines for international general procurement standards. Attention to international recognition is important, because there is always the concern that national regulations will be punished in international markets. This recognition would probably best be weighted by development level to avoid contamination of the issue with protectionism. Such technical standards have in recent years been extended to process as well as product specifications. Since Human Development Enterprises may (subject to further empirical confirmation) exhibit higher quality and innovativeness, this would be a logical extension of current procurement developments. Tax breaks or other fiscal inducements could be used instead of preference criteria, but the latter would not significantly reduce government revenues or increase expenditures in face of widespread budget shortfalls.

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Endnotes

1 First, efficiency measures considered in the HDE literature so far, in particular labour costs as a share of value added, yield ambiguous interpretations: it may be that the share of labour costs are lower in HDEs precisely because per unit labour costs are high. Moreover, costs of maintaining a firm's HDE characteristics may appear in accounts other than labour costs. As a result of such costs, firms may be induced to substitute away from labour use to a more capital intensive technique, even in economies where capital is the relatively scarce factor. But assuming total factor productivity analysis confirms the relative efficiency of HDEs in later work, a number of econometric issues will remain.

HDE studies will have to pay some attention to the direction of causality. In effect, efficient firms may be spending some of their economic rents on in-kind income for employees, perhaps as the outcome of a bargaining process. But let us assume that the direction of causality runs from HDE investments to improved firm performance, such that these investments are observed to at least pay for themselves. This could be examined in at least a suggestive way if time-series data could be collected so that panel data analysis could be employed to address these issues. It could be examined whether prior HDE investments predict firm performance, other things equal (including lagged measures of firm performance). This would then raise a concern about selection bias: would not those firms which would most benefit their efficiency through HDE investments be those which have already undertaken them? Some of these issues are addressed in greater detail applied to the study of the impact of profit sharing in Kruse (1993) and the references therein, in particular Bradley and Smith (1991). But even if unconditionally true, the HDEs-cause-efficiency result would remain inherently difficult to prove, while as we shall see also inessential to the argument that HDEs ought to be promoted.

2 In this regard, further work on the definition of the HDE and the construction of indexes to represent it might benefit from adopting Sen's (1984, see also Nussbaum and Sen, 1993) "capabilities" framework to the task of extending the evaluation of the benefits of the HDE and impediments to realizing them.

3 And noting that the HDE definition already incorporates a measure of education in the category of skill.

4 For example, what Williamson (e.g., 1975, pp. 124-126) calls "subgoal pursuit."

5 For example Porter (1990), Krugman (1991) and Arthur (1994).

6 For an excellent survey of the role of information problems in a wide range of capital market failures, applicable to many of the arguments advanced in the paper, see Stiglitz et al (1993).

7 Williamson (1985); the meaning and significance of opportunism and human capital idiosyncrasy is also elaborated in the following section.

8 See Heckscher, 1994.

9 Employee Benefits Research Institute, Special Report and Issue Brief, July 1994

10 Steven R. Maguire, "Research Summaries: Employer and Occupational Tenure 1991 Update, *Monthly Labour Review*, pp. 45-56, June 1993. Median tenure for those with incomplete college was 4.0 years, attributed to the fact that many were still attending college and had part-time jobs for a short period.

11 A survey by Lakewood Research in conjunction with Training Magazine indicated that "just over half of budgeted training dollars are spent on managers and professionals." Reported in *Washington Post*, Sun., April 9, 1995, p. H5. The study noted this was less than "the 70 percent commonly presumed," though this still implies an extremely unequal distribution. Moreover, note that the study did not consider nonbudgeted expenditures, over which managers have discretion.

12 The latter is relevant when as in many modern corporations managers are a largely different group from shareholders (Stiglitz, 1993; Williamson, 1985).

13 The arguments for the latter case are rooted in game theory; are symmetric in that they can apply also to labour-controlled firms; cases of workable codetermination are not examined. A simpler model with some similar features is found in Freeman and Lazear (1994).

14 Smith 1994c; however Addison et al (1993) found no effect on efficiency.

15 Smith, 1991; Wolfgang Streeck has made similar arguments in referring to the value of "investments in high trust."

16 Note also that some types of regulation are welcomed by industry, as it enables competing companies to solve prisoner's dilemma problems, making all better off. A simple example is regulations that facilitate the adoption of common technical standards by an industry; another is quality regulations when there are advantages to national or industry reputation for quality. But whether welcomed or not, the cross-country empirical evaluations will have to control for the presence of workplace regulatory constraints. Further, note that these constraints can be harder than they appear as well as softer; for example, many firms pay an increment above the minimum wage that is roughly maintained when minimum wages are raised or lowered.

17 See Joskow (1987), cited in Levine (1995) for an example of measurement of physical capital asset specificity.

18 See *Washington Post*, Sunday, Feb. 5, 1995, p. H6, col. 1

19 In the U.S. case, the courts have ruled that firms are not bound by their corporate mission statements even when these promise enlightened employment policies and are widely circulated among employees. As a practical matter, employees could not and would not rely on the costly defense of individual law suits even if court rulings were otherwise. See *Business Week*, Jan. 1995, exact reference to be added.

20 This low productivity growth is treated as exogenous, though it results from the accumulated decisions of firms. Porter (1990) offers a general framework for the evaluation of systems of national competitiveness, and possible constructive role of business regulation. For a discussion of low wage paths in the U.S. case see, eg., and Appelbaum and Batt (1993), and Mishel et al (1994). See also U.S. Dept. of Labour (1994). For a related political economy argument of the problems of a low wage path in Britain under Thatcherism, see Hall (1986).

21 Analytically, some aspects of the problem may be examined in a framework of stochastic path dependence using generalized urn models (Arthur, 1994) or "spin-glass models" (Anderson, Arrow and Pines, eds., 1988).

22 Folbre (1994) offers an insightful and comprehensive treatment.

23 This shielding effect of diversity, akin to portfolio diversification, is a different, indirect benefit of diversity, which has limited applicability to the general workplace and hence is outside the scope of this analysis.

24 The *Workforce 2000* study forecasts that 85 percent of the net increase in the U.S. labour pool by 2000 will consist of women and minorities such as blacks, Hispanics, and Asians. According to the Bureau of Labour Statistics, white males will account for 31.6 percent of new U.S. workers by 2000

25 For example Aronowitz (1973).

26 Indeed, Orley Ashenfelter has presented evidence that monopolistic companies discriminate more.

27 "Diverse by Design. How Good Intentions Make Good Business." *Business Week*, Reinventing America, 1992 Supplement

28 Attitudes of employees tend to improve with perceived horizontal equity. Attitudes are an elusive part of efficiency in part because they are subject to significant organizational failures. This represents another possible direction for research.

29 The 1972 Betriebsverfassungsgesetz, or Works Constitution Act, provides for the rights of employees to form works councils which can bargain with management on all aspects of workplace organization and activities. Note that this legislation is entirely separate from the 1977 Mitbestimmungsgesetz and other codetermination law providing for employee representation on the board of directors of medium and large firms.

30 A sufficient condition is convexity of preferences for compensation costs (Dreze and Hagen, 1978); but organizational distortion resulting from management preferences would decrease efficiency in any case; for a simple model see Steinherr (1977).

31 See Krugman (1993), and Arthur (1994) for general analysis and applications of network externalities.

32 In the case of majority employee ownership, an outside owner may be able to "bribe" employees holding 51% of voting shares to sell the firm, providing profits to the majority of employee owners and the outside purchaser, but imposing losses on other employees such that total surplus is decreased through the transaction. I would like to thank Greg Dow for this suggestion; a working paper (Dow and Skillman, forthcoming) will present a formal model.

33 This argument is substantially different from Weitzman's contention that profit sharing provides an incentive to increase employment; indeed Weitzman (1984) acknowledges that his system would only work in the absence of employee voice over matters of hiring and workplace organization. See Bradley and Smith (1987), Nuti (1988) and Levine (1989).

34 Of course with lower unemployment workers would also view voluntary departures as less costly. Evidence from high-tech firms suggests that companies will respond by offering stock options or similarly structured incentives to highly skilled employees (Smith, 1988).

35 It would be only in part facetious to conclude that the level of alienation must be Pareto optimal.

36 For some examples of this type of model see Arthur (1994).

37 For an introduction see World Bank World Development Report 1991, esp. ch. 7.

38 For example, Strauss (1986), and Behrman and Deolalikar (1987).

39 This in turn may depend on whether unions are company, craft or sectorally based.

40 For a revealed preference approach regarding employment in democratically managed firms, but applicable to other potential objectives, see Smith, 1984.

Table 1: Issues in measurement

HDE dimensions		1. Skill	2. Social equity	3. Economic equity	4. Decision making participation	5. Health
Measurement issues		Quality as well as quantity of training is variable, and complicates measurement. Desirable to distinguish how much training results from regulation and how much from voluntary choice.	How much results from exogenous affirmative action regulation. Problems with measuring diversity.	Distinguish what part results from unions, regulation and voluntary choice. Need adjustment for local income levels. Adjust for policies of hiring low-skill employees when training occurs. Adjust for performance based pay when applicable.	Distinguish effect of law or regulation from voluntary firm choice. Difficult to identify heterogeneity of employee preferences	Distinguish effect of occupational health regulation from voluntary firm choice.
Data sources and requirements		Expected tenure of different types of labour with firm. Hours of, and expenditure on training. How important are employees' ideas as against other sources for innovation and market strategy. Must know local law, regulations on training and extent of enforcement.	% women; % relevant minorities. Affirmative action policies special to firm. Union policy. Diversity programmes of firm. Must know local affirmative action regulations, and extent of enforcement.	Data for firm Lorenz curves. Presence of income-sharing and independent approval of plans by labour. Data on skill levels and employee mobility across hierarchy levels. Available public, union or other safety nets.	Presence and degree of employee ownership, profit and gain-sharing or comparable institutions and whether approved by unions or other employee channel. Presence of works council or comparable institution and its degree of say over: Hiring; Dismissal; Work methods; Plant expansion or closing; Training, Board representation.	Occupational health and safety levels of firm, local regulations.

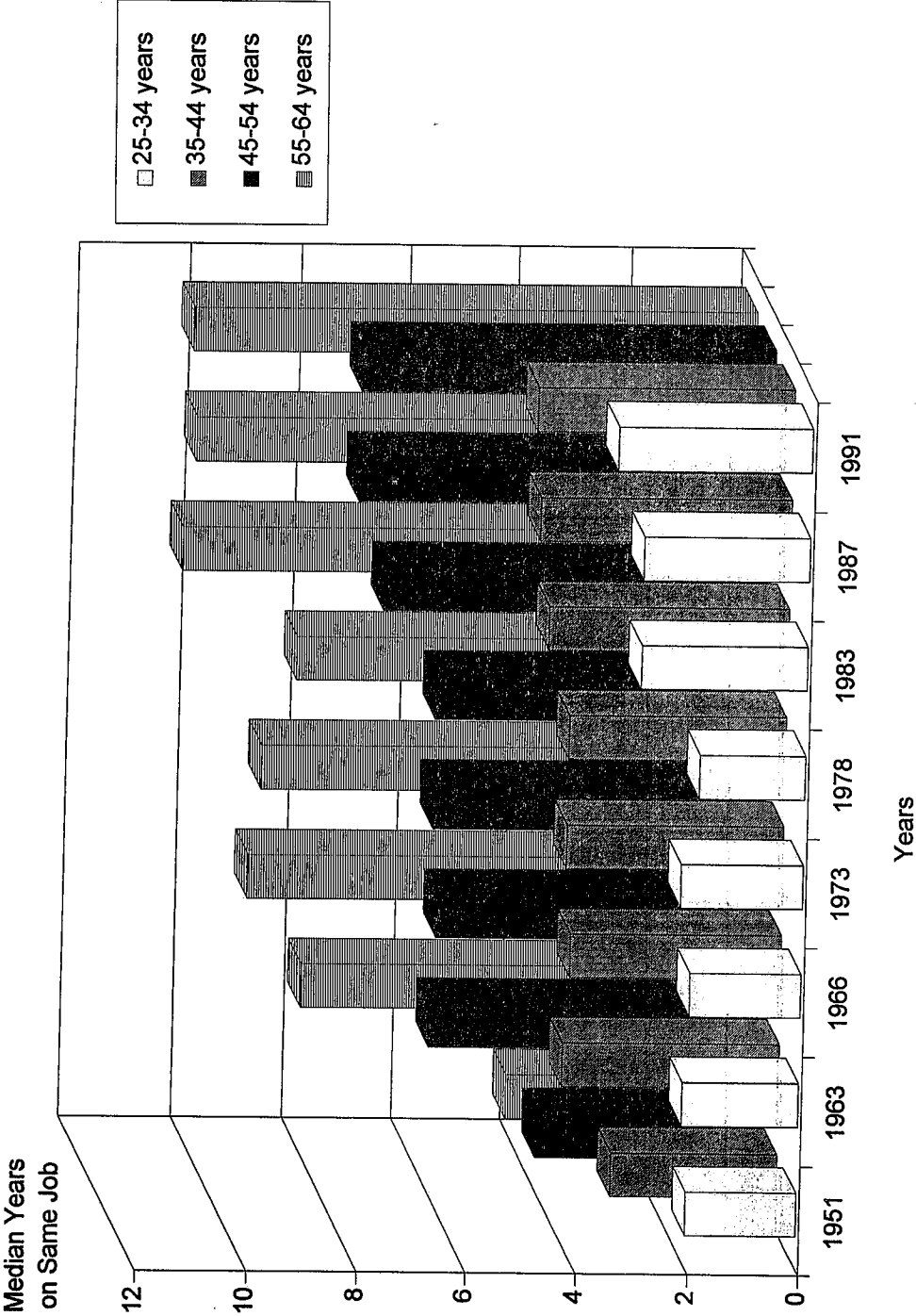
Table 2: Assessing market failures affecting HDEs

HDE dimensions					
	1. Skill	2. Social equity	3. Economic equity	4. Decision making participation	5. Health
Potential labour market failures	Multiple equilibria possible, including low & high wage paths. Very low external labour market friction actually decreases internal labour market incentives to develop skills	Information on discriminatory practices of firms may not be available in labor markets in absence of publicized legal enforcement. Crime, welfare and social service costs are higher in the absence of social equity: feedback from discrimination to lower efforts by minorities to join the socio-economic mainstream.	Low marginal tax rates may generate inefficient employment "lotteries." Performance-related pay more feasible with better safety net, which in general cannot be provided privately.	Efficient allocation of workplace characteristics requires public goods problem to be solved. Failure to value spillover to political democracy.	Failure of market to fully value nutrition efficiency wage, and to value the generalization to a health efficiency wage.
Potential capital market failures; factors increasing capital costs of HDEs	Capital markets find it difficult to compare and value internal investment in skills development	Capital markets do not know how to compare and value internal investments in diversity	Capital markets cannot place efficiency value on flatness of pay-scale and complementary policies.	Capital markets cannot place value on investments in decision-making participation; not consistently measured.	Capital markets cannot value health investments.
Other potential coordination failures	No-layoff policies make recessions shallower and encourage firm-specific training, but much of effect is external to the firm. "Prisoners' dilemma" among firms prevent all from benefitting from skill development; solve by mandating training. Free-rider problems, especially in LDCs. Failure to internalize social costs of childrearing can exclude talented women.	Employees who dislike diversity may demand higher pay, but their ability to do so would be lessened if all firms had to be diverse.	There may be "human capital flight" of top talent when only some firms adopt flatter pay scales.	"Prisoners' dilemma" among firms prevent all from benefitting from employee participation; solve by mandating works councils or other forms of employee voice.	Free rider problem in raising employee general health in LDCs.

Table 2. (continued)

	HDE dimensions				
	1.Skill	2.Social equity	3. Economic equity	4. Decision making participation	5.Health
Potential organizational failures	Management opportunism towards labour, or its potential, reduces incentives to acquire firm-specific human capital, which return becomes smaller or more risky. Excluding minorities from careers means on the margin the talent of those arbitrarily excluded exceeds those included.	Managers may "spend" some of firm's rents to achieve the ethnic and gender mix they prefer.	Flatter pay scales may improve morale and efficiency, but interfere with managerial self-interest.	Workplace democracy creates less advantageous circumstances for management opportunism.	Speculatively, benefits of improved employee health may accrue to employees or to shareholders, but not to management.

Prime Age Female Job Tenure Trends, by Worker Age, 1951-1991



Prime Age Male Job Tenure Trends, by Worker Age, 1951-1991

