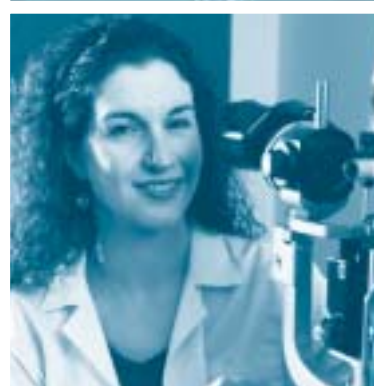




VOCATIONAL EDUCATION AND TRAINING, SKILL FORMATION AND THE LABOUR MARKET



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VOCATIONAL EDUCATION AND TRAINING, SKILL FORMATION AND THE LABOUR MARKET



Overview of the major contemporary studies

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Introduction

The political and scholarly interest in skill formation and vocational education and training has grown apace in the last couple of decades. Across the advanced economies of Western nations, the political parties of both left and right have embraced skill acquisition as a powerful and necessary mechanism for addressing problems as diverse as high unemployment, international competitiveness, social disadvantage and poverty. A new wave of scholarship, following the earlier work of human capital theorists and the flexible specialisation/post-Fordist literature, has emerged to assess changes in VET, the different policy models and their progress in living up to the ambitious hopes invested in VET and skill formation.

This paper reviews some of the major recent theoretical and empirical studies on the nexus between skill formation and economic/labour market performance. It is not designed to be a comprehensive literature review but an exploratory study of the insights emerging from key texts. This paper is being circulated alongside other working papers on ABS material and a review of the major French studies in the field, to enable interested parties to share in our findings.



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Human Capital Theory

Human capital theory, the main contribution to debate on education and training by neo-classical economists, was the dominant mainstream framework used to explain the role and effects of education and training. Education and training was viewed as an investment in human capital freely chosen by individuals. As a source of higher productivity, and therefore higher income, as wage earnings climbed in synch with the contribution to marginal productivity, education and training represented a choice by the individual to defer – or to not defer – current earnings and consumption so as to invest capital in one-self for a future pay-off. Becker, the most prominent of the human capital theorists, developed a quantitative model to calculate the ‘rate of return’ for employees of high school/college education and on-the-job training. Consequently, wage differentials and income inequality could be explained in terms of education and training and individual choices on investment in human capital:

The choice refers to training differing primarily in the length of time it requires. Since the time spent in training constitutes a postponement of earnings to a later age, the assumption of rational choice means an equalisation of present values of life earnings at the time the choice is made... Interoccupational differentials are therefore a function of differences in training... Intraoccupational differences arise when the concept of investment in human capital is extended to include experience on the job (Mincer 1958 cited by McNulty 1984: 193).

As a consequence of wage differentials flowing from variations in an individual's level of education and training, Becker predicted differences in employer and employee behaviour towards ‘general’ and ‘firm-specific skills’. Wages would be less than the marginal productivity of labour in jobs delivering employees general as opposed to firm-specific skills because employees are willing to subsidise investments in their own human capital. In a perfectly competitive labour market, employers would not otherwise provide such training because of the risk of employees leaving the firm before they recouped the investment.

Human capital theory yields some valuable insights but it has been extensively critiqued and largely discarded with the exception of neo-classical economists. Although the model of educational choice as freely selected deferred/non-deferred earning reflects the life patterns of some groups (e.g. university students), human capital theory by-passes the socio-economic factors which, for instance, lead to lower educational performance and entry rates into post-secondary educational institutions by individuals from less affluent backgrounds. The role of education presented

by human capital theory has also been questioned. Many educational economists have noted the ‘screening function’ played by education i.e. education in many cases does not supply vital work skills, which occurs primarily on-the-job, but to allow employers to ‘separate the chaff from the wheat’ when selecting applicants for entry level positions: “The function of education is not to confer skill and therefore increased productivity and higher wages on the worker; it is rather to certify his ‘trainability’ and to confer upon him a certain status by virtue of this certification” (Thurow 1972: 68).

Additionally, there is evidence of widespread under-utilisation of existing skills and qualifications and radical economists such as Bowles & Gintis argued job performance often depended more on non-cognitive personality traits than the cognitive skills imparted during education and training:

In the wide spectrum of lower level occupations to which unqualified school leavers are largely condemned, they are the behavioural traits of punctuality, persistence, concentration, docility, compliance and the ability to work with others. However, the top of the occupational pyramid, accessible largely to university graduates, calls for a different set of personality traits, namely, self-esteem, self-reliance, versatility and the capacity to assume leadership roles. In a nutshell, we may say that elementary and secondary education breed the foot-soldiers, while higher education trains the lieutenants and captains of the economy (Blaug 1992: 18-19).

Recent studies on the importance placed by service sector employers and behavioural skills and personal appearance have seen a revival of Bowles & Gintis’ argument in a slightly different form.

Perhaps most telling of all, human capital theory is manifestly unsuccessful in explaining wage differentials as a function of education and training levels. Although there is a strong positive link between average earnings and education, there are many variations between persons with the same qualifications and amongst the qualification holdings of persons doing the same occupation. Groshen (1991) found that human capital could only explain one-quarter of wage variation – higher than “many samples because of exclusion of younger and older workers and of agricultural workers” (Groshen 1991: 351). When variables for occupation, race, sex, unionism and industry are added, the explanatory power of human capital theory is still only raised to 51 per cent of the variation in wages. Whilst human capital theory captures some elementary truths, at every link in the chain of reasoning there is a significant gap between theory and practice which is ultimately reflected in the other half of wage variation which human capital theory cannot explain.

How Important are Skills? Skill-Centric Frameworks and their Critics

Underpinning the rise of skill in the horizons of policy-makers during the 1980s and 90s are shifts in the way that the international economy and the conditions for national economic success are viewed. Some of the key texts and theories which have propelled skill formation and VET to prominence are reviewed before considering critiques of these skill-centric frameworks.

Skills as the Answer: Flexible Specialisation, Symbolic Analysts and the NIES Studies

The origins of the popular belief that advanced economies have to shift to high-skill, value-added activities can in many ways be traced to Piore & Sabel's (1984) seminal work – *The Second Industrial Divide*. Piore & Sabel (1984) set out to explore the sources of failure of American manufacturing and ways of revitalising the declining sector. Utilising a 'strategic choice' model and historical and contemporary literature to analyse changes at macro and micro level, Piore & Sabel (1984) attributed the decline of American manufacturing to the limitations of the Fordist mass production system. With greater competition from low-wage nations, the increasing volatility and fragmentation of markets and the development of new technology, Piore & Sabel (1984) concluded that mass production was no longer a viable production regime for high wage economies. Although advanced economies could opt for an intensification of Fordism and market fragmentation ('neo-Fordism'), Piore & Sabel (1984) – and other writers using post-Fordist frameworks such as Streeck (1989) and Mathews (1989) – argue that neo-Fordism will ultimately fail in competition with low cost producers in underdeveloped countries and is also likely to be accompanied by considerable social unrest. Piore & Sabel (1984: 17) advocate the use of flexible specialisation:

A strategy of permanent innovation: accommodation to ceaseless change, rather than an effort to control it. This strategy is based on flexible - multi-use - equipment; skilled workers; and the creation, through politics, of an industrial community that restricts the forms of competition to those favouring innovation. [It] amounts to a revival of craft forms of production...

Upgrading the skills of the labour force was therefore essential to facilitate the adoption of flexible specialisation which could not work without adaptable, committed, flexible employees. A similar line of argument has been developed by 'left productivists' such as Streeck (1989) who argue that diversified, quality-centred production, upskilling and the devolution of authority has become essential to competitiveness. The Flexible Specialisation – or Post-

Fordist – thesis about the necessity for Western economies to restructure towards high-skill, value-added activity if they are to remain high-wage economies, was highly influential in Australia during the late 1980s and early 1990s.

The Flexible Specialisation/Post-Fordist theorists, like policy-makers and practitioners, proceed on the intuitively commonsensical proposition that better VET performance will produce skilled workers and higher productivity and quality. However, one of the major weaknesses of the literature on VET and skill formation is the absence of 'hard, detailed evidence of direct causal links' (Keep & Mayhew 1988: iv) between VET and labour market/workplace outcomes. The British National Institute of Economic Studies (NIES) has conducted the most rigorous efforts to empirically test the micro-level connections between VET/Skill and productivity, flexibility and competitiveness found in the Post-Fordist/Flexible Specialisation literature.

The NIES conducted 'controlled experiments' on the relationship between vocational training and work performance through a series of matched case-studies at firm level. The researchers isolated and compared British and German firms of similar size and technological standards in basic metalworking products (Daly, Hitchens & Wagner 1985), kitchen furniture (Steedman & Wagner 1987), women's outerwear (Steedman & Wagner 1989) and hotels (Prais et al. 1989). The aim of these studies was in replicating the methodology of the natural sciences to gather systematic data on the 'relative contribution of physical and human capital' (Steedman & Wagner 1987: 84) to the 'productivity gap' between Britain and Germany.

The key finding of these studies was that the German apprenticeship system was superior in that it developed a larger cadre of workers with better skills. Higher skill levels led to better utilisation of capital equipment, work quality and productivity which enabled German firms to achieve competitive success by shifting into high value-added niches in export markets:

The net effect of these technological and organisational differences was that the typical German and typical British firms that we visited were visibly of different calibre... the fundamental worry raised by the present study is of a very wide sort: even simpler 'non technological' products require increasing levels of skill to take advantage of new production technology. The pressing question is whether the calibre of Britain's manufacturing workforce can be raised sufficiently rapidly to produce more goods of high quality, reduce inroads by foreign producers with access to a more trained workforce and prevent further contractions of our manufacturing workforce as a whole (Steedman & Wagner 1987: 94).



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The NIES studies, accorded 'canonic status' (Cutler 1992: 168) in UK public policy debates, were widely cited as proof of skill deficiencies, their role in lower productivity and the urgency of increasing the number of British workers with advanced vocational qualifications.

Both the NIES and post-Fordist/flexible specialisation literature were focussed on manufacturing but Robert Reich has developed a more universal thesis which also claims that skill and VET are the key to competitiveness, prosperity and lower unemployment. In *The Work of Nations* (1992), Reich expounded a sweeping treatise about the coming end of national corporations and economies, the emergence of rootless, multinational 'high value enterprises' and the importance for policy-makers to attract and develop high skill 'symbolic analysts'.

Reich's guiding question was this: what are the conditions for national economic prosperity and the role of public policy in globalised economies? Reich begins from the conceptual position found in the mainstream neo-liberal and business consultant literature on globalisation. Utilising comparative data showing the relative increase in foreign sales, profits and new capital expenditure of US corporations, Reich claims that the national corporations of the post-war era are giving way to corporations that neither have nor want a 'home base'. Globalisation and corporations without national allegiance are rendering conventional beacons for public policy such as national competitiveness little more than nostalgic anachronisms:

As almost every factor of production – money, technology, factories and equipment – move effortlessly across borders, the very idea of an American economy is becoming meaningless, as are notions of an American corporation, American capital, American products, and American technology (Reich 1992: 9).

Consequently, national policy regimes should not be tailored for developing local corporations who are not going to reciprocate the loyalty of policy-makers.

Equally important for VET and policy-makers are the shifting conditions for corporate profitability. According to Reich (1992), the road to profitability for modern corporations is no longer high-volume production of standardised goods but the use of specialised knowledge to develop high-value goods and services. Skill is the new source of competitive advantage:

The new barrier to entry is not volume or price: it is skill in finding the right fit between particular technologies and particular markets. Core corporations no longer focus on products as such; their business strategies increasingly center upon specialised knowledge (Reich 1992: 84).

The value-added of these new enterprises is derived from 'problem-solvers', 'problem-identifiers' and 'strategic brokers' – a group that Reich termed collectively 'symbolic analysts'.

Reich (1992) posits that three dominant categories of work are emerging as a consequence of the transformation of the corporate landscape:

1. 'Routine production services' ('the old footsoldiers of American capitalism') such as blue-collar occupations and repetitive jobs in high-technology firms such as data processing which are globalised occupations;
2. 'In-person services' such as shop assistants, waiters and security which can only be delivered locally;
3. 'Symbolic analysts' in occupations such as scientists, information technology professionals, consultants and cultural workers which are also 'traded' worldwide.

These three categories together represent three-quarters of all jobs with the remainder being agricultural/mining occupations and government or government financed jobs. Reich (1992) claims that symbolic analysts are the fastest growing type of work. The major piece of evidence used to support this thesis is the polarisation of income distribution which he attributes to the increased value attached to these symbolic analysts by corporations. Reich (1992: 219) argues that: "never before in history has opulence on such a scale been gained by people who have earned it and done so legally."

According to Reich, the future prosperity of a nation rests upon its capacity to attract and generate symbolic analysts. In a world of footloose capital, the nation's economic well-being depends on its capacity to attract corporations of any nationality through the advanced infrastructure and symbolic analysts which are the source of their competitive advantage and profitability.

We are living through a transformation that will rearrange the politics and economics of the coming century. There will be no national products or technologies, no national corporations, no national industries... all that will remain rooted within national borders are the people who comprise a nation. Each nation's primary assets will be its citizens' skills and insights... The real economic challenge facing the United States in the years ahead – the same as that facing every other nation – is to increase the potential value of what its citizens can add to the global economy, by enhancing their skills and capacities and by improving their means of linking those skills and capacities to the world market (Reich 1992: 3 & 9).

In Reich's analysis, the keys to national performance in a globalised economy are VET performance and policies to generate skilled knowledge workers.

Both Reich and the flexible specialisation/post-Fordist thinkers reject the neo-liberal programme of deregulation and market competition as a means of increasing flexibility and developing a high skill economy. Piore & Sabel (1984) argue that flexible specialisation will only flourish where market competition based solely upon cost and rationalisation is constrained in order to encourage community institutions and inter-firm collaboration in areas such as technology transfer and skill formation.

Piore & Sabel (1984) outline various forms of flexible specialisation, including a Japanese model of associated enterprises and the model of quasi-independent workshops within an integrated enterprise, but they appear to favour a model along the lines of the Northern Italian agglomerations of small scale enterprises using flexible, high-tech equipment, skilled and dedicated workers and supported by community level institutions combining marketing facilities and constraints on rampant competition. The acquisition of skill is conceived not as the development of human capital, but as part of the process of gaining membership in the community, thus "wages are more the counters in the game of success than the inducements to action" (ibid: 274). Thus flexible specialisation can only occur in particular community contexts in which skill formation is encouraged and competition restricted: "flexible specialisation works by violating one of the assumptions of classical political economy: that the economy is separate from society" (ibid: 275).

The Critics

The analyses of skill-centric frameworks have been subjected to extensive criticism. Post-Fordism and Flexible Specialisation were hotly debated in Australia and elsewhere during the 1980s and 1990s, the findings of the NIES have been searchingly critiqued and in the US, criticisms and his own experiences in the Clinton administration led Reich to a reconsideration of his theses.

The best general critique of flexible specialisation probably remains that of Williams et al (1987). In brief, some of the limitations of flexible specialisation as an explanation of change at work and the trajectory of skills include:

- the diffusion of segmented markets claimed to be driving industrialised nations towards flexible specialisation is empirically over-stated;
- the meta-history propounded in the flexible specialisation literature underplays the diversity which existed historically and therefore over-generalises the current and future spread and dominance of new production systems;

- counter-trends such as the growth of low skill, casualised employment are overlooked.

Underlying the flexible specialisation/post-Fordist thesis is a determinism about markets, technology and employment strategies which sits uneasily with the openness of historical and contemporary change.

The importance of 'symbolic analysts' has also been convincingly questioned. Whilst Reich's analysis acknowledges the existence of labour market segmentation, and implicitly therefore the need to construct different approaches to training, he proposed to make symbolic analysts the focus of VET policy. Reich's claim that symbolic analysts are the fastest growing category of work does not correspond with the projections of other authorities. For instance, as Henwood (1996: 1-2) notes, the US Bureau of Labor Statistics's (BLS) projections for fastest-growing occupations contain few of Reich's 'symbolic analysts':

The BLS's projections of fastest growing occupations between 1994 and 2005... bear no relation to his fantasies... of the top 30, those that look like symbolic analysts account for 7% of employment now, and 13% of projected growth.

The prodigious growth in the incomes of symbolic analysts noted by Reich does not reflect the value generated by their work so much as their success in 'extracting value' from assets through mergers, takeovers and asset-stripping (Harrison 1994: 229).

The pursuit of the high skill economy should not therefore be considered as a solution to mass unemployment. The critics do generally agree on the importance of these sectors and occupations as wealth-generators. Finegold (1999) and Harrison (1994), for instance, also note the importance of quality infrastructure and skilled labour for attracting multinational corporations in these sectors and "that those places that... fall below the 'scanning' thresholds of the vision of the global corporations, are likely to experience slower long-run economic growth or even stagnation in the future" (Harrison 1994: 33).

Although there is a mismatch between national educational statistics and classifications of traded goods, more disaggregated sectoral figures reveal growth in the proportion of high skill goods being traded internationally (Crouch et al. 1999). Existing data also make it very hard to assess claims about the growth of high skill employment. Comparisons require the use of inadequate proxies for skill such as pre-employment educational levels. Allowing for these limitations, Crouch et al. divide sectors into three groups: 'traditional sectors' such as agriculture and personal services have the lowest education profile; the industrial sectors such as manufacturing and distribution are 'relatively bottom weighted'; and 'post-industrial sectors' have greater



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opportunities for skilled labour. Employment has shifted away from manufacturing and traded sectors as a consequence of rising productivity and global competition, and job growth has occurred at varied skill levels in distribution and communications, business services and personal and domestic services. Crouch et al. (1999: 108) conclude:

By the 1990's the idea of the learning society had acquired practical relevance in most of our countries. However, the very highly skilled sectors continue to represent small shares of total trade, and they employ relatively few people. It remains important to separate the mass of developments in employment from potentialities for export growth.

The NIES studies have also been subject to critique, especially by Cutler (1992). First, he argues that the focus on manufacturing and simple production processes raises questions as to the general applicability of their findings. Second, he questions whether NIES have in fact achieved their aim of a 'controlled experiment' which isolates the impact of training on labour productivity. Although the researchers do find differences in the number of employees with vocational qualifications, there are also significant differences in the capital equipment which are significant factors in the productivity gap – in Daly et. al. (1985), for instance, 15 out of 16 German firms utilised numerically controlled machinery against 7 out of 16 UK firms and Steedman & Wagner (1987: 87-88) concede that 'highly sophisticated' machinery was prevalent in Germany but 'hardly to be seen' in UK plants. The NIES solution to the gap between scientific precision and the empirical difficulties in finding perfectly matched comparisons rested with their a priori assumptions. For instance:

Although there was a relative lack of numerically controlled machinery in the British plants in our sample, in our judgment the greater part of the productivity gap came from other sources (Daly et al. 1985: 59 – emphasis added).

Vocational training and training en masse, rather than targeted at key or core employees, are also assumed rather than definitively proven to be the difference (Cutler 1992: 174). At the very least the NIES studies might be said to add weight to theories that posit that 'bundles' of skilled employees, advanced technology and high value-added production are likely to co-exist (and vice-versa) but if NIES come close to generating concrete linkages between training and work outcomes, they are still tantalisingly adrift of definitive proof.

Cutler also charges that the conceptual underpinnings of the NIES studies, a 'factorial' approach to labour productivity,

has led them to a modernised version of the old 'British labour problem'. It is no longer slack work attitudes and industrial militancy which is allegedly the bane of British manufacturing but the inadequate skills of the workforce and 'outmoded' practices such as demarcation barriers. By constructing their studies in terms of factors of production at the workplace level, the NIES researchers have abstracted management and influences beyond the point of production out of the picture. Management, once more, is a 'victim' of systemic failures and assumed to be a constant – a particularly important omission given they have chosen to examine relatively simple work processes lacking the more complex problems of managerial coordination where the quality of management is a more important influence upon productivity.

Built into this factorial conceptual framework is a model of the enterprise whose profit is derived solely from selling manufactured goods. Within this framework, low training to improve the productivity of labour is a 'market failure'. However, as Cutler and other writers such as Williams et al. (1987) and the 'Oxford School' (see below) have illustrated, the primary aim of British enterprises is profit rather than organic growth and as a consequence of the separation of financial ownership and management, enterprises are often treated as 'financial assets' to be traded and in which "assets are made to sweat" (Cutler 1992: 178) through tight control of costs including training expenditure. The low level of training expenditure in these firms is, therefore, not so much a 'market failure' but the product of a different and increasingly dominant market strategy not allowed for in the conceptual framework of the NIES factorial approach. In this environment, where owners of enterprises are as likely to strip and shift productive assets as expand them, the provision of large numbers of state-supplied skilled workers is unlikely to have any impact on the competitive strategies of local enterprises.

Reich's analysis of corporate profitability has similarly been criticised and his unsuccessful efforts to implement his policies in the Clinton administration provide a fascinating illustration of Cutler's point. A range of commentators – notably Porter (1990) – have noted that corporations still typically have a 'home base', intra-national flows of capital are still greater than international flows and local factors are important determinants of competitive advantage.¹ Nor did Reich's analysis at this stage incorporate the rise of 'shareholder value' as a constraint on management strategy and the treatment of enterprises as mere financial assets – although he did foreshadow some of the difficulties that he would encounter in the Clinton administration:

¹ See Hall et al. (2000: 3-9) for a more developed critique of Reich's analysis of globalisation.

The fundamental difficulty is not in imagining or implementing solutions. The greatest challenge comes in summoning the political determination to embark upon them. Good education, training, health care and public infrastructure – available to all Americans – will be costly... It (the cost) would have to be borne instead by the one group of Americans whose earnings have been increasing – our symbolic analysts... Thus a central question concerns the extent to which America's fortunate citizens... are willing to bear these burdens... (but) America's symbolic analysts have been seceding from the rest of the nation. The secession has taken many forms, but it is grounded in the same emerging economic reality. This group of Americans no longer depends, as it once did, on the economic performance of other Americans (Reich 1992: 249-53).

The Clinton administration's \$50 billion education policy proposals, including major VET initiatives, were defeated by resistance led by Wall Street. Reich ruminated bitterly afterwards:

Never before in the history of mankind have the feelings of the street had such decisive force. The ancients worried about the moods of the skies, mountains, seas and forests. We are just placating a pavement. We are only worshipping Wall Street (Reich 1997).

The failure of the Clinton administration's education offensive underlines the political constraints associated with the globalisation of capital markets and the rise of 'shareholder value' and 'impatient' financial capital in running modern enterprises. Moreover, there is some evidence that the problem lies as much in the failure of employers to use skill as in the under-supply of skilled labour. Livingstone (1999: 164) argues:

We are already living in a 'knowledge society' in which the collective learning achievement of adults far outpace the requirements of the economy as paid work is currently organised. The knowledge society dwarfs the knowledge economy... It is the relative withering of good jobs with decent pay that is the central problem creating the education-jobs gap.

'Virtually every measure' (ibid: 165) on learning and education shows that people are devoting historically unprecedented amounts of time acquiring knowledge. The 'credential society', where even relatively unskilled jobs require some form of qualification, has now arrived and US and Canadian surveys show that many workers are 'underqualified' because employers have raised the entry-level credentials of new jobs. Yet there is a 'performance gap' as a rising proportion of the labour force does not use their skills and knowledge. The problem for public agencies

from Livingstone's analysis – and other American writers such as Bernhardt and Bailey (1998) – is not so much increasing the supply of knowledge workers but finding ways of getting employers to utilise the existing knowledge and skills of the labour force.

The drive for the high-skill economy therefore has clear limitations. Whilst niche exports in high value-added sectors are important for national economic success, the weight of evidence does not suggest that they are going to generate mass employment. Low-productivity, low skill sectors, especially in services, are major sources of job creation. The focus on skill downplays the importance of demand conditions and macro-economic policy. The relevance for economy-wide gains is limited by the spread of low skill employment and only in a context of macro-economic growth will skill training and productivity gains translate into higher employment and increased living standards (Kuttner 1994). Competition for education and skills is therefore likely to intensify amongst individuals to avoid these low-wage jobs. Skill formation and VET policy does matter, but excessive reliance on skill formation as a solution to complex economic and social problems is likely to have negative consequences.

Putting Skill in its Place: New Conceptual Frameworks

The critiques of skill-led recovery highlighted the need for more realistic and contextualised frameworks. A conceptually sophisticated and policy-oriented body of work has emerged from a group of academics associated with the Oxford Review of Economic Policy (the 'Oxford School'). In their editorial introduction to the 1988 issue, Keep & Mayhew (1988: i & v) agreed that Britain's VET system was in poor condition but contended that 'diagnosis of the ailment is confused' and 'unidimensional', issuing 'a plea for a sophisticated multivariate analysis'. Beginning from similar conceptual origins to the 'Oxford School', perhaps the most comprehensive single piece of literature on skills and VET policy is Crouch, Finegold & Sako's (1999) book, *Are Skills the Answer? The Political Economy of Skill Creation in Advanced Industrial Countries*. Crouch et al. critically examine the popular focus on skill formation and VET policy, surveying the competing economic paradigms, changing patterns of trade, employment and skills, different forms of state intervention and the role of interest groups, local agencies and markets in skill formation. The methodology of these writers can be considered analagous to modern political economy with its holistic approach, rejecting frameworks which abstract any policy field from the rest of society as a separate, autonomous system.



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The Oxford School literature grew out of a critique of UK Government policy and engaged with the public debate on the sources of the UK's economic malaise and the contribution of VET. Keep & Mayhew (1988: iii), in their editorial introduction to the 1988 issue of the Oxford Review of Economic Policy, expressed some scepticism about the contemporary debate, saying: "the history of vocational education and training in Britain is one of recurring cycles of concern, usually prompted by worries about British competitiveness".

The Conservative Government's response to evidence of poor VET performance (eg ineffective apprenticeship system, little or no formal training outside apprenticeships for young people or adult training etc.) was to instigate a 'supply side revolution', introducing 'quasi-markets' into the educational system and dismantling sectoral coordination of training in favour of employer-led local councils (Keep & Mayhew 1999: 2-3). The logic of this policy was simple: an alleged mismatch had developed between the supply and demand of skills because the training system was too remote and disconnected from labour market and employer demands.

The seminal work of the 'Oxford School' was Finegold and Soskice's article, 'The Failure of Training in Britain: Analysis and Prescription.' Intending to investigate, first, the relationship between training and economic performance and, second, the causes of the UK's relatively poor VET performance, Finegold & Soskice (1988: 21-22) argued that the relationship between VET and economic performance was dialectical; both a 'product' and 'cause' of the UK's 'poor economic performance'. The UK's VET system had developed to service 'the world's first industrialised economy' and the lack of trained workers was now a major limitation on the capacity of industry to adapt to changing economic conditions. Finegold and Soskice broadened their diagnosis to include a myriad of political-economic institutions which had locked the UK into a 'low skill equilibrium':

The best way to visualise this argument is to see Britain as trapped in a low skills equilibrium, in which the majority of enterprises staffed by poorly trained managers and workers produce low-quality goods and services. The term 'equilibrium' is used to connote a self-reinforcing network of societal and state institutions which interact to stifle demand for improvement in skill levels. This set of political-economic institutions will be shown to include: the organisation of industry, firms and the work process, the industrial relations system, financial markets, the state and political structure, as well as the operation of the ET system. A change in any one of these factors without corresponding shifts in the other institutional variables may result in only small long-

term shifts in the equilibrium position (Finegold & Soskice 1988: 22).

The 'low skill equilibrium' was the product of 'rational' (Keep & Mayhew 1999: 4) actions by firms and workers in the light of the incentives created by state institutions and markets.

Economic and labour market structures created low-demand for skills. Studies on British performance in international trade illustrate that British firms are concentrated in low skill manufacturing and the bulk of recent employment growth has occurred in low skill, low-quality services (Finegold & Soskice 1999: 27). UK managers placed a low priority on training, which was usually cut back in economic downturns, seldom attracted the interest of chief executives and was typically not integrated into the competitive strategies of firms.

However, whilst this short-termism may in some cases be attributable to 'bad managers', 'able' managers were also 'forced into decisions by the institutional structure in which they are operating' (ibid: 29). In particular, the separation of financial and industrial capital created pressures to maximise short-run profits, which militated against investments in training, and the industrial relations structures – weak union and employer organisations unable to implement centrally negotiated agreements – were unable to overcome the free rider and poaching problems of firms that do wish to invest in training. Associated with this was work organisation typically characterised by narrow job design to minimise skill content and employee discretion.

Just as the use of low skill strategies by UK firms was a rational adaptation to the prevailing environment, so was the choice of many young people not to undertake further education or invest in their own skills. The low demand for skilled labour, the prevalence of seniority-based promotion and the absence of market premiums for higher education created few incentives for skill acquisition by employees.

Successive governments failed to take 'corrective action.' For many years, the post-war boom concealed major deficiencies in training performance. The Conservative party's laissez-faire ideologies precluded strategies of intervention whilst the power of unions within the Labor party preempted any incursions on union control over industry training. In any case, the state apparatuses were too weak and fragmented to lead reform effectively. The major obstacle to reform, however, was not 'the weakness of the central state which could be remedied given the right external circumstances and sufficient political will', but the incentives and constraints generated by societal institutions which generated a low demand for higher-level skills (Finegold & Soskice 1988: 25-26).

The implication for public policy is that a supply-led VET recovery without complementary policies in other areas is improbable. Such a policy rests upon the assumption that workers will demand better jobs from employers and/or employers will change their work practices with the increased supply of skilled labour. Whilst both assumptions are probably correct, the impact is likely to be marginal and unlikely to 'jack us out of any low skills equilibrium' (Keep & Mayhew 1999: 7).

Current UK VET policies... appear incapable of acknowledging that skills are often a third-order issue. Unless and until first-order questions, such as choice of product market and competitive strategy, and consequent second order decisions about work organisation and job design, are confronted, the underlying causes of Britain's skills problems will continue to be ignored. The danger of policies and institutional devices... which concentrate on boosting the supply of qualifications and formalised skills and knowledge is that they appear to offer a relatively swift and simple short cut to a wide-ranging set of desired outcomes – increased economic competitiveness, greater productivity, rising GDP and greater social inclusion – without having to confront complex and difficult choices about how businesses choose to compete (Keep & Mayhew 1999: 12).

Indeed, in the case of the UK 'supply-side revolution', other policy measures such as subsidising low-wage jobs, attacks upon trade unions and the liberalisation of the financial markets had actually encouraged the expansion of low skill, low-wage jobs and further reduced the 'demand' for training, skilled labour.

Subsequent studies have extended the framework to analyse other national systems – in particular Germany's 'high skill equilibrium'. The German VET system has been prodigiously successful in persuading employers to pay workers to undergo training, ensuring that a large portion of the population has good foundational and certifiable intermediate skills in order to participate in high skill, value-added export production. As with the UK, the 'prevailing explanation' of the German high skill equilibrium 'phenomenon' (Culpepper 1999: 45) is a network of interlocking, systemic incentives.

Unlike English-speaking nations, German firms have access to 'patient capital' due to the domination of bank-based finance as opposed to equity-based finance. Powerful employer associations circulate up-to-date information, monitor company training performance and impose sanctions on opportunistic employers who try to free ride by denying access to other services provided by the association

(eg technology transfer). The coordination of employer associations is "the institutional lynchpin of the HSE" (Culpepper 1999: 47). Powerful unions represent an obstacle to low wage, low skill strategies and ensure that general, portable skills are included in apprenticeships. German employers focus on less price-sensitive export market niches utilising flexible production systems which, in turn, creates further demand for apprentices. Apprenticeships are recognised as a ticket to a secure, well-paid job which creates incentives for young people to accept low start-up wages and invest the time in training. So a virtuous circle of systemic pressures had created and sustained incentives for skilled labour.

Current trends in Germany and the future viability of the high skill equilibrium are, however, the subject of debate. At the moment, there is controversy as to whether a recent decline in the number of apprenticeships offered by employers is a cyclical correction or structural decline. The question of whether the systemic conditions underpinning the high skill equilibrium are being eroded is also being hotly debated: some commentators argue there is incipient short-termism accompanying changes in the financial system whilst others claim the financial system is still producing 'patient capital' and that survey data continues to show no change to training practices (Culpepper 1999: 52; Flecker & Schulten 1999). The emergence of lean production does, by all accounts, challenge the occupationally centered apprenticeship system, but Culpepper argues that case-study evidence shows firms can fuse the two together.

The greatest emerging difficulty for the HSE is the decline of the coordinating and sanctioning powers of central employer and union bodies. Whether this signals the beginning of the end for the German HSE will depend on whether the 'prisoner's dilemma' model (i.e. non-cooperative behaviour such as poaching is perceived to offer a higher pay-off) is correct or whether other incentives towards high skill labour and the desire for employers to have apprentices trained in their organisational culture will perpetuate the system in the absence of organisational sanctions (Culpepper 1999: 52). Germany might even be seen as a test case as to whether high skill equilibria can be sustained in contemporary political economies.

Crouch et al. (1999) categorise the national policy regimes of skill provision in eight major economies – as illustrated in Table 1:



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TABLE 1: DOMINANT FORMS OF SKILLS PROVISION: INITIAL VET AND FURTHER VET

Direct State	Corporatist Networks	Local Firm Networks	Institutional Companies	Free Markets
(a) Initial VET				
France			(France)	
Italy	Germany (Japan)	Italy (Japan)	(Japan)	
Sweden	(Sweden)		(Sweden)	
UK			(UK) (USA)	(UK) USA
(b) Further VET				
(France)			France Germany	(Germany) Italy
Sweden	(Sweden)	Italy (Japan)	Japan Sweden UK USA	UK USA

Note: Country names in parentheses indicate that this is a minor model within the country in question.
Source: Crouch et al. 1999: 25.

The free market approach relies upon labour market deregulation to generate employment (by reducing labour costs at the bottom of the labour market) and the use of market incentives to encourage people to invest in their own skills. However, profit-maximising firms will offer skills training to the extent that it is compatible with the short-term needs of the firm, otherwise there is a chance that other firms that have not invested money in training will poach their skilled labour. Cappelli et al. (1997) argue that as a consequence of organisational and work restructuring, especially downsizing in the pursuit of enhanced 'shareholder value', reduced internal labour markets and job security have decreased the length of time that employees stay with a single employer. Employees have lower attachment to their employers and firms are more likely to retrench their staff. Only in cases where access to skill is naturally limited to a few gateways and exit equally limited (e.g. labour market monopsonists, institutional companies or firms with specialised product markets) would firms have an incentive to invest in training without the fear of poaching. Cappelli et al. (1997) point out that with less attachment to

internal labour markets, employees will increasingly wish to have occupationally rather than enterprise based skills – which are precisely what most employers are decreasingly inclined to supply. As Crouch et al. note:

Growing dependence on the individual enterprise rather than general public policy as the source of major initiatives in work skills, raises the central paradox on which we have concentrated: the acquisition of skill has become a fundamental public policy issue, being almost a requirement for future guarantees of effective citizenship when the price of poor or inappropriate educational preparation for work is likely to be a low-paid job in a low-productivity sector with diminished security; but for its provision we are increasingly dependent on the private sphere of the individual firms which can have no responsibility for general needs (Crouch et al. 1999: 231).²

² Crouch et. al. (1999) are just one of many to critique excessive reliance on enterprises for skill formation. Others include Bernhardt and Bailey (1998) and Streeck (1989).

Labour market deregulation is likely to encourage low skill, low-wage employment and create skill shortages by advancing individualistic solutions to collective problems.

However, Crouch et al. (1999) argue that both the debate and VET policy itself need to transcend simple 'state versus market' dichotomies. Even in nations with strong states (e.g. France, Sweden), state-led approaches have struggled to keep pace with occupational change and employer needs, and the current dominance of neo-liberalism creates an environment and a structure of public finance which tends to limit state intervention to residual social work functions. The development of smaller, more flexible government agencies has not proven to be an effective solution either:

There is considerable difference between a government agency working with the grain of the needs of firms already engaged in skill maximisation and one seeking to ratchet up the skill needs of companies lacking such an approach. Where firms are not themselves enterprising, the more responsive and firm sensitive an agency is, the less capable it is of being proactive and strategic. This is of little use to a goal of maximising national skill creation and utilisation (Crouch 1999 et. al: 220).

Firm-led policy agendas are unlikely to resolve collective action problems.

Alternatives to state-led or market-led approaches are available in the form of corporatist networks (e.g. Germany) and less formal coordination mechanisms such as community networks of small firms – most famously found in the Central Italian industrial districts. Interest associations with high levels of coverage can effectively sanction 'free-riders' that do not invest in training and act as a conduit for information between the government and firms. Small firm networks can operate in a similar fashion by excluding non-contributing members.

'Institutional companies' – for which Crouch et al. (1999) classify large Japanese enterprises as the ideal type – construct elaborate internal labour markets with lifelong employment, skill enhancement and hierarchical progression. They are another organisational type that is likely to adopt a proactive approach to skill formation. The communities formed within these companies lead to low turnover, creating an environment conducive to extensive investment in initial and ongoing VET.

At a meso-level, Finegold (1999) has also examined the conditions behind high skill ecosystems such as the clusters of biomedical and computer hardware/software firms in California. Developing in much the same way as national skill equilibria, Finegold (1999: 61) uses the Californian example to argue that 'geographical clusters' of high skill

firms and institutions form which "become self-sustaining... once started, (they) generate a positive, mutually reinforcing dynamic that fuels ongoing knowledge creation and growth and adaptation to changing competitive conditions."

Interestingly, starting from very different conceptual beginnings, Finegold's analysis has considerable overlap with that of Reich. Like Reich, Finegold believes that the enormous wealth being generated by these high-technology firms and reduced likelihood of relocation to low-wage nations makes the encouragement of these clusters vitally important for advanced economies. Finegold sees four common elements to these high skill ecosystems:

1. an external catalyst for the region's growth such as government demand/ investment and key individuals in the case of Silicon Valley;
2. resources to sustain initial growth such as venture capital and quality research universities to supply graduates;
3. a supportive environment in the form of infrastructure (telecommunications, technology parks to allow collaboration and collective capital formation, international airports etc.), a lax regulatory regime which supports risk-taking and a living environment attractive to knowledge workers;
4. interdependence between firms which facilitates learning, adaptation and development.

This list is an adaptation of Porter's (1990) 'diamond model' and, consequently – unlike Reich – Finegold points to the existence of different national models for developing high skill ecosystems. The exact mechanisms through which these conditions for high skill ecosystems have been established vary from Germany's state-sponsored research/technology transfers, Italy's family/community networks in small enterprises to the hub and spoke shaped corporations of Japan. Finegold views these local ecosystems as a product of national political economies, allowing space for national distinctiveness, and seems agnostic as to whether state-led or market-led strategies work best. His answer is that it depends on the national context, because what works best in one environment will not necessarily work in another. Nevertheless, he goes on to argue that the market led US model has been superior to German and Japanese systems in creating high skill ecosystems:

Japan's state education system and large company-driven networks, and Germany's corporatist dual system continue to be world leaders in solving one of the key skill problems facing industrialised countries: how to get



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a large majority of the population to a high foundational level of skills for entering the workforce. They have created companies that effectively use and continue to develop this large supply of workers with intermediate skills to compete successfully in global markets. Where they have been less successful, however, is in generating major new research breakthroughs and new forms of business services and the flexible, high technology start-ups that can turn these ideas into successful enterprises. Japan and Germany's relative failure in the highest skill markets... is a product of the very same set of institutions that has made them successful in generating supply and demand for intermediate skills (Finegold 1999: 63).

Finegold does not recommend the abandonment of the German and Japanese systems, but rather some changes to the regulatory and institutional environment in the direction of the US model to encourage high-tech clusters. He notes the contribution of high skill ecosystems to the growth of inequality but argues income redistribution and policies for upgrading skills amongst individuals at the bottom-end of the labour market are a better response than the restraint of these high skill ecosystems.

Although some writers have criticised aspects of the Oxford model, and the core thinkers have themselves made some modifications, their conceptualisation of the place and role of skill and VET have now become conventional wisdom amongst many researchers. Crouch et al. (1999: 22) suggest that the notion of an equilibrium overstates the stability of current systems in light of the threats to high skill equilibria such as Germany and the challenge of low cost producers to low skill equilibria such as the UK.

In light of these criticisms, some commentators, including Finegold (1999: 62) himself, also see the bipolar high skill/low skill model as too idealised and one-dimensional to capture national, regional and sectoral variations. But the model remain useful as an analytical starting point and their central innovation of placing skill formation and VET in a wider framework has gained wide acceptance: "skills and knowledge are now widely recognised to form simply one element within a much wider matrix of factors that helps support high levels of economic performance... they have to be combined with other parts of a broader package of environmental, cultural and structural factors that can nurture and support high-performance, high value-added industries and sectors" (Keep & Mayhew 1999: 4-5).

Conclusion: Key Findings and Leads for Further Research

The new literature on skill and VET provides some interesting leads for research and policy. Perhaps the clearest single theme to emerge from the literature is the move to break down traditional dichotomies – globalisation versus national autonomy, state versus market, skill supply versus demand – to reconceptualise these relationships in more subtle and meaningful ways. We conclude with a summary of some of the key findings.

The first finding is that neither the determinism of the mainstream globalisation literature nor the insistence on national autonomy by critics is viable. International economic forces shape and discipline national economies, especially in small nations such as Australia, but corporations have not yet jettisoned national 'bases', intra-national flows still exceed inter-national flows and national institutions and policy regimes are still important determinants of international competitiveness. Increasingly, researchers are also noting the importance of regional variations within national economies. Economic location and dynamics are of first order importance. To avoid becoming locked into either side of the global determinism/national autonomy dichotomy, researchers need to investigate the articulation between different economic levels – international, national and regional – in different sectors.

The new literature has unearthed important variations in national VET policy and skill formation regimes. Not only are there major cross-national variations in VET policy frameworks, but also nationally distinctive patterns of skill formation such as the British 'low skill' and German 'high skill' equilibria. The notion of a national policy regime does not rule out internal diversity and the existence of high and low skill areas, but rather highlights dominant tendencies and the influence of national frameworks in shaping patterns of economic and skill development. Indeed, for Crouch et al. (1999), the key issue for VET policy makers is how to reconcile the imperative of skill creation in 'leading edge' sectors with equipping the mass of the workforce with the appropriate skills to find employment.

From Finegold's analysis of high skill ecosystems, questions still remain as to whether the pursuit of high skill ecosystems can be mounted without undermining the conditions for broader high skill outcomes: can other nations tinker with institutional frameworks to facilitate high skill ecosystems without replicating the US model of islands of high skill in a sea of low skill employment? It remains an open question at this stage but the key insights of Finegold's (1999) study – the existence of different national models, the key elements of the high skill ecosystems and the role of

different institutional frameworks in their emergence – provide some useful starting points for policy-makers and research in an Australian context.

Aside from human capital theorists, there is a broad based consensus spanning some of the skill boosters (eg Piore & Sabel 1984), their critics and the new studies such as Crouch et al. (1999) that the debate on skill formation needs to move beyond the traditional state versus market axis. Neither state led nor market led strategies have proven to be successful in recent times. The rising prominence of community institutions in debates about skill formation reflects a more general trend, which Rose (1999) associates with the rise of “third way” theories of governance:

This is associated with the powers of a territory ('community') between the authority of the state, the free and amoral exchange of the market and the liberty of the autonomous, 'rights bearing' individual subject . . . In this vein, recent economic writings have turned away from neo-classical models of free competition amongst rational economic actors: instead they emphasise that successful economic government must recognise the significance of relations of interpersonal trust, local and community-based trading networks, collaboration amongst enterprises sharing a commitment to their particular geographical region. Political scientists . . . emphasise governance: good governance must recognise the political importance of the patterns that arise out of complex interactions, negotiations and exchanges between intermediate social actors, groups, forces, organisations, public and semi-public institutions (Rose 1999: 167-68).

New research should incorporate intermediate and community institutions which link and overlap state and market. An essential first step is to locate VET policy and skill formation regimes within the political-economic institutions which constitute the national ‘social settlement’. This refers to the structural foundations of national political economies, usually established by ‘historic compromises’ between the state, business and labour during periods of flux and uncertainty.

In Australia, for instance, the ‘new protection’ settlement constructed tariff protection, the conciliation and arbitration system and the ‘white Australia’ policy to insulate the vulnerable Australian economy from the vicissitudes of international markets and moderate class conflict. International and national economic development are mediated by institutional and policy regimes established as part of national ‘social settlements’ and, as the Oxford School literature has most recently illustrated, VET policy

and skill formation regimes are in turn shaped by these social settlements.

A good example of research in this genre is recent American writing on labour market policy by Bernhardt and Bailey (1998) and Osterman (1999). While critical of the deregulationist trend in the United States, they recognise that reform is contingent upon both the existing institutional framework and the political climate. These writers find, for example, that trade union based or supported initiatives in skill formation and labour market reform are among the most likely to be successful, but the current low ebb of trade unionism in the US suggests that programs associated with unions should be nurtured where they appear, but other arrangements should be encouraged as well. They look both to community based activism, with legislative support where sympathetic governments are in power.

There is general consensus that social settlements, in Australia and elsewhere are in transition. Although there is little consensus on the shape of new institutions, there is widespread recognition of the damaging consequences of unbridled deregulation and reliance on individualism. The most incisive writing, in our view, suggests that VET policies are an essential part of the transition to new institutional arrangements, but are not sufficient in themselves as a solution to such fundamental problems as the generation of employment, the amelioration of unemployment and meeting the challenges of international competition. What is clear is that it is essential to cater for ‘new economy’ industries, but to recognise as well that considerable job growth will occur in less skilled areas such as personal services. Catering for the former without recognising the importance of the latter is likely to increase social inequality in the quest for an ephemeral high-tech road to economic salvation.

We suggest that the following points can be derived from the literature surveyed in this paper.

1. Skill formation in general and VET in particular are essential components of a successful economy, but cannot, on their own, solve social and economic problems. The key is therefore to recognise the ways in which VET and other policies interact, and ensure that policy formation takes into account other policy areas and their likely consequences.
2. One of the most significant relationships is that between VET and labour market institutions which, at present, are not capable of operating effectively in an economy in which strong internal labour markets no longer prevail.



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3. The strength and benefits of the 'knowledge economy' appear to be overstated, and skill formation policy that concentrates on 'symbolic analysts' or 'knowledge workers' to the exclusion of other, more mundane or perhaps old fashioned occupational groups is unlikely to generate the hoped for benefits, while accentuating social inequality and division.
4. Workplace based training is widely viewed as a key to effective VET, but neo-liberal policies of deregulation designed to place responsibility in the hands of employers and individual workers have the unintended consequence of reducing the scale and effectiveness of training, because employers have strong inducements to free ride and provide narrow, enterprise based skills while reducing the incidence of portable skills required in an economy in which internal labour markets are less prominent.
5. While appropriate skill formation mechanisms are essential, much of the contemporary debate has overlooked the obligation of employers to provide jobs that can make use of the skills available in the workforce. Put simply, many jobs continue to be low skilled, poorly paid, and subject to directive control by management. There is little point in generating a good workforce for bad jobs. Assuming that a highly skilled workforce will attract capital searching for a safe haven in the 'knowledge economy' is closer in spirit to a cargo cult mentality than to sound economic and social policy.

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