

48

Measuring the benefits of employer investments in training: towards a new economic theory of training

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There is a well established theoretical literature about the private individual investment in education decision, based upon the traditional neoclassical literature, dating back to Becker. This framework also addresses the issue of the employer's investment in training, although it is less successful in capturing decision making in this more complex area. The present paper argues that subsequent developments make this framework seem a little tired, and in need of integrating what other disciplines have say about the employers' training decision. The authors attempt to present a more wide-ranging and complex theoretical framework, which both economists and other disciplines can associate with, but one that retains the outcomes of the Becker model as special cases. Steps have been taken to begin testing this framework using international comparative data, and some of these results will be presented alongside the theoretical model at the conference (although not currently available for the submission deadline).

1 Introduction¹

The present paper is concerned with the returns to employer-funded training. There is a long-standing fear amongst a number of economies, not least Britain, that they under-perform in terms of employer-based training (Layard, *et al.* 1994), whilst others, such as Germany, have training systems which are well respected by other countries (Hogarth, *et al.* 2009, Sec. 4.4), even if they appear to go through periodic doubt about the efficacy of their systems.

The present paper argues that part of the problem in understanding and tackling deficiencies in employer training lies in the inadequacy of the largely neoclassical, conceptual framework used to analyse this issue. While the standard neoclassical theory of investment in education from the

¹ The research reported here draws upon ideas developed, in part, during work for the UKCES and CEDEFOP. The results reported are, however, the sole responsibility of the authors.

individual perspective has dominated the conceptual and empirical work adopted over the last 50 years, this approach has been less than adequate in understanding other areas of investment, such as enterprise training. It has also shielded economists from needing to go inside the “black box”, which has been treated the decision as a purely financial consideration.

The neoclassical solution, with the optimal outcome occurring where the marginal costs of training are equal to the marginal benefits has always caused problems for disciplines outside of economics (and for some economists as well). It is for this reason that other disciplines have devised their own theories of training, for example, training as a “partial gift exchange” (*e.g.* Akerlof, 1982 and 1984). While it is possible to demonstrate that, in principle, “gift exchange” can be recast in a neoclassical setting, it only serves to show that the neoclassical outcome is a special case of the socio-psychological theory – and that the heroic assumptions needed for the neoclassical theory omit features that are essential to understanding the training decision. These features involve factors such as “fairness” and “trust”, which have implications for whether training will take place, whether it will be successful and what the returns to training for the different parties will be.

The economic framework generally focuses on training investment as a separable (and largely separate) decision. The reason for this may be that, historically, in large, hierarchical firms, an important element of training was simply for succession purposes, where career ladders were well defined, and movement up the rungs required known combinations of training and experience (*e.g.* the “internal labour market”, ILM – see Bosworth, *et al.* 1996, pp. 263-271). While there is still an element of this going on, today’s enterprises tend to be flatter, with a greater dispersion of tasks and responsibilities (Bosworth, 2005, pp. 269-296 and 2004).

In essence, the returns to training are now more complex, bound up with investments in and the use of high performance working (HPW) and with the issue of “better jobs”, which lies on the inter-face between management science (particularly human resource management) and economics. This view is consistent with Belt and Giles (2009, p. i), “[t]here is increasing focus, particularly at the European level, on seeking to create ‘better’ jobs and good working environments that offer mutual advantages to the individual as well as the employer”. As will become apparent, this “mutuality” takes the discussion well beyond economics into the socio-psychological areas of “partial gift exchange”. This broader view is essential to unravelling some of the knots in the economic theory of training.

Section 2 continues with a discussion a brief outline of the traditional neoclassical model of investment in the context of the employer's training decision. This section sets out some of the main limitations and weaknesses of the neoclassical model, in particular, its failure to consider what goes on inside of the “black box” represented by the enterprise. Section 3 moves the discussion towards a “new view” of the “economics” of training. In particular it argues that, to be

successful, employer training must be the outcome of a broader symbiotic relationship between employers and employees, based upon non-economic approaches and a recognition that training is non-separable from other activities of the enterprise (e.g. HPW). Section 4 uses traditional supply and demand theory and, in particular, the concepts of welfare surpluses, to explore the implications of “gift exchange” in an economic setting. The results are surprising and may offer an explanation as to why this form of “gift exchange” is not more common in some countries. Finally, Section 5 provides the main conclusions of the present paper.

2 Limitations of the traditional, neoclassical approach in the context of training

2.1 Traditional treatment of the employer decision to train

The way economists generally deal with enterprise training is to adopt a parallel treatment to that of individuals (see Bosworth, *et al.* 1996, pp. 233-237). The primary focus is on private sector companies as, here, the costs and benefits can be measured in monetary terms, where an improvement to benefits over costs to the employer is reflected directly in improved profitability. Thus, the benefits of training are manifested through improvements in revenues or reductions in production costs, while the costs of training include the staff to train the employees and/or the production foregone because of the reduced productivity of the firm during the training period. In the “neoclassical model”, to maximise profits, the firm expands training as long as the marginal benefit of training exceeds the marginal cost².

Who receives the benefits largely determines who is willing to pay for the training. The general presumption is that, if the individual receives the benefits, then the onus is on the individual to pay and, if the employer receives the benefits, the onus is on the employer to pay (Becker, 1964). In the traditional neoclassical model, the extent to which the employer can capture these benefits depends upon the “specificity” of the training, in other words, the extent to which the skills developed are of use to that employer and not to other employers. This may be because of the nature of the skills imparted or because of other factors that stop employees moving between employers (e.g. a monopolistic buyer of labour).

2.2 “Who pays” and “who benefits” – intersection of individual and enterprise calculus

There is an important difference from the individual and firm perspectives, recognised right from the time of Becker’s seminal work (Becker, 1964). This arises because of the special nature of “labour” as a factor of production (Bosworth, *et al.* 1996, pp. 3-4); in particular, workers are not bought and sold – only the labour services of workers, and workers can decide to move from one employer to another to obtain better wages or working conditions.

² To avoid repetition, it is assumed throughout that any flows over more than a single period are appropriately discounted and, where appropriate, summed.

This is a crucial issue from an employer perspective. What are important to the enterprise are the training costs that the employer bears and the benefits that the employing enterprise receives from the training (Bosworth and Stanfield, 2009, pp. 58-59). The size of the benefits from training is determined in part by the length of time the trained individual continues to work for that company (or the expected lifetime of the company). In turn, this depends crucially on the labour wastage from the company, such that the shorter the (expected) tenure of employees, the lower the (discounted) sum of benefits from training, other things equal.

Traditional, neoclassical theory suggests that, other things being equal, firm investments in more general (e.g. more transferrable) skills decrease expected tenure within the firm, other things equal, while investment in specific skills increase tenure (e.g. as the skills become less relevant to other firms). In essence, specific skills tend to lock employees within the company to which those skills are relevant, while general skills tend to open up a wider range of employers, lowering the probability of staying with the existing employer.

Thus, firm provision of general training may be counterproductive, at least in competitive markets, because other firms actively “poach” trained workers. In other words, if some firms incur the costs of general training, this provides an incentive for other firms to refrain from general training and to “poach” the trained individuals, paying them a higher wage than the training firm can afford. Under competitive market conditions, neoclassical theory suggests that employers are unlikely to be a significant source of general training.

2.3 *Limitations of the traditional neoclassical model*

Both neoclassical theory and the theory of perfect competition (which should not be conflated) have their uses, but are based upon heroic assumptions that help to underpin the simplicity and precision of the training decision results. The present section deals with some of the more crucial ways in the traditional neoclassical outcomes under perfect competition break down and expose the need for other disciplines to provide insights about training.

Imperfect mobility. The most obvious area to begin is with the assumption of perfectly competitive markets, which, at best, can only be a first approximation to the real world. If labour supply is not perfectly sensitive to very small differences in wage differentials, then individuals who receive general training may still choose to stay within the training firm for some period. This has potentially very important implications both for who funds training and for the dynamic efficiency of the firm,

“... once the assumption of perfect mobility of labour in search of the highest wages is relaxed in favour of a model in which the hazard rate from a given job is determined by other, socioeconomic and institutional factors, then there is an incentive for both the firm and the individual to invest in both specific and general

training and to share in the returns to that investment. The first point, therefore, is that labour markets which generate greater stability of employment may be less efficient in a static sense (*i.e.* as greater individual mobility improves market clearing), but may be dynamically more efficient insofar as longer tenure encourages training.” (Bosworth, *et al.* 1994, p. 95)

Monopoly and/or monopsony power. Economists have long realised that where buyers and/or sellers of labour services have a degree of monopoly power, then the traditional Becker division of the costs and returns of investment in training is largely redundant. The general features of the results are fairly straightforward (Bosworth, *et al.* 1996, pp. 107-123 and pp. 185-193).

- with a monopoly buyer of labour, all training is effectively “specific”; while training might, in principle, be of value to other enterprises, there are none present to hire the labour with those skills. The monopolist buyer is able to appropriate all of the private benefits from competing suppliers of labour (though not all of the welfare surplus on the supply side, unless they can perfectly discriminate between each potential supplier);
- with a monopsonist seller of labour, in the face of competitive buyers of labour services, the seller can appropriate all of the private benefits of the training from the enterprises hiring the labour (though not all of the welfare surplus on the demand side, unless they can perfectly discriminate between each potential buyer of labour services);
- bilateral monopoly, however, leaves a range of possible outcomes for the allocation of returns to training that *economics cannot allocate* without resort to some “deciding mechanism”, such as the relative degree of power of the firm and the union - a mechanism which lies outside of the traditional bounds of economics. *E.g.* how do you explain the outcomes of interactions between employers and employees, if the market does not decide it for you?

Inside of the “black box”: the individual. Traditional neoclassical theory based around “specific” and “general” training treats employees as “passive” with respect to anything other than wages (or near wage phenomena). In practice, individuals may be far from passive about training offered by the employer. They may face barriers that hinder or prevent their participation in learning and raise the perceived costs of training to them, including: a lack of time and/or associated scheduling problems; a lack of confidence about successfully undertaking training; a lack of personal motivation and willingness to “make the effort”; a lack of information about the opportunities to learn or the best choices in terms of training courses; “red tape” (Lieb, 1991). Thus, the individual’s perceived costs of training can impact on their reaction to employer provided training. Individuals also face potential benefits from employer provided training other than improved wages or “near-wage” effects (*e.g.* in terms of survival in an existing job or in finding

new work when necessary – see Wilson, 1983 and 1985). In addition to non-wage costs, employer provided training may give rise to non-wage benefits (*e.g.* a higher socio-economic status – see Blaug, 1965, access to better working conditions – especially when training is linked to a broader HR package, etc.). Thus, even in the case of highly specific training, the individual is faced by perceived costs and benefits of training that can influence their response to the training and can even impact on the likely success of that training.

3 Towards a “new view” of the “economics” of training

3.1 Recasting the context of “who benefits pays”

The “individual interest” approach may not be the most appropriate way of looking at the returns to training issue, either from an employer or from an employee perspective. The original dichotomy between specific and general training is cast as an almost parasitic relationship in which the employee seeks any benefit they can from the employer provided training, either in the form of the employer paying higher wages or in terms of jumping from that employer to one willing to pay more. Likewise, the employer is cast in the role of seeking labour trained by other enterprises, whilst, at the same time, attempting to avoid any loss of returns to training by minimising the benefits they pass on to employees and keeping at bay other employers who would poach their trained personnel.

Such a view of the world ignores the synergies that arise from a more symbiotic relationship between the employer and the employee, in which both may benefit from employer training. This does not mean that both the employee and the employer do not have their own ends, but recognise (accept) that these ends are better served, at least in the long term, by their coexistence and cooperation. While “cooperation” may not be based on a “giving” and “returning” culture of the Akerloff (1982 and 1984) type, it may, nevertheless, be inculcated through a rationalisation process in which there are perceived costs and benefits of cooperating for an end-game in which both parties benefit.

Training in this sense is concerned with the “long-game”; employers and employees gain most when the benefits of joint activity and action are allowed to emerge. Either “partner” may take a short term gain, but only at the expense of the long-term outcome. If conditions emerge in which it pays one of the “symbiotic partners” to take the short-term option (*e.g.* the employee jumps firm to a higher paid employer), one (*e.g.* the employer) or both may suffer in the longer term. Various external influences alter the short- *versus* long-term choices (*e.g.* industrial restructuring that raise the rate of labour turnover in companies).

The discussion also implies that it is wrong to see training as a separate entity – it should be viewed as a part of the system which describes the activities of the enterprise. Training is bound up not only with the broader operation of the enterprise, but also the actions and activities of the

employee. The easier it is to separate training from other activities of the employer and employee, the easier it is to focus on the costs and benefits of training as an isolated activity and the more likely the employee and the employer are to consider their own individual gains from the training activity *per se* – and to do so in purely financial terms. Of course, specificity and generality are examples that typify the extreme outcomes, but they are arid constructs, designed largely to simplify the division of costs and benefits between the participant groups.

3.2 *Recasting of the enterprise: lessons from the HPW literature*

HPW. The focus developed here concerns the HPW and high performing organisations (HPO) literature (Bosworth, 2005, pp. 210-211; Belt and Giles, 2009). A key focus is the role of human resource management (HRM) and HPW in both promoting and developing the resources available to the enterprise, and in determining the ways in which such resources are organised and incentivised (*e.g.* a “resource-based theory of the firm” – Penrose, 1959; Bosworth, 2005). The provision of learning opportunities and training are two of the key ways in which human resources are developed, while the adoption of HPW is “... a general approach to managing organisations that aims to stimulate more effective employee involvement and commitment to achieve high levels of performance” (Belt and Giles, 2009, p. ii). This view of HPW takes the debate beyond the issue of improving the supply of skills, to exploring the question of employer’s demand for skills and, thereby, the effective *use* of skills (Belt and Giles, 2009, p. i). This area of research ties in with the earlier discussion in several ways.

Central role of the employee. If the employer provides training, these new skills require utilising effectively in order to both meet the work expectations of the trainee and to produce the benefits that the employer anticipates. This stems from the special nature of “labour” as a factor of production – that only gives employers limited control over what workers do (see Section 2.3). Even if the employer funds the training, the individual is not a passive recipient of the skills; training may be difficult, if not impossible, where staff have negative attitudes to training (Didato, 1976; OECD, 2003, Ch. 5; WMRO, 2006, pp. 137-138) and requires overcoming personal, individual barriers³. Even if workers can be persuaded to train, this does not guarantee a successful outcome – that they learn the skills taught or are willing to apply them (Bosworth and Stanfield, 2009, p. 28).

Historically, employee commitment to training was incentivised by the desire for promotion within the ILM – the employee competed with a (limited) number of others to attain the skills necessary to move from their present post up to the next rung of ladder. The incentives stemmed

³ Developing skills generally requires overcoming personal barriers to training, *e.g.*: reticence to push for training; a fear of training; unwillingness to be sufficiently flexible to accommodate training (*e.g.* seeing the job as being “9-5” and having no interest in learning); family responsibilities; unwillingness to delegate work to attend training; lack of commitment to training; embarrassment at the need for training (Statistics Canada, 2002, p. 12).

from the fact that jobs at high rungs were better paid with higher non-pecuniary benefits (separate offices, higher status, etc.) and, as the hierarchy was stable, there was certainty over the returns to training, at least for successful candidates. While there are still vestiges of ILMs in larger companies, the significant changes in structure with increasingly fuzzy boundaries between organisations (Bosworth, 2004 and 2005, pp. 269-296), have resulted in firms becoming flatter in nature, with a greater dispersion of tasks and more devolved responsibilities. Better performing enterprises have also been linked with the adoption of HPW. Thus, the returns to training are now more complex, bound up with the use of HPW and with the issue of “better jobs”.

This recasting of the nature of the enterprise, its organisation and the role of the employee within the enterprise, might be thought to undermine the perceived role of training. This is far from the case, as “people” have become central to the efficient operation of modern enterprises and are recognised as a key source of an organisation’s competitive advantage (Prahalad, 1983; Pfeffer, 1994; Wright, *et al.* 1994). Hence, success in global markets requires appropriate HR investments to ensure that employees have better skills than their competitors and, by implication, it is the quality of HRM that determines these skills (Adler, 1988; Youndt, *et al.* 1996) and, therefore. “... the effective management of human capital, not physical capital, may be the ultimate determinant of firm performance.” (Youndt, *et al.* 1996, p. 836).

Work organisation. At the enterprise level, the social welfare of employees is influenced by the way in which production activities are organised. In principle, work can be organised in many ways, although there are limits set both by the product and process technologies available, which are, to some degree, delimited by the skills of the workforce and other dimensions of factor supply. As will become clear, the standard of welfare at work of employees is partly driven by the firms’ own interests (*e.g.* as higher welfare standards increase the productivity of employees), by the altruism of the employer (*e.g.* “sharing” the economic returns to “improve the lot” of the workforce) and by the need to meet regulatory requirements (*e.g.* health and safety requirements).

Hints that work could be organised in a variety of ways, can be dated back at least to the seminal work by Woodward (1958 and 1965) and to Burns and Stalker (1961). The general thrust was that certain ways of approaching the production process were best organised using certain working arrangements (*e.g.* “mechanistic” *versus* “organic”). Woodward concurred with Burns and Stalker, that technological changes were making the “organic – human relations” (rather than the “mechanistic”) the form of the enterprise of the future (Donaldson, 1999, p. 54). Thus, insofar as the firm has a choice over the “technology”, they can also exercise choice over the form of the work organisation, where different forms of work organisation give rise to different levels of (dis)utility for employees and different implications for the overall welfare the workforce.

Work organisation: congruency of employer and employee utilities. If one steps back for a moment from the economics of training, it is apparent that organisational psychology, dating back

to the early years of the 1900s, has a long-standing interest in understanding how the organisation of work, worker involvement in decision making, and the physical work environment affect organisational performance through their influence on employees' attitudes to work. Studies dating back to the early years of the last century demonstrated how worker fatigue was responsible for mistakes made and output lost⁴, and studies from the mid part of the century revealed how involving workers in decisions about the organisation of their work (Coch and French, 1948) and their physical environment affected worker motivation and efficiency (Roethlisberger and Dickson, 1939; Blumberg, 1968).

This foundation of work organisation was eventually encapsulated in two main areas of the modern economics literature (Bosworth, 2005). First, the labour economics literature blossomed into the treatment of employment relations (Bosworth, *et al.* 1996, Part VI), the main focus of which concerned how employment (and the employment contract) could be arranged to increase the workers' commitment to the enterprise through employment incentives, thereby aligning the employee goals and actions with those of the firm (see also the work on corporate governance). Second, at a point of intersection between management and economics, the literature on HPW encapsulates issues of worker participation in decision making, a comfortable physical working environment, and the opportunity for human resource development (e.g. training and learning).

Both literatures are relevant because of the central role played by human resources and human resource development. Employers engage in and fund training because they believe it will improve the performance of the organisation. Some have a more instrumental approach than others in that their *ex ante* evaluation foresees a direct monetary benefit to the organisation from delivering training. Others have a less instrumental approach in that their conception of how training improves performance is less direct, with its influence mediated through factors such as job satisfaction and worker motivation. In this latter case, there are a number of social benefits which need to materialise, before the more tangible gains to the enterprise, such as increased productivity or profitability emerge.

As noted below, the (re)allocative aspects of training are important from the perspective of the acceptance of training by the workforce and need to be seen, in some sense, as being sufficiently "fair". From the HRM and industrial psychology literature it is known that the combination of improved job design is positively related to both job satisfaction and worker motivation (which may be considered as intermediate level organisational aim), which then feed directly into more tangible, monetary benefits for the employer, such as increased productivity and profitability, and higher wages for the worker. By implication, the absence of a more fundamental restructuring or reorganising of the work carried out, may result in the gains from training being short-lived.

⁴ See, for example, the research by the Industrial Fatigue Research Board between 1918 and 1929

Embeddedness: training and HPWs. There are two broad groups of research linking HR practices/HPW with enterprise performance (Bosworth, 2005, p. 222): those examining the effects of *individual* human resource programmes (*e.g.* a training programme) or a new work initiative (*e.g.* annualised hours); and those that look at the effect of a “bundle” of HR practices as a (new) form of work organisation (*e.g.* training to enable working as a team, increased individual and team responsibilities, job rotation – see Arthur, 1994; Huslid, 1995; Boudreau and Ramsted, 1996; Youndt, *et al.* 1996). While both sets of studies are positive towards the effects of HR initiatives on performance, enterprises appear to benefit disproportionately from the synergies that “bundles” of new practices and new forms of working offer (Bosworth, 2005, pp. 222-235).

However, a more complex set of issues has started to emerge from the “bundles” literature, concerned with the “fit” of the various policies (Huslid, 1995). In particular, the “internal fit” is concerned with the compatibility of the group of HR policies chosen; this relates to the mix of policies and the extent to which complementarities can emerge from that mix. In addition, the “external fit” is concerned with the compatibility of the suite of HR policies adopted with the enterprise’s broader competitive strategies (*i.e.* goals and product market strategies, such as cost saving *versus* quality improving). With regard to the “external fit”, the literature distinguishes between: “consistency” – meaning that the two policies are “in line” irrespective of their effect (*e.g.* theoretically consistent); and “moderated” – where there is an interaction between the two to produce the observed outcome. This makes it very difficult for employers to draw practical policy recommendations from the academic literature (Tamkin, *et al.* 2008, p. viii).

3.3 Non-economic factors and forces

As the discussion moves to the embeddedness of training within a system of HPW, sociological and psychological issues begin to take precedence over economics. While there is an element in the empirical HPW literature of testing which combinations of working practices work best in which contexts (*e.g.* are most compatible with particular goals and strategies of the firm) – this literature is found on the border of economics and management, it still does not get to the socio-psychological relationships that make certain mixes of HWP work together in certain contexts. Without any attempt to be comprehensive, the rest of this section outlines a small number of illustrations of the contributions of other disciplines, including training as a “partial gift exchange” (Akerlof, 1982 and 1984), which have clear economic implications.

Here, the literature suggests a link between employee attitudes and HPW. HPW engenders a “mutual investment approach” that is built on a “reciprocal and social exchange relationship” (Blau, 1964; Tsui, *et al.* 1997) or on a “psychological contract” (Guest, 2004). The management literature largely divorces the associated “exchange” from economics: the willingness of employees to train is linked to the non-pecuniary returns associated with the developmental and participation practices of HPW (*e.g.* the opportunities for employees to take responsibility, make decisions,

enhance their knowledge and skills, and to improve their contribution to the enterprise); the employer benefits because of the greater “affective commitment” of employees to the enterprise (Wu and Sankalp, 2009, pp. 1231-1232).

The partial gift exchange hypothesis is that principles of “fairness” and “reciprocity” may affect the interaction between workers and employers in determining the labour contracts of employees. In labour economics, this hypothesis has been couched in the context of the effect on wages (and employment) in a competitive labour market. In this model, some employers choose to pay employees more than the standard competitive wage. Other things equal, this implies that they are paying more than the employees are “worth” (and, in perfect competition, would go out of business). However, in return for the higher wage employees supply greater effort than if they were paid the going market wage. In this sense, one gift (the higher wage) gives rise to a reciprocal gift (the higher effort), allowing a range of wage-effort outcomes can be equally competitive in the market.

Social interactions within the enterprise, and the enterprise culture give rise to these alternative potential equilibria. According to Bennis (1997, p. 3), for example, group dynamics are an important source of synergies, where “... the leader and the team are able to achieve something together that neither can achieve alone. The leader finds greatness in the group. And he or she helps the members to find it in themselves.” Such group dynamics are the result of social interaction, and involve the enterprise in managing the group in a manner that generates a “gift culture” of the type that underlies the Akerlof (1982 and 1984) model.⁵ Thus, the prevailing culture forms part of the enterprise’s “productive social capital” (Putnam, 1993).

“Trust” has become an important concept in the performance of companies and might be viewed as being generated, in part, by the meeting of expectations in “reciprocal giving”. Researchers have found a relationship between trust in “higher-ups” and a variety of measures of organizational performance (e.g. Kim and Mauborgne, 1993; Rich, 1997; Robinson, 1996). However, the employee behaviour may be shaped not only by how much they trust management, but also by how much employees feel trusted by management (Salamon and Robinson, 2008). In a similar manner, trust amongst outsiders is a key influence in building social capital in the enterprise, but the level of the social capital of the enterprise may also help to engender trust amongst outsiders. Social capital, which includes all forms of relationships (e.g. family, ethnicity and political), can be viewed as the sum of all (non-economic) resources potentially available to individuals from their relationships with others (Nahapiet and Ghoshal, 1998).

Whilst oversimplifying, economists would not see any problem in reintegrating “gift exchange” within their traditional framework. They would view the “social exchange” or “psychological contract” as: raising the employees’ utility from their work (a non-pecuniary

⁵ Dimensions of the management of such a culture are set out in Kramer, *et al.* (2001, p. 173).

remuneration); at the same time, raising their commitment and effort, which raises their productivity and potential longevity as an employee (which raises the returns to training by the employer). While it would not gel at all well with researchers from other disciplines, the “gift exchange” could be viewed in the context of a neoclassical investment setting, where employers “offer” additional amounts of training linked to more demanding, but satisfying jobs, up to the point where, at the margin, the gains in performance from improved employee commitment, etc. are just equal to the additional costs of the training and HWPs. *Such a reintegration is not being suggested here.*

4 Recasting the discussion in an economic framework

4.1 *Welfare surplus, and private and social returns to training*

Economics makes a further important distinction between the private and social returns to training, which underpins the justification for government intervention in the market for training (though not necessarily government funding – Bosworth and Stanfield, 2009). It is important to provide a conceptual framework to aid the understanding of the returns to training, which includes the broader issues of employer and employee surpluses and takes the discussion away from wage (and near wage) issues. Such a development also helps to break down the standard economic distinction between private and social returns to training. At the heart of the social returns issue is the fact that neither the employers nor individuals funding training may be able to appropriate all of the benefits of training (e.g. in a non-equilibrium, partial gift framework).

4.2 *Welfare surpluses in the factor market and partial gift exchange*

The underlying concept. Consumer surpluses have been the traditional focus of welfare effects and little, if anything, has been said about this phenomenon in the context of the effects of training or HPW. However, a consumer surplus approach offers a link between the economic treatment of wellbeing and the concept of partial gift exchange, although it glosses over the richer insights of the socio-psychological theories at the individual employee and employer level. More importantly an examination of welfare surpluses in the context of labour market outcomes in the face of training offers new insights about the potential willingness of employers to offer training and the corresponding willingness of employees to accept it.

The idea is that the trade in labour services does not leave each group (employers and employees) feeling indifferent. In neoclassical theory, it is only the last possible “trade” that leaves the (potential) employer and the (potential) employee feeling indifferent about the transaction, at the going (equilibrium) wage. Under normal trading conditions, all preceding trades take place between employers who, in principle, would have been willing to pay a higher than market wage and employees who, in principle, would have been willing to work for a lower than market wage. Thus, all preceding trades can be seen as a partial gift exchange, in which, on the one hand, the

“gift of work” by the employer brings the employee a level of satisfaction more than necessary to off-set any disutility arising from work, while, on the other hand, the “gift of worker effort” by the employee generates more revenues than the costs of employing the individual.

Some underlying issues. The question arises as to why the market outcome is important. In a purely economic context of perfect competition, it is not – in a perfectly competitive world, everyone follows their individual instincts and are unable, individually, to affect the market outcome. However, if individuals have a perception about what the overall outcome at the market level will be, they may be more (or less) resistant to any given change depending on whether the likely market outcome will be adverse to them (or favour them). In addition, where broader labour market institutions exist (*e.g.* employer bodies, unions, etc.), then these institutions may themselves act in the broader interests of their members to resist (or encourage) the changes.

The motivation for accepting or rejecting, encouraging or blocking proposed changes in training/HPW may rest, not on marginal changes in wages or utility (as in the case of traditional neoclassical theory), but upon issues of trust and perceived fairness in the interaction between employers and employees. Many of the implications of these interactions are less precise in their implications than traditional neoclassical outcomes and require further investigation and study. Thus, the remainder of the present section should be thought of as an initial exploration of the application of the theory of welfare surplus in this context.

4.3 Welfare surpluses in the facing of training

Figure 1 demonstrates the traditional welfare surplus position in the context of the market supply and demand for employees (E). The market is in some sense ranked according to the average amount that firms would be willing to pay (w) for one, two, ... workers – the demand curve (D), and in terms of the average amount (w) one, two, three ... workers would be willing to supply their labour for (S). The average amount that labour is traded for on the market is f , where $S=D$ at point e . However, at this wage, a number of firms receive labour services for less than they would have been willing to pay (area aef) – a measure of employer surplus; likewise a number of employees are paid more than they would have been willing to supply their labour services for (area cef) – a measure of employee surplus.

Thus, there is an analogy between welfare surpluses and the socio-psychological concept of partial gifts, and within this framework it is possible to demonstrate the nature of mutual exchange and reciprocity. Interestingly, however, under certain circumstances, this framework also highlights the issue that an apparent “gift” by one party may be viewed as a possible “poisoned chalice” by the other (at least if they understand what the market outcome will be).

If the introduction of a training/HPW package favourably alters the conditions of work in the market for these employees but doesn't alter their productivity, then the supply of labour to the jobs

affected will shift outwards, as shown in Figure 2 (note, for a moment, the discussion ignores the costs of the introduction of the HPW package). The outward shift in the supply of labour produces a new equilibrium at e' , which, in the absence of a perfectly inelastic (vertical) demand for labour curve, will always be to the right of e . Thus, while, in this particular case, the effect on the employer surplus (which employers capture) is always non-negative ($ae'f' \geq aef$), the impact on the employee surplus might be positive or negative depending on the size of $c'e'f'$ relative to cef (or $cc'e'h'$ relative to $ff'h'e$).

A further complication, which is not entirely apparent from the socio-psychological discussion is that there is an adverse change in the wage (a fall from the initial equilibrium at f to a new value, f'). This change is associated with what economists refer to as a compensating variation in wages or a “compensating differential” (Sherwin, 1986): that dirtier, nastier, riskier jobs generally have a (positive) wage premium caused by the adverse effects of the nature of the work on labour supply; while jobs with better working conditions have a negative wage differential associated by the positive effects of the nature of the work.

Thus, the “gift” of improved working conditions by employers does not necessarily act in the employees’ favour, once market effects are taken into account – employee welfare surplus may be smaller than in the initial equilibrium and the new market clearing level of wages is lower.

Figure 3 illustrates the effects of an increase in the offer of effort by employees, but assuming that labour supply (the person-wage relationship) remains unchanged. The most likely effect is an outward shift in demand from D to D'' , and a change in the market equilibrium from e to e'' . Interestingly, the effect of this is a rise in the average employee wage to f'' , with an unequivocal rise in employee surplus from cef to $ce''f''$ (as long as demand is not wholly inelastic or supply wholly elastic). The effect on employer surplus, however, can be positive or negative depending upon the relative sizes of the areas aef and $a''e''f''$ (or $aa''e''e$ relative to $eff'h''$).

An analogous result is obtained if employers offer a training/HPW package that improves the productivity of labour, but has no effect on the conditions of work (or, therefore, the utility/disutility of work). The effect is, therefore, to increase the demand for employees as the new HR package increases labour productivity, but not to shift the supply of labour.

The offer of a “gift” of increased effort by employees does not necessarily act in the employers’ favour, once market forces are taken into account – employer welfare surplus may be smaller than in the initial equilibrium and the new market clearing level of wages is lower.

Figure 1: Employer and employee surplus

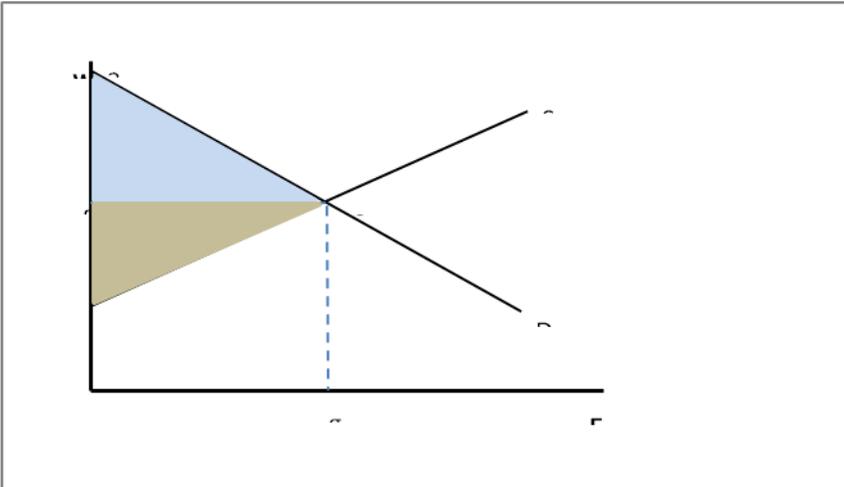


Figure 3: Employer and employee surplus – extra effort shifts demand

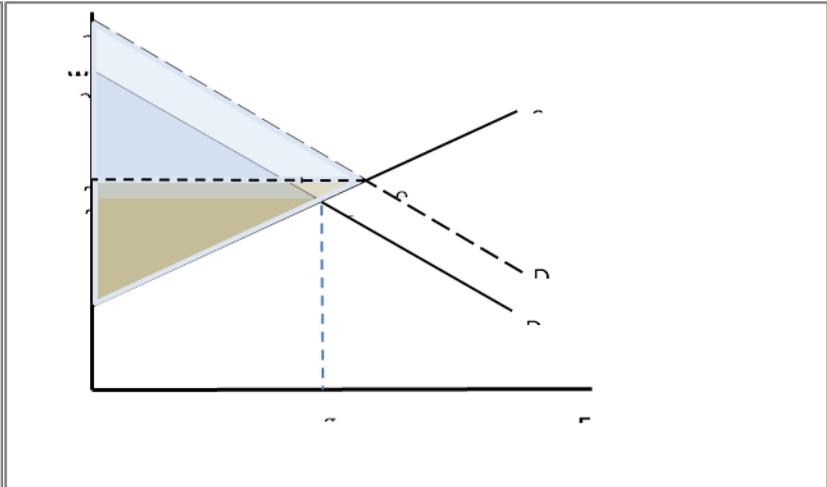


Figure 2: Employer and employee surplus - HPW shifts supply

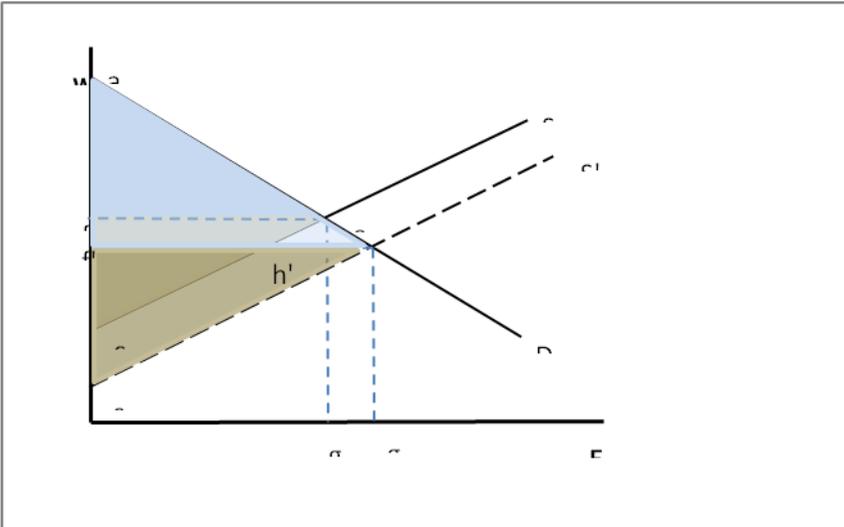
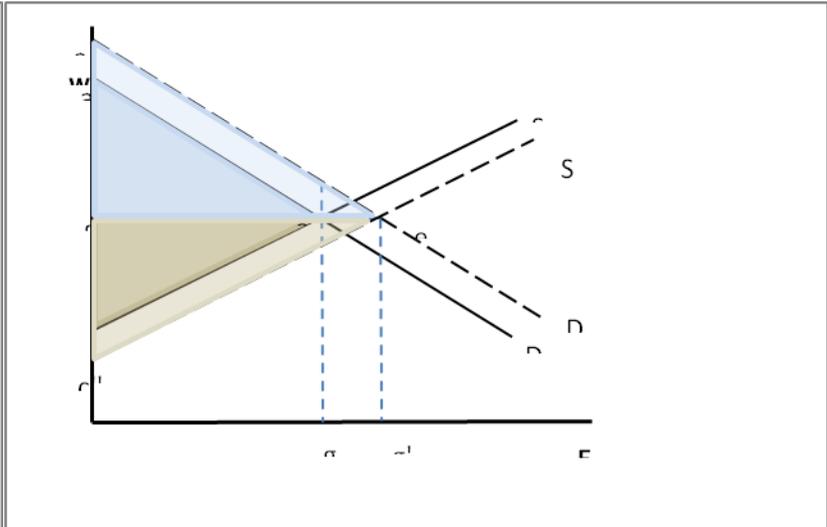


Figure 4: Employer and employee surplus - HPW shifts supply and demand



Finally, Figure 4 shows the outcome when the investment in training/HPW shifts both labour supply ($S \rightarrow S''$) and labour demand ($D \rightarrow D''$) – in other words, it increases the productivity of workers, and thereby the demand for labour, at the same time that it improves the conditions of work, and thereby the supply of labour at any give wage. In this example, the outcome is simplified slightly by making the new equilibrium wage the same as the original wage, at level f (e.g. the intersection of D'' and S'' occurs at e'' , at the same height on the vertical axis); however, the new employment level (E'') is higher than the initial level (E). In this case, it can be seen that the welfare surplus is unequivocally higher for both employers and for employees ($a''e''f > aef$ and $c''e''f > cef$ respectively).

The implication is that, under fairly normal assumptions about what happens to shifts in supply and demand, it is only where there is a reciprocal exchange will the party being offered the “gift” unequivocally benefit. Where only one party is offering the gift of HRP/training with no mutual exchange, it appears to be the offering party who will benefit and not the recipient.

4.4 Differing outcomes of “individual gifts” and “gift exchange”

The “poisoned chalice”. Thus, in the present reinterpretation of welfare surplus theory, there is something unusual in the standard economic outcomes from an analysis of the effects of the two components of “gift exchange” in the context of standard supply and demand curves, and the traditional measures of welfare surpluses.

Figure 2 demonstrates that as the employer introduces training and HPW, this is viewed positively by employees who, if they act passively (e.g. do not make an offer of higher effort), view this as a non-pecuniary benefit of employment. The outcome is an outward shift in the supply of labour, which results in an unambiguous improvement in employer surplus, with an indeterminate impact on employee surplus, but an unambiguous fall in wages (see cell 2/1 in Table 1). Viewed from a welfare perspective, we obtain the rather perverse result that an offer of something that employees might be expected to feel very positive about *may have the converse outcome, at least at the (labour) market level.*

Figure 3 illustrates that, if employees “offer” higher levels of effort, but employers act passively (e.g. do not offer HPW), this has the effect of inducing employers to substitute labour for other factors of production and, given that it lowers producer costs, also raises the demand for all factors. The outcome is again interesting, in that such an “offer” by employees has an unambiguously positive outcome for employees and raises wages, but an indeterminate outcome for employers (see cell 1,2 in Table 1).

Table 1: Individual “gifts” and “gift exchange”

	Employee passive [1]	Employee offers effort [2]
Employer passive [1]	0/0	(+/-)/+
Employer offers HWP [2]	+(+/-)	+/+

Figure 4 demonstrates that only when the “offers” are made as a part of a mutual “gift exchange” are both parties likely to unambiguously benefit from the outcome (see cell 2,2 in Table 1). By implication, if only one side of the market were to make an offer, this may be perceived as a selfish gesture and rejected.

Fairness and trust. It is also apparent from Figures 2 and 3 that, even though both parties might gain from a one-sided offer (e.g. an offer by either the employer or an offer by the employees), the gains to one group might significantly exceed the gains to another and still be rejected as “unfair”. Thus, in Figure 2, even though the employees’ “gain”, $c'e'f$ relative to cef , may be positive, it may be significantly smaller than the unequivocal gain in the employer surplus ($ae'f > aef$) and, therefore, resisted on the ground of unfairness.⁶

The question therefore arises as to whether the employers (employees) can effectively impose a change on employees, knowing that they will gain whether or not employees (employers) reciprocate? First, it has been argued above that employees may be able to block the effectiveness of such initiatives. There is, therefore, an issue of “trust” – e.g. the employer trusts the employees to cooperate insofar as they do not undermine the success of the investment. Second, there is a further issue of “fairness”, insofar as the employer does not want the employees to feel unfairly treated, in that the employer gains all of the benefit (which may give rise to adverse long-term behaviour by employees in a multi-shot game). Thus, in a long-run game, there is an incentive for employers to offer the chance to, indeed, to want employees to cooperate, so that the outcomes appear fair.

Thus, in Figure 3, even though the employer may gain from the increased effort of employees as long as aef and $a'e'f'$ is positive, the improvement may be small compared with the employee surplus (cef to $ce'f'$). At first sight, it would appear that any gain in labour productivity would be unlikely to be rejected by employers (e.g. as long as $a'e'f' - aef > 0$). However, issues of trust and fairness may still intervene, with employers needing to know not only that they will share in the benefits, but the degree to which they benefit appears “fair”.

The acceptance of gifts and the willingness to reciprocate seems likely to be highly dependent on the trust that each party has in the other. This trust may be enhanced by the system of education and training and/or industrial relations more generally, or by the legal rules that surround the operation of the labour market (e.g. the ability to hire and fire, the control of labour market power to allow benefits to be shared). Trust seems to play a less important role where the potential gains to each party are larger and more certain, but a more important role where this is not the case.

⁶ The concepts of trust and fairness have become an increasingly important focus of game theoretic outcomes (see, for example, Rabin, 1993, pp. 1283-1284, for a discussion of the early, mainly experimental evidence of the importance of fairness in economic outcomes).

Allocative redistribution and disruption. A further issue concerns who receives the surplus prior to and after the “gift” either by employers or by employees – not which party (e.g. employers versus employees), but which employees and which employers. So far, the analysis has been wholly in terms of the overall areas of surplus. This implicitly implies that the ranking of employers is the same prior to and after any initiative and, likewise, the ranking of employees is also unaltered. In general, this may not be the case; if the ranking of employers and/or employees changes, then it is possible for some of them to be worse off, even though, overall, their group as a whole is better off through the change (and, by implication, others will be disproportionately better off).

This produces a mixed incentive structure, with, for example, some employers willing to offer the “gift” and others highly resistant, while, at the same time, some employees are willing to accept the gift and others are highly resistant. The outcome is now even more uncertain, as employers most likely to gain might be paired with employees most likely to lose and vice versa. It may also produce a mismatch in terms of the degree of trust, where each partner is uncertain of the extent to which it will favour the other group and, therefore, how they would react to the “gift”.

5 Conclusions

Traditional, neoclassical economics, whilst intuitively appealing, only does the easy part of the job. It helps to provide some insights about what the optimal level of individual and enterprise funded training might be from an economic perspective and, under fairly heroic assumptions, it provides a useful but limited dichotomous outcome with regard to the distribution of funding between the individual and the enterprise.

Once the analysis begins to relax the traditional neoclassical framework, for example, by allowing a degree of bilateral monopoly power in the labour market, economics finds itself needing to draw upon other disciplines, such as sociology and psychology. A major development outside of economics has been the socio-psychological literature on training as a “partial gift exchange” (and related concepts). In other words, if a firm offers to provide training to individuals (perhaps in the context of a broader high performance working, HPW, package), the trained individuals reciprocate by being more productive within the enterprise (*e.g.* in the simplest model, by working harder, but probably in more complex and potentially more creative/innovative ways).

The concept of partial gift exchange appears to have considerable merit. It fits well with the issue of the introduction of HPW, insofar as the latter offers employees non-pecuniary benefits, which result in improvements in attitudes to work and therefore in terms of greater effort and more inventive contributions that improve the performance of the enterprise. This is consistent with the important finding that a majority of employees claim that changes in workers' attitudes and abilities

would bring about the greatest improvement in the performance and productivity of their companies or organizations (Clarke, 1980).

Before turning to more fundamental features of “partial gift exchange”, it is important to note that it is questionable as to whether “gifts” of this type are really gifts in the normal meaning of the word, insofar as there is an expectation on the part of the giver that they will receive something in return. Thus, the willingness to give or to reciprocate the gift may depend on what each party (the givers and receivers) gain from the exchange. If the employer offers to pay for the introduction of a training/HPW package that improves the quality of work for employees, do employees offer sufficient effort and commitment that makes it worthwhile for the employer to make the offer? This introduces issues of “trust” and “fairness” into the gift exchange process.

Insofar as gifts have a cost to the giver and a benefit to the recipient, but, more importantly, there is a “need” for reciprocation, it becomes relatively easy for economists to recast this non-market exchange in a neoclassical context (e.g. based upon the marginal costs and benefits of giving and receiving). This is precisely how the efficiency wage theories begin to develop multiple equilibria (e.g. low-wage/effort and high wage/effort), equally efficient outcomes. While this is an interesting interpretation, it should be viewed in the context that the traditional neoclassical equilibria are special cases of more general non-equilibria, but potentially “equilibrium-consistent” outcomes.

While economists can always resort to their traditional defence that “market forces will out”, in the sense that long term survival and success depend upon behaviour that favours firms that are more in tune with the market, it is essential to understand the forces that underlie the selection process. It is no longer acceptable within economics to treat the firm as a “black box” and ignore all of the socio-psychological factors that are relevant to either the individual’s decision to undertake training or to the management decision about the design of work organisation that are relevant to determining the likely degree of success in exploiting the training.

The present paper attempts to reinterpret “partial gift exchange” from the perspective of welfare surpluses. From the employee perspective, this measure is the welfare surplus defined by the area between the labour supply curve and the equilibrium market wage; likewise, there is a direct measure of producer “welfare”, defined by the area between the demand for labour curve and the going market wage. The first of these two concepts, reflects an estimated value that employees obtain in working for the enterprise *over and above the going market wage*, whilst the second reflects the value that employers place on labour *over and above the going market wage*.

This suggests that the value employees place on an offer of training (as a part of a HPW package) should be judged not only from what this training does to the going wage in employment (e.g. the equilibrium wage), but also to the change to the welfare surplus of employees. Likewise, the value of any reciprocation by employees in terms of greater commitment and effort will be

reflected not only in the new going market wage, but also the change to the welfare surplus of the employers hiring labour. The use of these concepts within the analysis of training/HWP investment appears novel and quite distinct from the main economic focus on the rate of return to training/HWP based mainly on wages and profits.

The introduction of gift theory in the context of employer and employee welfare surpluses, however, suggests some surprising aspects of “giving”, in particular, that the giver may: (i) stand to benefit from the gift more than the receiver; (ii) nevertheless want the recipient group to share in the benefits of the gift. The results suggest that, what appear to be gifts from a socio-psychological perspective may even have adverse consequences on the recipient group (*e.g.* the gift is a “poisoned chalice”), but, certainly, in general, appear to benefit the giver more than the receiver. At the heart of this approach, therefore, are issues of fairness and trust. The recipient will not want to receive a “poisoned chalice”, but will expect to share in the benefits of the gift with the giver. The giver will generally want the recipient to share the benefits in order to build trust so that reciprocation takes place and a fair outcome for both parties is reached.

This new view of the training/HWP and worker effort/productivity outcomes further blurs the already faltering distinction between the allocation of costs and benefits found in traditional neoclassical theory, as well as the distinction between private and social returns. An employer’s offer to share the benefits of an investment in training/HWP may be seen as a social benefit to the employees, but it may also be seen as a way of ensuring not only acceptable returns from the investment by the employer, but also the future cooperation of the workforce by building trust through an environment of fairness. This does not reduce the importance of other forms of social returns (such as the implications of training investments on net *versus* gross profits or in terms of spillovers and externalities), but this new view does offer a richer understanding of the private and social issues than can be derived from the rather arid neoclassical framework.

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