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HUMAN AND SOCIAL CAPITAL AND SUSTAINED GROWTH AND DEVELOPMENT

RECONCILING NEW ECONOMIES AND SOCIETIES: THE ROLE OF HUMAN AND SOCIAL CAPITAL

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Note by the Secretariat

1. This document represents a draft of the report entitled "*Reconciling new economies and societies: the role of human and social capital*". It has been prepared by staff of the Centre for Educational Research and Innovation following extensive contact with a range of experts, as well as the work of an international symposium held jointly with Human Resources Development Canada in March, 2000, and a subsequent follow-up expert meeting. The incipient work on this report was already discussed by the Governing Board of CERI at its Autumn, 1999 meeting [refer to CERI/CD(99)9] as well as at the Spring 2000 meetings of the Governing Board and Education Committee following the symposium in Canada.

2. The report starts from a broad definition of human well-being and situates the role of human and social capital in contributing to well-being, including economic growth and sustainable development. It is intended to publish a revised draft of the report in March 2001, after which it will serve as a background document to the meeting of Ministers for education in April 2001, as well as the meeting of the Council of OECD at Ministerial level in May 2001. The work is designed to contribute to the final reports of the OECD projects on economic growth and sustainable development, both of which will be submitted to the OECD Ministerial Council meeting in May. The aim of the report is to reach a broad audience including ministers, senior policy officials, the private sector and international research community by stimulating reflection and debate around key concepts, measures and policy implications for developing human and social capital.

3. A summary and outline of the report contained in document DEELSA/ELSA/ED/CERI/CD(2000)3 has already been presented to the Employment, Labour and Social Affairs Committee on 18-20 October, 2000. This document [DEELSA/ELSA/ED/CERI/CD(2000)3REV1], builds on the summary by providing a first complete draft of the report.

4. The Education Committee and Governing Board of CERI are invited to **COMMENT** and **ADVISE** on:

- the principal themes, definitions and structure of the report;
- the relevance of the themes and issues raised, particularly in chapter 4 for public policy debate and development in member countries;
- the relevance of future research issues identified in chapter 4.

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INTRODUCTION

Human and social capital: the context…

1. The past decades have witnessed overall high rates of economic growth and rapid social change in OECD countries. The importance of knowledge and skills as a key engine of economic growth has grown as the organisation of work and patterns of employment have evolved. In a rapidly changing and increasingly globalised world, the success of nations, communities and individuals may be linked, now more than ever before, to their capacity to change and, learn and share knowledge. New values and attitudes in relation to roles within families and communities as well as increased attention to the environment, leisure and life-styles have shifted public debate in many OECD countries towards a wider set of inter-connected concerns.

Knowledge and social networks may provide important clues to differences in economic performance…

2. Considerable effort has been expended to understand the factors influencing long-term trends in growth of gross domestic product (GDP). Traditional explanations, which have centred on the roles of physical and human capital, do not seem to account adequately for significant divergences in GDP growth. The search for new explanations is, in part, prompted by the recent literature on so-called "new growth" models and by attempts to establish links between a "new economy" and knowledge networks. A shift appears to have taken place through enhanced use of knowledge inputs, rising skill requirements, and the need for greater ability to adapt to change. Innovation networks may facilitate the search for new information and innovation across diverse domains. Skills to co-operate, apply knowledge and continue learning and adapting are a necessary condition for economic and social development.

Many factors other than human and social capital are pertinent…

3. There are many factors involved in economic and social progress besides human and social capital. The basic premise of this report is not that learning or social networks and engagement will automatically lead to higher economic growth and well-being. Rather, investing in individual skills and communities are important elements in any overall strategy to improve economic performance and well-being over time. The scale and timing of impact for such investments depend on a number of important inter-related conditions, as well as on the quality and distribution of human and social capital at different points in time and in different cultural settings.

The reasons for a new report on the role of human capital…

4. This report is an input to the OECD horizontal projects on economic growth and sustainable development[1]. It builds on the OECD report, *Human Capital Investment – An International Comparison* (OECD, 1998) by opening up new lines of inquiry into the impact of human capital on society and the economy and situating its role in a broader social context. The aim is to provide senior policy-makers and analysts with a guide to the issues, policy trade-offs and challenges in investing in high-quality human and social capital to achieve balanced economic growth and social development. The report focuses on three key questions and the policy issues they raise:

1. How have human and social capital influenced growth in economic and total well-being in recent decades?

2. What are the future economic and social implications of the bequest of human and social capital from current generations?

3. How great are the risks of growing inequalities or exclusion in access to learning and social networks for different groups?

The report brings together evidence to assess the impact of human and social capital…

5. The report brings together evidence and analysis from different sources to underline the importance of investing in human and social capital as part of larger development strategies. It situates the impact of human and social capital in a broader framework than merely economic well-being or growth in income. The evidence relating to human capital draws on four decades of empirical work. By contrast, the conceptualisation and measurement of social capital is relatively new and is still subject to a certain degree of uncertainty and controversy reminiscent of that which arose earlier around the concept and measurement of human capital. However, as the report will indicate, there is a growing body of evidence which suggests that it is well worth examining the role of social capital more closely, in that it:

- Has an impact on health, personal well-being and social cohesion; and,

- May be complementary to human capital and other factors in increasing the effectiveness of physical capital investment, institutions etc., the impact of which is difficult to isolate.

The need for coherence in economic and social policy….

6. The report addresses a broad set of questions and issues relating not only to the factors influencing economic growth, but also to how learning, networks and civic traditions contribute more generally to human well-being. Three crucial aspects emphasised in this report are:

- The difficulties posed by protracted and uncertain time horizons in considering the impact of current trends and policies on future social and economic outcomes;

1 These mandates relate to work being undertaken by a number of Directorates in the OECD to: (i) examine the factors which underlie recent divergences in growth in GDP and in particular to examine the evidence for the emergence of a "new economy"; and (ii) examine the evidence for sustainability of economic, social and environmental trends. Both mandates will lead to a report to the Council at Ministerial level in June 2001 in which policy proposals in relation to each of these two tracks of work will be made.

- The importance of coherence and balance in the roles of different actors and policy instruments in achieving agreed goals; and,

- The importance of different institutional, cultural and policy models across OECD countries in arriving at balanced economic and social development.

Human and social capital as potential complementary agents….

7. Human and social capital, together with other factors that contribute to well-being, are potentially complementary and mutually reinforcing. For example, human capital investment can help to generate norms and networks, while strong social ties in families and communities can enhance the effectiveness of schools and learning processes. Together, human and social capital can leverage improvements in the performance of institutions and firms as well as in various other forms of capital. The generation and effective use of knowledge and skills may depend on the right "social glue" – in families, local communities, schools, workplaces and all the other institutions that determine what makes some regions and nations more successful than others in achieving various economic and social goals.

Reconciling new economies and societies…

8. Equitable solutions to economic and social challenges are those which include rather than exclude various groups and interests in civil society. A key challenge for policy-makers is how to cope with increasing social and economic pressures in ways that preserve social cohesion and perceived fairness of opportunities for all groups. Trade-offs and challenges are inevitable, not just with regard to public responses to current needs and concerns, but also for the management of existing resources to meet future needs. It is as necessary to protect and renew the social environment as it is the natural environment. If too many people feel excluded from the fruits of economic growth or the benefits of learning, there is a risk of eroding social cohesion and hence the conditions for sustainable social and economic development. How access to learning and social networks are distributed across the population, together with the quality and potential of this access, are key concerns. This report argues that social capital can play a key role in brokering agreement, consensus and "buy-in" for different groups. The challenges posed by societies based on new and evolving beliefs and values, as well as economies and labour markets undergoing rapid change and evolution call, for effective responses. Where difficult trade-offs and tensions exist between various goals and interests, skills, knowledge, adaptability and norms and networks making for co-operation have a vital role to play.

Plan of the Report

9. Chapter 1 outlines the key concerns, trends, concepts and relationships discussed in the report as well as the main questions to be addressed. Chapter 2 considers the definition and measurement of human capital, defined broadly to include all types of skills and attributes embodied in individuals relevant to well-being. The sources of human capital in families, schools, communities and workplaces are discussed, especially in relation to the distribution of learning opportunities and outcomes across different groups. The chapter also assesses the empirical evidence for the impact of human capital on the economy and society. There is a need to arrive at a clearer understanding, not only of various concepts, but also of the main linkages between the learning environment and economic and social development. Chapter 3 addresses the conceptual and measurement framework for social capital, examining its sources and impacts on a broad range of possible outcomes. The potential for complementarity between human and social capital, both from a conceptual and empirical standpoint, is discussed. Chapter 4 addresses some basic

questions about the implications for public policy of the preceding analyses of human and social capital. A key consideration is that many actors are involved, including civil society and the business private sectors, in promoting and harnessing high-quality investments in organisations, communities and people. Based on the evidence reviewed in the preceding chapters, Chapter 4 concludes by outlining a number of policy questions relevant to the development of human and social capital as well as further associated research and data needs at the international level.

REFERENCE

OECD (1998), *Human Capital Investment – An International Comparison*, Centre for Educational Research and Innovation, Paris

CHAPTER 1

EMERGING SOCIAL AND ECONOMIC CONCERNS

"Distinctions must be kept in mind between quantity and quality of growth, between its costs and return, and between the short and the long run…..Goals for 'more' growth should specify more growth of what, and for what".

Simon Kuznets in *The New Republic* (1962), quoted in Cobb, Halstead and Rowe (1995).

1.1 What are today's governments and societies concerned about ?

Inclusion and quality of life are major concerns…

10. Following economic recession and fiscal tightening in the 1980s and early 1990s, increasing attention is being paid to a wider range of issues than just enhancing economic productivity. This includes concern about the relationship between economic growth and the state of the natural and social environment; concern about how various groups in society – age, income, ethnic or gender-related – share in economic progress; concern about possible new, hidden forms of exclusion or poverty not identifiable in data on distribution of income or wealth; concerns about continuing or emerging divisions related to new technology and opportunities for lifelong learning; concerns about the quality of life and health of children, the elderly, various ethnic groups and persons confronted by social or physical disadvantage. Changing patterns of work, travel, living, community engagement and family life challenge all civic actors and social partners to ensure better dialogue and co-ordination of action.

Important shifts in values and attitudes are taking place….

11. Widespread and fundamental shifts in values and patterns of social engagement are occurring in many OECD countries, giving rise to the need for a careful re-appraisal of different aspects of economic, social and political life. Many of these shifts point towards greater diversity within OECD societies as well as to more emphasis on self-expression, individual autonomy and responsibility, subjective well-being and quality of life. Evidence from successive waves of the *World Values Study* suggests that beyond a certain threshold of income per capita, most countries encounter diminishing returns to growth in income per capita for reported subjective well-being (Inglehart, 1997). Growth in economic well-being is still important, but a wider range of concerns are coming to the fore. Hence, in the newly emerging societies and economies of many OECD countries, there may be a need for better co-ordination of public policies to reflect new values and concerns as well as to ensure reconciliation of new economic and social needs.

The rise of the "new economy" and the role of knowledge networks…

12. Some countries within the OECD, as well as some world regions, have experienced slower rates of growth in income than others in recent years in spite of having relatively high levels of human capital. The critical role of knowledge and learning does not appear to be adequately reflected in these explanations[2] (OECD, 2000). Given the rapid increases in economic productivity, there has been increasing interest in the possibility that fundamentally new organisational and technological conditions exist which facilitate sustained economic growth. The term "new economy" describes the fundamental shifts in the underlying conditions of production in a globalised and knowledge-intensive world (e.g. Drucker, 1993).

The "new economy" and social capital…

13. There is growing intuition in business and political circles that management of knowledge and the role of social capital networks may be central to the "new economy" (Lesser, 2000). The search for new explanations is, in part, prompted by the perception that the "new economy" may be partly linked to the emergence of new knowledge networks based on rapid exchange of information and knowledge and flatter organisations with more emphasis on knowledge, flexibility, trust and networking than on hierarchical control. The search for new information and innovation may be facilitated by innovation networks across and within diverse institutions. Moreover, the management and communication of complex or tacit knowledge within units or firms may be facilitated by strong internal organisational links and networks.

Institutions and social norms may provide elements of the explanation

14. There is a need to get inside the productivity "black box" to better understand the nature of the markets, institutions and firms that determine the way in which knowledge is developed and applied. North (1990) defines institutions as norms or rules, whether formal or informal, which govern human and social interaction. North's insights are not new in economic science. However, the search for a more complete account of the interactions between economy and society, as well as the role of knowledge, institutions and social networks, has broadened in recent decades as existing explanatory models failed to account for differences in economic performance across nations and over time. Most of the recent studies on the factors influencing growth in GDP show that the proportion of the variance in growth rates not "explained" by all explanatory variables combined is as high as 40% and sometimes higher (Temple, 2000). Even what is "explained" is the subject of varying interpretations.

Is there really a "new economy"?…..

15. The term "new economy" has been used extensively in the debate about recent developments in the US economy, and in particular, that part of the economy that is driven by information and communications technology. Various indicators suggest a shift in economic development in the direction of a more important role for knowledge production and learning These changes may have edged the economy into a permanent state of flux, with important consequences for the way production of goods, services, knowledge and ideas is organised. Many observers link the concept of "new economy" to that of "learning economy", where the capacity of firms and individuals to learn, to change and to communicate and apply knowledge is qualitatively more important than before (OECD, 2000).

2 For example, levels of initial education, which are frequently used in economic growth models, capture only some aspects of human capital.

Changing values and expectations are mirrored in changing conditions of work and production….

16. A focus on the "new economy" has appeared as many observers and policy analysts examine the interface between economic progress and some troubling indicators of social dysfunction. Have factors such as rapidly changing technology, skills obsolescence and increased stress associated with more insecurity or longer hours of work been associated with some aspects of social dysfunction? This report does not find evidence to show that increased economic prosperity has necessarily depleted social capital reserves, but it does suggest that there may be a link between some aspects of economic progress and increased stress or loosening of social ties. However, new conditions of production, organisation and work give rise to new opportunities and challenges, which, when seized, may contribute to significant advances in well-being.

Economic, social and environmental considerations are intertwined…

17. A focus on trends in economic productivity needs to be broadened because: (i) the evolution of total well-being is of key importance; and (ii) the long-term impact of trends needs to be factored into any analysis of current policy options. Every investment involves the forgoing of some good in expectation of increased income or welfare in the future. The time dimension is crucial in considering current investment and production patterns and anticipated future downstream impacts, since uncertainty and long gestation periods characterise many public and private policy choices. Many factors are working together to produce well-being, including human and social capital. To bring about higher and sustainable levels of well-being, it is important to understand the potential impacts of likely developments in the physical, natural and social environments.

1.2 What is happening in some of these key areas of concern?

Unparalleled increases in economic output accompanied by rapidly changing social conditions ..

18. Recent decades have witnessed large increases in economic output across OECD countries with increases in standards of living and working conditions as well as in health and educational attainment. Although the rising tide of material wealth may not have raised all boats to the same extent everywhere, extensive levels of absolute poverty and deprivation have declined in OECD countries since the 1950s. A major challenge confronting policy makers is to understand better the conditions that provide not only for enhanced wealth and income, but also for more balanced economic and social development. Humankind does not live on economic growth alone. At the same time, sustained increases in economic output, linked to improved knowledge and technology, provide the resources for tackling social exclusion, poverty and low levels of health. Keeping a balance between various social and economic objectives remains a key concern in the new century. Following unprecedented increases in economic output, concern is now increasingly turning to the "quality" of economic growth and how to sustain further increases in social and individual well-being[3].

3 However, these concerns are not entirely new since there was interest in these issues in the 1970s following unprecedented economic growth in the immediate post-war period. The OECD launched a Social Indicator Programme in the 1970s following a ministerial declaration in 1970 which stressed that "growth is not an end in itself, but rather an instrument for creating better conditions of life" and that "…increased attention must be given to the qualitative aspects of growth, and to the formulation of policies with respect to the broad economic and social choices involved in the allocation of growing resources" (quoted in OECD,1976, p.7)

Together with improved economic performance, OECD societies are aiming at a wide range of social outcomes.…

Human well-being

19. This report focuses on a broad notion of *human well-being* encompassing economic as well as other dimensions of well-being. It is important to distinguish between different dimensions of well-being. Figure 1.1 depicts three levels[4]. A broad concept includes economic well-being as well as aspects less directly economic in nature, such as well-being resulting from the enjoyment of civil liberties, relative freedom from crime, enjoyment of a clean environment and states of mental and physical well-being in individuals. Some of these aspects of well-being carry important implications for economic and social development. Total human well-being is more than the sum of individual levels of well-being. It also reflects individual and societal preferences and values with regard to equality of opportunities, civil liberties, distribution of resources and opportunities for further learning. In the work of Amartya Sen (e.g. Sen, 1987), emphasis is given to opportunities or capabilities of individuals to choose and achieve the life goals that best suit them. According to this approach, growth in economic output enlarges the range of human choice rather than serving as a goal in itself.

Economic well-being

20. *Economic well-being* (or welfare) as a concept has long been acknowledged as being broader than g*ross domestic product (GDP)*[5]. The latter captures an important part of economic well-being – namely, current production of those consumption and investment goods and services accounted for in the Systems of National Accounts[6]. However, economic well-being also includes the contribution of all kinds of current production of goods and services including non-market household activity[7] as well as the contribution of current production to future well-being in the form of net additions to the capital stock of society[8] – physical, natural, human and social. Finally, economic well-being includes the preferences of society or groups within society[9] for a particular distribution of capital and income among the population together with the subjective risks and insecurities associated with this distribution of resources and opportunities. To summarise, growth in economic well-being can contribute to human well-being in three ways: (i) by providing a stream of income and benefits for consumption by today's generation, (ii) by accumulating resources and capital to produce benefits for future generations, and (iii) by allocating resources and income in a socially desirable way for present and future generations.

4 Economic well-being is entirely included within "well-being". For the remainder of this report, the term "well-being" denotes human well-being unless the concept is restricted to economic aspects in which case the term "economic well-being" is used.

5 The limitations of existing measures based on GDP have been acknowledged by those who contributed to the development of national accounting standards in the mid-20th Century.

6 Many types of non-market activities are not included, for example, the value of some household production of goods and services.

7 "The value of women's labor in the home has not been accounted for because it's not part of a market, a mistake worth roughly $8 trillion" (Picciotto, 1998)

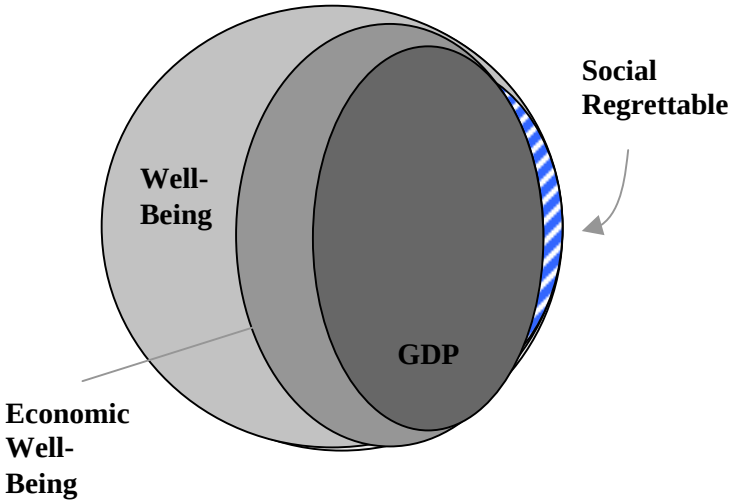
8 GDP does include gross investment in physical capital as well as current consumption. However, the contribution of current production to changes in other types of capital stock are generally not accounted for.

9 Hence, economic well-being reflects normative judgements and preferences of various groups. The weight to be attached to different outcomes including distribution of income varies considerably across different groups.

GDP is only one indicator, among others, of aspects of well-being …

21. Gross Domestic Product provides a very clear and important indicator of one aspect of economic well-being. However, patterns of income inequality, poverty, economic insecurity, the existence of "regrettables" arising from pollution of the natural environment, greater levels of anti-social behaviour (including crime) and family breakdown, may contribute to a lowering of economic well-being and incur hidden as well as explicit social and economic costs. To allow for the possibility that some aspects of GDP growth may undermine the quality of the long-term natural and social environments, or may include socially undesirable activities or outcomes[10], it is necessary to view some part of GDP as lying outside well-being. Hence, Figure 1.1 depicts "regrettables" within GDP but outside well-being (including economic well-being).

Figure 1.1 – A framework to illustrate the relationship between economic growth and well-being



Can we measure human well-being?

22. It is not easy to define or measure total human well-being since various social outcomes are viewed differently by different actors – be they governments, political parties, social partners or individuals. Moreover, those aspects of well-being which are more subjective in nature, such as reported levels of life satisfaction and personal well-being, are difficult to measure or relate to underlying explanatory factors[11]. There is no universally accepted framework for integrating key social concerns into a single measure of societal well-being which is more than the sum of the individual parts. In defining future social needs, some judgement is necessary as to how to value the needs of different groups in civil society. For example, maintaining a certain degree of income inequality may be desirable for ensuring

10 Or outlays and expenditures which do not directly contribute to well-being but are nevertheless deemed to be necessary to ensure, for example, national security or to counter-act crime.

11 However, Chapter 2 and 3 will report recent evidence on analysis of reported levels of subjective well-being or life satisfaction which suggest that factors underlying levels of subjective well-being can be identified empirically.

incentives for work and higher economic productivity. A degree of income inequality may simply reflect the preferences of individuals for a particular lifestyle, place of living, occupation and balance between leisure and work or between voluntary caring and paid employment.

23. Particular changes in working patterns, participation in the labour force and family and household structures are viewed as the outcome of individual and societal choices which are desirable, or at least, unavoidable consequences of changing norms and values in most OECD countries. To highlight key social trends, it is possible to use different indicators depending on the scope and depth of interest in particular trends. Users of such indicators need to make their own judgements about the "relative weights" to attach to various social trends and how they relate to a more general picture of emerging well-being.

The evidence shows fundamental social and economic shifts…

24. To illustrate some social trends in recent decades, a partial selection of indicators based on the OECD social indicators programme, is shown in Figure 1.2 below, highlighting:

1. The existence of long-term, fundamental shifts in individual and societal preferences and public responses alongside increased economic output and consumption; and

2. The existence of some worrying social changes that signal the possibility of weakening social cohesion and personal security (such as increased levels of crime or social exclusion for some groups in some countries).

25. Many other important changes in attitudes and patterns of social behaviour are not shown in the selection of indicators in Figure 1.2. With a shift in values towards increased personal autonomy, more emphasis on self-expression, equality of opportunity and a wider set of concerns than economic survival and growth, outlines of "new societies" may be emerging in many OECD countries.

Divergent trends in growth of GDP and well-being have been signalled…

26. The relationship between economic and social trends noted in the preceding paragraph is of interest because it suggests synergies between economic growth and particular social trends. The processes of economic and social change may be partially independent of each other and related to long-term cultural shifts associated with today's OECD societies. Others may be inter-related suggesting that important linkages between long-term trends in production, consumption and work on the one side, and patterns of community engagement, family formation and inclusion of various groups on the other may be present. At this point, analysts from various disciplines have only a limited understanding of what is driving these various changes and how the various parts fit together.

27. The charts in Figure 1.2, below, show trends across a range of social concerns for some or all OECD countries since the mid-1970s or later. These concerns relate to indicators of changes in income, poverty, labour market participation as well as changing patterns of family formation and health, demography and environmental concerns. In a number of indicators, a selection of countries is shown for various points in time, varying by indicator and depending on availability of data (source is the OECD Social Indicators Programme).

Economic growth, labour market change and rates of poverty

1. Trends in GDP per capita in constant prices, OECD average, (1966-1999).

2. Income inequality (Gini coefficient), based on final income for selected countries, (mid-70s compared to mid-90s).

3. Child poverty (percentage living in households with below 50% median income threshold), selected countries, 1990s.

4. Unemployment rates (comparing 25-64 and 15-24 year olds), OECD average, (1960-2000).

Demographic, education and social change, gender equality

5. Past, current and projected trends in the age-dependency ratio (1975-1995- 2015) – ratio of those outside the age-bracket 16-65 to those in the working age population, 16-64, OECD average.

6. Percentage of adult population (25-64 year olds) with completed upper secondary level education or higher, OECD average, (1950s – 1990s).

7. Lone parents (percentage of households with children and only one adult), selected countries, (1980s-1990s).

8. Differences in earnings between men and women, 25-64 year olds (full-time workers only), selected OECD countries (1985-1997).

9. Differences in rates of labour force participation, by gender, for 25-64 year olds (1974-1998)

10. Proportion of foreign-born population, selected OECD countries (1986-1996).

Personal well-being and health

11. Number of acute drug related deaths recorded in the countries of the European Union (EU average), per million of residents, (1985-1997).

12. Incidence of all types of crime experienced by victims in selected countries (1980s-1990s).

13. Estimated average life expectancy at birth, average for selected OECD countries, (1960-1998).

14. Reported levels of subjective well-being or life satisfaction in the USA and Europe Union, average for 12 EU countries, (1970s-1990s).

15. Trends in rates of reported suicide, selected OECD countries (mid-1970s to 1998).

Environmental change

16. Recent and projected emission of greenhouse gases (1990-2010).

Indices have been developed for measuring some aspects of well-being….

28. Several attempts have been made to arrive at a summary measure of well-being. One approach (Osberg, 2000) relates to economic well-being only, and brings together four main types of indicators: (i) current per capita consumption flows; (ii) changes in capital stocks (including natural and human); (iii) changes in income distribution; and (iv) changes in economic risks. The results for 7 countries are shown in Appendix A. They suggest that, up to the 1980s, trends in per capita GDP growth for many OECD countries seemed to have tracked trends in economic well-being but have tended to diverge from measures of trends in well-being. Similarly, other measures based on a wider range of social indicators (e.g. the Index of Sustainable Economic Welfare and the Fordham Index of Social Health) have indicated that since the early to mid-1980s, trends in measures of well-being in some OECD countries appear to have fallen below trends in GDP per capita. The main components responsible for this divergence were environmental degradation, increased relative poverty and income inequality in some OECD countries.

1.3 Getting the balance right – reconciling new economies and new societies

The appropriate policy responses require co-ordination and modification according to context…

29. There is concern not only to understand the reasons and factors underlying various social and economic trends but also about how to effectively respond. Devising policy strategies and responses is not easy since what worked in the past may not be applicable in the future and the "Japanese model", "Scandinavian model" or "US model" may be largely non-transportable to other settings, even if found to be cogent in their own time and place. While sound macro-economic and fiscal policy, continuing education, information technology and social programmes all have their role to play, no one instrument is sufficient. Policy responses need to address (i) the inter-dependence between different departments and agencies and, (ii) the consequences of policy measures in one domain on a broad range of outcomes. So, for example, policies aimed at equality of opportunity for men and women need to take into consideration the impact of many other public policies, some of which may not be obvious where gender equity is concerned, such as the impact of taxes and social benefits.

Human and social capabilities may have important implications for sustainability of economic growth…

30. The "social glue" which helps other factors in the production of economic and human well-being consists of the norms, values, institutions and culture of societies and groups. All of these can help to produce a variety of positive outcomes – some directly economic in nature, others less obviously so. However, the non-economic outcomes may relate to improvements in the quality of life, the health and psychological well-being of individuals as well as the inclusion of various groups in the mainstream of society. All of these non-economic outcomes may feedback into the economy in the longrun as positive contributions to improving economic efficiency and increasing economic output.

Social partnership and consensus are needed for sustained development…

31. Rodrik (1998) finds evidence to support the notion that social polarisation can impair an economy's ability to react to negative economic shocks. As well, the increasing divide between skilled and unskilled not only can negatively affect learning, but can also undermine social cohesion. Human and social capital can play an important role in facilitating effective use of skills, in sharing of information and

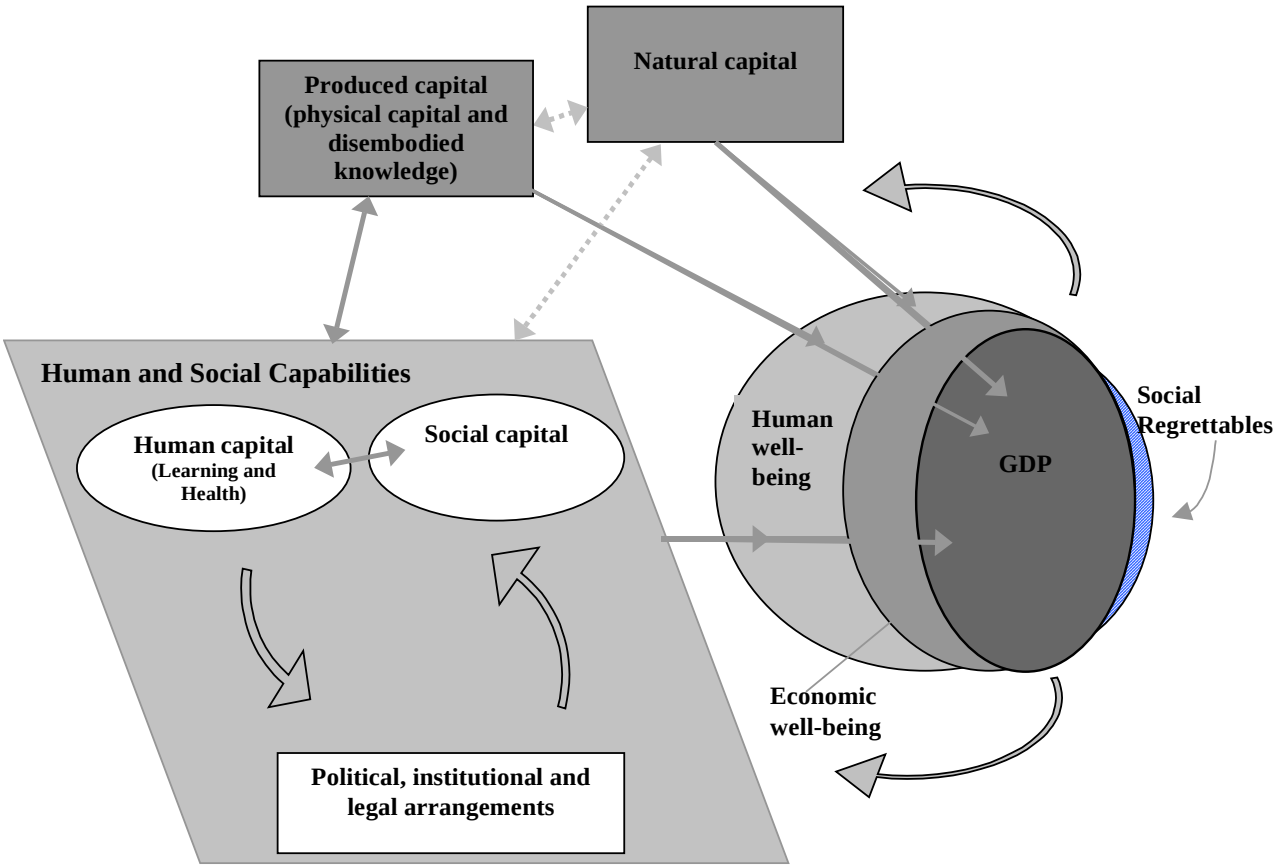
co-ordination of effort and, finally, in mediating conflicts of interest. Dobell (2000) notes[12]: "With the resurgence of power exercised through civil society and democratic institutions, economic decisions which have significant distributional consequences can not be referred to strictly economic calculation nor be determined simply on aggregate cost- benefit analysis or other consequential criteria. Acceptability (legitimacy) in the eyes of an empowered civil society will be essential to social approval for economic action and the pursuit of economic growth". Social cohesion can enable a society to mobilise the energy of a high percentage of the population to get things done.

1.4 Towards a framework for understanding some key inter-relationships

32. As a way of thinking about some of these links on a "wider canvass", the complex relationship of all these elements can be drawn together in Figure 1.3.

12 Endnotes, p. 37.

Figure 1.3 – A framework to illustrate the key inputs to well-being and their inter-relationships



The role of human and social capabilities …

33. Any diagrammatic description of the key concepts in this report is inevitably limited, as not all important aspects and inter-relationships can be easily illustrated. Represented on the "input" side of Figure 1.3 are the more traditional inputs of human, natural and physical capital. The area of "human and social capabilities" describes a range of factors which are relevant not only to economic growth but well-being more broadly. Human capital represents the knowledge, skills and health embodied in individuals. Social capital refers to norms and networks facilitating co-operation either within or between groups. Political, institutional and legal (PIL) conditions interact with human and social capital to influence well-being. The balance and relationship between various actors – business, trade union, government and voluntary sectors – is an important part of the political environment shaping the development of human and social capabilities (Katzenstein, 1985).

34. Together with social capital, human capital is an important factor influencing well-being. Human and social capability interacts with natural and physical capital to produce well-being. Good quality institutions, a highly-skilled labour force and the prevalence of norms and networks facilitating social co-operation tend to underpin higher levels of investment in physical capital and can potentially assist strategies to renew the natural environment. The various components of the input side to the production of well-being are discussed below.

Skills and competencies as a form of capital producing well-being

35. Human capital refers to the skills, competencies and other attributes embodied in individuals which lead to various personal, social and economic outcomes for those acquiring knowledge and skills. The acquisition and use of these skills and knowledge are heavily influenced by the inherited culture and traditions of a given society.[13] Although the term "human capital" was first coined by economists 40 years ago, the concept can extend beyond an economic approach to education and learning. Many have found such an approach useful in understanding the constraints and incentives confronting individuals who must decide to allocate scarce resources of time and money between education or other activities. Part of the gain from more learning is higher economic productivity and lifetime earnings. However, some of the gain is in the form of higher personal satisfaction and the fulfilment of personal and spiritual goals. Furthermore, individuals investing in their own human capital may produce benefits which extend to others, implying that human capital is partly a public good, the fruits of which are enjoyed by all or most individuals in society and not just those directly investing in learning. This might lead individuals to under-invest in their own learning since they may only capture a small part of the benefit. The "spillover" effects (or what economists refer to as externalities) are an important part of the total social impact of learning.

36. *Human capital* is defined in this report as:

> *The knowledge, skills, competencies and attributes embodied in individuals which facilitate the creation of personal, social and economic well-being*

Much knowledge and skill is tacit and inter-personal in nature, defying easy measurement or description. Tacit knowledge has been defined as "*...knowledge that has not been documented and made explicit by the one who uses and controls it*" (OECD, 2000). It is assumed that the more knowledge is tacit rather than explicit, the more difficult it is to share and communicate between people, firms or regions. In addition to cognitive skills, the attributes embodied in individuals which are part of human capital also include health, motivation, moral behaviour and attitudes.

The whole is greater than the sum of the parts…

37. No person is an island. Learning takes place in families, schools, organisations, firms and communities. The effective use of skills and competence takes place in various social and group settings. Closely linked to the notion of human capital is that of organisational capital which relates to aspects of knowledge embodied in organisations and firms, such as codified and tacit knowledge, workplace practices, intra-organisation relations and relationships with others outside the organisation. Knowledge and skill shared and communicated is greater than the sum of the individual parts embodied in individuals.

13 Inglehart (1997) defines culture as a "system of attitudes, values and knowledge that is widely shared within a society and is transmitted from generation to generation" (p.15). Culture is learned and changes relatively slowly. Inglehart argues that culture is more likely to change through replacement of older generations by younger generations than through shifts in values and attitudes of individuals who have assimilated core beliefs and values from early childhood onwards.

The "collective" knowledge of enterprises, firms and public organisations is critical to the success of these in terms of economic performance. Hence, the knowledge embodied in organisations and other collective entities is a crucial part of human and social capabilities and is wider than just human capital. As will be discussed in Chapter 2, the allocation of individual competence within "learning organisations" is a crucial dimension of organisation-wide competence.

Social Capital is increasingly seen as a useful concept tool for understanding the role of relations in social development

38. The quality of social relations in which the supply of, and demand for, learning is expressed is important. The term "social capital" has increasingly come into vogue in the last decade. Although the notions associated with "social capital" are not new, the popularisation and growing mainstreaming of this concept have called attention to the importance of social and civic traditions and to the ways in which public policy can complement and strengthen these traditions. A multitude of definitions and understandings of social capital is possible ranging from those that emphasise the value to individuals of resources in the form of social relations in families and communities, to others which emphasise the role of networks and norms in civil society. There may be a risk of over-extending the concept to include all types of social arrangements and conditions to a point where the functions or outcomes of social capital may become confused with social capital itself. As in the case of human capital, there is no single, correct definition. Much depends on the use to which the concept is put and the relevance of the concept for arriving at a clearer understanding of contemporary issues and problems. In this report the following operational definition is used:

> *Networks together with shared norms, values and understandings which facilitate co-operation within or among groups*[14].

This definition stresses the "social" nature of social capital which is based on relations among individuals. It also incorporates the notion of "capital" which can contribute to particular benefits or outcomes and which is the result of cumulative actions in the past. Included in the definition are: (i) subjective, cultural and normative aspects which facilitate social co-operation; as well as (ii) objective aspects of group behaviour in the form of networks, association and social interaction. Social capital is embedded in families, communities, firms or schools. The key difference between human and social capital is that the former is embodied in individuals, whereas the latter is embodied in relationships, thus making the latter typically more difficult to conceptualise and measure.

Firms and organisations as places where social capital is developed….

39. As with human, physical and natural capital, the impact of social capital may not always be socially desirable[15]. The concept of organisational capital is also close to social capital since social and group relations within and between organisations can facilitate the efficient communication and use of information and technology. For a fuller elaboration of social capital and related concepts, their origins and the recent literature surrounding them, the reader is referred to Chapter 3.

14 Alternative formulations of a definition of social capital would exclude "values" but retain "norms" and "understandings". Still other formulations are possible which broaden the scope of the definition to include various types of institutions. See Chapter 3 for more detailed description of alternative approaches.

15 The potential downside of some social networks is discussed in greater length in Chapter 3.

Trust and co-operation are important outcomes of social capital

40. Some have criticised traditional lines of inquiry in economics for their failure to recognise the importance of personal relations and networks of relations in generating trust, establishing expectations, and in creating and enforcing norms. As the evidence in CChapter 3 suggests, trust and reciprocal engagement can reduce transaction costs and enhance the flow of information and knowledge with spin-off benefits. Interpersonal trust and norms of trust towards institutions is central to much of economic and social activity[16]. Trust may be viewed as both an important source and outcome of social capital as well as being a very close proxy to many of the norms, understandings and values which underpin social co-operation. The empirical evidence reviewed in Chapter 3 suggests that trust tends to both produce social interaction as well as feed on positive experiences of the latter.

Health is closely related to both learning and social capital

41. There are close ties among health, learning and social capital. Human capital includes health as well as cumulative learning[17]. Health is an important input to well-being and economic performance as well as being the result of many factors including age, lifestyle, social status, learning and the extent of social ties and inter-personal support. The economic cost of ill-health may be considerable in terms of lost productivity and higher public spending to offset the negative effects.

The importance of Political,Institutional and Legal conditions (PIL)….

42. Underpinning market activities and civic life is a range of formal and informal civic, political and legal institutions. These institutions provide a framework in which human and social capital contribute to various outcomes. Institutions set the rules of the game for agents. Rodrik (2000) in examining the many factors which underpin successful economic development in various world regions and market economies, focuses on five different types of institutions which:

1. Protect private property and contract enforcement (including rule of law);

2. Moderate some business activities in the market economy (e.g. through curbing anti-competitive behaviour);

3. Support macro-economic stability through fiscal and monetary means;

4. Provide social insurance or protection to the socially vulnerable; and

5. Moderate and manage social conflict (and uphold democratic rights).

43. Rodrik argues that high quality public governance, private-public synergies and the avoidance of destructive social fractures and internal conflict can provide the basis for countries at different levels of development to handle change and to achieve sustained economic growth[18]. Abramovitz and David (1996)

16 An important distinction can be drawn between trust, which relates to the subjective disposition of individuals to trust others (whether rationally grounded or not) and trustworthiness which relates to the way people behave or are likely to behave in given circumstances.

17 Gary Becker, who was among the first to use the term "human capital", viewed education, on-the-job training and health as components of human capital with consequences for earnings and economic productivity (page 54-55 in Becker, 1964).

18 However, as Rodrik stresses, the prescription will vary from country to country as there is no magic blueprint for each and every situation or country.

define "social capabilities" as "embracing the attributes and qualities of people and organisations that influence the responses of people to economic opportunity, yet originate in social and political institutions".

How human and social capital relate to institutional arrangements….

44. Human and social capital are closely related to the way in which institutions and political and social arrangements impact on society. However, human capital, social capital and PIL need to be carefully distinguished, since:

- Human capital resides in individuals in the form of knowledge, skills and other attributes;
- Social capital resides in social relations and value systems; and
- Political, institutional and legal conditions (PIL) describe the rules and institutions in which human and social capital work are embedded and work.

45. There is, potentially, a strong complementarity between human capital, social capital and PIL[19]. Coleman (1988) in his development of social capital analysis in the 1980s stressed the role of strong communities and ties among parents, educators and pupils in fostering learning. On the other hand, education and learning can foster habits, skills and values conducive to social co-operation and participation. Heyneman (1998) stresses the potential role of education in contributing to social cohesion by:

- Providing knowledge about social contracts among individuals and between individuals and the state;
- Reinforcing behaviour expected under social contracts, "in part through the socially heterogeneous experiences students have in the schools themselves"; and
- Providing an understanding of the expected consequences for breaking social contracts.

Respect for the rule of law and an appreciation of society's obligation towards the economically and socially vulnerable are key values and competencies for democratic societies.

The nature of social cohesion….

46. Although not explicitly shown in Figure 1.3, *social cohesion* is an important ingredient in the maintenance of well-being. It may be viewed as one of the outcomes of human and social capabilities, and as an important input for stable economic growth and well-being. One writer has defined social cohesion as "the shared values and commitment to a community" (Jenson,1998). She also outlined five essential elements to social cohesion: belonging; inclusion; participation; recognition; and legitimacy. Ritzen (2000) states: "The objective of social cohesion implies a reconciliation of a system of organisation based on market forces, freedom of opportunity and enterprise, with a commitment to the values of solidarity and mutual support which ensures open access to benefit and protection for all members of society". These understandings of social cohesion are close to the underlying concept of PIL but appear to be broader in so far as they describe outcomes, or states of social harmony, which are the result of various factors, including

19 In some cases, human capital, social capital and PIL are substitutable as when, for example, formal institutions and rules may substitute for informal social networks.

human and social capital as well as PIL. However, as Chapter 3 will show, not all forms of social capital, or PIL, necessarily produce social cohesion. In some cases, closed networks, inflexible institutions and the existence of excessive or inappropriate social protection or regulation can undermine social cohesion. In summary, social cohesion is an intermediate category which is a partial input to well-being as well as being an outcome of human and social capabilities.

1.5 Is Well-being sustainable? – The importance of time as a dimension

Sustaining well-being requires adequate investments in human and social capital …

47. The impact of human and social capital on well-being is distributed over time so that many of the benefits are captured by future generations. Inadequate investment in these areas might undermine the opportunities of future generations. A critical supply of various "assets" is needed to sustain future well-being. If the supply, distribution and quality of some assets is not optimal, then concerns are raised about the sustainability of present trends for future well-being. Consideration of future "social needs" and present economic and social trends presents a challenge to current policy thinking and analysis. The implications for future well-being of present economic and social trends points up the need for a more comprehensive link-up between different policy fields and a more explicit recognition of the inter-connectedness of different policy domains.

Sustainable development embraces more than just concerns about the natural environment….

48. The policy community has in recent decades increasingly focussed on the importance of sustainable development reflecting a growing consideration of how environmental policies relates to future needs. The interim report on the OECD three-year project on sustainable development (OECD, 1999) stated that "It [20] [sustainable development] has now acquired a broader meaning, implying that the objectives of increasing economic efficiency and material wealth must take into account social and environmental concerns within an overall policy framework"[21].

49. A useful analogy can be drawn between the natural and the social environment for understanding some of the long-run implications of social trends. Changes in the social fabric can be compared to climatic change. Policy-makers are concerned about both types of changes and their interaction with economic processes[22]. A closer integration of economic, social and natural environment concerns is warranted because of the need to relate long run trends, costs and benefits to present investment choices as well as focus on the interdependence between different processes in any policy consideration[23].

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20 The definition of sustainable development used by the United Nations World Commission on Environment and Development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs", The World Commission on Environment and Development, (1987), p. 43

21 Page 4.

22 A further interaction occurs between the natural and social environments when, for example, policies to promote environmental sustainability require co-ordination with social interests.

23 "The complexity of present-day society and the need to tie the economy to a broader societal and ecological frame of reference render ineffectual a one-dimensional economy which may seem extremely effective from the microeconomic standpoint but which, because it is so exclusive, tends to neutralise wealth and job-creating potential when the latter does not fit in with its own logic" (Patrick Sauvage in OECD, 1996 -p.12)

Measuring progress towards sustainable development is not easy…

50. Arriving at a composite measure of the contribution of social factors to sustainable well-being is not easy. It is difficult to weight the long-term costs and benefits of various social processes and pressures. As in the case of the natural environment, it is difficult to identify thresholds beyond which societies have to pay for or accept difficult adjustments in social conditions. The possibility of substitution between different forms of capital also arises. In the literature on sustainable development, a "weak sustainability" perspective, suggests that different types of capital may substitute for each other, at least at the margin: sustainability requires maintaining the total "stock" of resources, rather than each of its specific components. For example, physical and human capital may substitute to some extent for degradation in the natural and social environments. By contrast, a "strong sustainability" requirement would demand that levels of each form of capital be maintained[24] (Pearce and Atkinson, 1997). So, for example, a "strong sustainability" requirement would maintain that a preservation of the "stock of social capital" is an essential requirement because substitution by other factors (including technological growth which enhances the economic productivity of all factors) is not feasible. The limited scope for substitution is further underlined if the focus is on a wider measure of well-being and not just economic well-being or GDP as the impact of social capital is likely to be especially strong in terms of a wider measure of well-being[25].

Changes in both the social and natural environments operate on long-term time scales …

51. Projections of general trends such as global warming have only recently been possible. Yet, its implications for economic and social life, including health and human well-being, have not yet been fully recognised. Recognition of the significance of these trends in the *natural* environment has taken time because: (i) environmental processes operate on an extremely long time scale, (ii) the impact of environmental degradation can vary for different groups and individuals (iii) interdependence between different domains (social, economic, political) call for an inter-disciplinary approach and co-ordination of policy response (see Osberg, 1992). Similarly, degradation of the social environment is likely to occur gradually and affect some groups more than others. This degradation can take the form of increased insecurity, higher incidence of anti-social behaviour including crime, more time spent commuting and lower levels of reported personal well-being[26]. Some of this erosion, such as declining levels of civic engagement, may not even be apparent until a more advanced stage of development. As in the case of environmental degradation, the possible causes and necessary public policy and civil society responses are not easy to identify.

24 The stock of any capital may be expressed in monetary terms by estimating a market value in terms of some projected future stream of income. A constant capital rule consistent with strong sustainability would require undiminished values for each form of capital (natural, physical, human and social), or alternatively net investment in each capital following allowance for depreciation (refer to Appendix A for a discussion of "green" measures of Net National Product and genuine savings measures). Given the difficulty with finding a suitable price for various aspects, an alternative quantitative approach to measuring strong sustainability would be to measure the physical or non-monetary stock of some forms of capital (e.g. the ozone layer or some manifestation of bio-diversity) and assign a critical level to these.

25 Refer to Chapter 3.

26 Whether people are less healthy is a separate issue. It may be sufficient for many people to feel that their well-being has declined to signal an issue of concern.

1.6 Conclusions

Social relations and competencies count…..

52. This chapter has stressed the importance of the social and organisational links in which the skills of individuals whether as citizens, consumers, producers, innovators or public administrators, are used in a knowledge-based society. It is desirable that lifelong learning enables as many people as possible to be "winners" by learning to adapt and co-operate in a changing environment. A society moving closer to a lifelong learning model is one where individuals, organisations and whole societies learn to act, manage and apply knowledge and skills in ways that foster greater personal, social and economic well-being. Markets and civil societies need to be reconciled, and choices and conflicts managed in socially constructive ways. The accumulated normative and associational traditions of civil society, culture, lifelong learning and the effective management and organisation of knowledge all have important roles to play in sustaining well-being and progress for future generations. If the "new economy" requires an enhanced capacity on the parts of individuals, communities and institutions to adapt to rapid change, the role of social relations, norms and institutions may be even more important. The acceleration of the rate of change implies that success may be determined by how individuals, communities, firms and regions cope with change through their ability to learn and share information.

REFERENCES

Abramovitz, M. and David, P. (1996) "Convergence and Deferred Catch-up: Productivity Leadership and the Waning of American Exceptionalism", in Ralph Landau, Timothy Taylor and Gavin Wright, eds. *The Mosaic of Economic Growth* (Standford, CA: Stanford University Press).

Becker, G. (1964), "Human capital: A theoretical and empirical analysis, with special reference to education", National Bureau of Economic Research, New York.

Becker, G. (1996), *Accounting for Tastes*, Harvard University Press, Massachusetts

Coleman, J. (1988) "Social Capital in the Creation of Human Capital", *American Journal of Sociology*, Vol 94 Supplement S95-120.

Dobell, R. (2000), "Social Capital and Social Learning in a Full World", Paper presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 19-21.

Drucker. P. (1993), *The Post Capitalist Society*, Oxford: Butterworth-Heinemann.

Heyneman, S. (1998) "From the Party/state to Multi-Ethnic Democracy: Education and its Influence on Social Cohesion in Europe and Central Asia Region" Paper sponsored by International Child Development Centre, United Nations Children's Fund. Florence Italy.

Inglehart, R. (1997) *Modernization and Postmodernization*: *Cultural, Economic and Political Change in 43 Societies* Princeton: Princeton University Press.

Jenson, J. (1998), "Mapping Social Cohesion: The State of Canadian Research." Canadian Policy Research Networks Study.

Kuznets (1965) in The New Republic (1962) quoted in Cobb, Halstead and Rowe 1995)

Lesser, E.L. (2000) Knowledge and Social Capital, Butterworth-Heinemann, Boston

North, D. (1990) *Institutions, Institutional Change and Economic Performance*. New York: Cambridge University Press

OECD (1976) *Measuring Social Well-being: A Progress Report on the Development of Social Indicators*, Paris.

OECD (1996) *Reconciling Economy and Society: Towards a Plural Economy*, Territorial Development Service, Paris.

OECD (1998) *Human Capital Investment – an International Comparison*, Centre for Educational Research and Innovation, Paris.

OECD (1999) *Interim Report on the OECD Three-Year Project on Sustainable Development* Paris

OECD (2000), *Knowledge Management in the Learning Society*, Centre for Educational Research and Innovation, Paris.

Osberg (1992) "Sustainable Social Development" in R.C. Allen & G. Rosenbluth (ed.), *False Promises: The Failure of Conservative Economics*, pp. 227-242, New Star Books, Vancouver.

Pearce, D. and Atkinson, G. (1997) The concept of sustainable development: an evaluation of its usefulness ten years after Bruntland", Centre for Social and Economic Research on the Global Environment, University College London and University of East Anglia.

Piciotto, R. (1998) "Gender and social capital", presentation at the Gender and Development Workshop, World Bank, April, 1998 http://www.worldbank.org/html/prmge/know/gendev/

Ritzen, J. (2000), "Social Cohesion, Public Policy, and Economic Growth: Implications for OECD Countries", keynote address presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 19-21.

Rodrik, D. (1998), "Where Did All the Growth Go? External Shocks, Social Conflict and Growth Collapses", NBER Working Paper, No. 6350.

Rodrik, D. (2000), "Development strategies for the next century", Paper presented at the conference on "Developing Economies in the 21st Century", Institute for Developing Economies, Japan External Trade Organization, January, 2000 [http://www.ksg.harvard.edu/rodrik/devstrat.PDF]

Sen, A. (1987), The Standard of Living, Cambridge University Press, Cambridge.

World Commission on Environment and Development, (1987) *Our Common Future*, New York, United Nations.

CHAPTER 2

THE EVIDENCE ON HUMAN CAPITAL

"OECD societies are transforming in ways that make human attributes central to economic prosperity. The competence of a nation's workers is coming to be at least as important to its success as other advantages such as the availability of land and capital. For growth and prosperity to be sustainable, social cohesion is required; here too, the role of human capital is vital. These tenets are now increasingly accepted" (OECD, 1998)

"Education does not have to be justified solely on the basis of its effect on labour productivity. This was certainly not the argument given by Plato or de Tocqueville and need not be ours. Students are not taught civics, or art, or music solely in order to improve their labour productivity, but rather to enrich their lives and make them better citizens" (Weiss, 1995)

2.1 Introduction

Increasing importance of competence and skills …

53. Changing social conditions and labour markets have, in recent years, brought the issues of competence and skills to the forefront. Factors such as the explosion in information technology, globalisation of economic activity and the trend towards greater personal responsibility and autonomy have changed the nature of demand for learning. The key role of competence and knowledge in stimulating economic growth has been widely accepted by economists and others. The importance of learning for social inclusion and cohesion as well as personal growth and better quality of life has also received increased attention. A key role for initial education is not only to impart useful skills and knowledge to students but to equip individuals with a desire for learning and a capacity to go on learning, adapting and changing throughout their lives. There is no stable equilibrium set of skills and competencies which, once acquired, ensure permanent success for individuals or organisations.

The social impact of learning is just as significant as the economic one….

54. The broad "social returns" to learning in the form of enhanced personal well-being and greater social cohesion is viewed by many policy analysts as being at least as important as the impact on labour market earnings and macro-economic growth. The personal and social goals of learning, and initial

education in particular, are not necessarily inconsistent with the goal of promoting skills and knowledge for economic performance. Well-rounded, flexible and adaptable individuals ready to continue learning throughout life are necessary for realising the economic goals of education. The role of learning in stimulating economic and social progress has tended to be viewed in terms of the inter-relationship between initial or formal education and particular social and economic outcomes. This approach has been more or less successful in establishing important linkages. However, as this chapter will discuss, approaches based on a narrow conception and measurement of human capital faces a number of important limitations, which in the absence of a broader framework for understanding the role of competence, do not necessarily lend themselves to policy-relevant conclusions.

Structure of this Chapter

55. Of the four key questions posed in this report[27], three of them are partly addressed in this chapter. The first question on the impact of human capital on growth in economic and human well-being is addressed in sections 2.7 and 2.8. Following a brief discussion of the notion and measurement of human capital (sections 2.2 and 2.3), the second question relating to the possible risks of growing inequalities or exclusion in access to learning is discussed in section 2.5. The third question relating to the future implications of the bequest of human and social capital from current generations is discussed in section 2.5 in the light of evolving social and labour market demand for competence as well as in section 2.4 in the light of evidence of the impact of various factors in achieving high quality learning outcomes in schools.

Some frequently asked questions addressed in this Chapter

- What are the sources of high-quality human capital investment and "what works" in promoting effective learning outcomes? (section 2.4)

- For a given budget, what is the relative impact of different spending strategies – for example more years of schooling over more spending per student-grade-year, investment in learning facilities and textbooks over lower class size, more targeted spending on teacher training, school organisation and home-school-community links or areas of acute social and learning needs? (section 2.4)

- What is the evidence for the impact of different types of learning on growth in GDP as well as sustainability of long-term economic and social development? (section 2.7 and 2.8)

- Is there evidence that points towards a stronger impact for particular types of learning experience (level, field, skill domain)? (section 2.7 and 2.8)

- What is the evidence for impacts of learning and education on various areas of well-being including social cohesion, crime rates etc? (section 2.7 and 2.8)

27 1. How have human and social capital influenced growth in economic and well-being in recent decades? 2. What are the future economic and social implications of the bequest of human and social capital from current generations? 3. Are there risks of growing inequalities or exclusion in access to learning and social networks for different groups? 4. What are the policy implications raised by the above three considerations?

2.2 What do we mean by human capital?

56. Economists have traditionally identified three forms of capital: land, labour, and physical capital. Many explanations of long-term patterns of growth in national economic output have focused on the role of labour and physical capital. Beginning in the early 1960s, increasing attention was paid to the quality of labour, and in particular the level of education and training in the workplace. This gave rise to the concept of human capital embodying skills and other attributes of individuals which confer a range of personal, economic and social benefits. In the recent decades, other forms and concepts of capital have entered the debate on the long-term determinants of economic growth. These include the notions of "organisational" and "social" capital. Others have stressed the role of institutions in the process of economic development as well as the complementarity between different forms of capital within a given institutional setting.

A variety of definitions of human capital is possible…

57. Depending on the analytical and policy-related focus of the user, various definitions are possible. The definition used in this report is:

> *The knowledge, skills, competencies and attributes embodied in individuals which facilitate the creation of personal, social and economic well-being.*

Under the heading of attributes may be included aspects of motivation and behaviour as well as physical, emotional and mental health. Skills and competencies are largely acquired through learning and experience but may also constitute latent or innate capacities. In practice, the term human capital is defined and measured with reference to acquired cognitive skills and explicit knowledge. However, a broader notion of human capital which incorporates various attributes and characteristics of individuals is justified on the grounds that these contribute to well-being and can be influenced and changed by the external environment including learning. A number of key dimensions and aspects of human capital are described below.

Human capital as a form of economic capital

58. One approach to defining and measuring human capital follows an economic model in which individuals adopt a rational choice strategy to allocate resources and time to education and learning with a view to increasing income or personal satisfaction later on. This model which was popularised by Becker, Schultz and Mincer (see Appendix B) also acknowledges the value of education in increasing personal satisfaction (for example, enjoyment of cultural activities) and well-being. With access to information and financial capital, individuals and families would invest in human capital up to a point that was beneficial vis-à-vis other alternative investment strategies. Using certain assumptions on the operation of labour markets, labour economists treat earnings as a proxy for the marginal productivity of individuals, and so treat wage premia for higher levels of education as indicators of the productivity effect of more education. However, in practice, labour markets do not necessarily operate according to these simple assumptions and many factors not related to education or even skills intervene to shape the distribution of wage income and so cloud the relationship between education and earnings.

The broader personal and social dimensions of learning are vital in defining human capital …

59. A wider perspective on the objectives and goals of education and learning which goes beyond immediate labour market or economic goals is necessary. Schools and families lay the ground for the

formation of essential foundation skills and values which benefit individuals and societies throughout their lives in many different ways. For this reason, the OECD report on human capital (OECD, 1998) in treating the concept human capital stated:

> *"This report endorses the value of the concept, rejecting the criticism that such terminology debases human dignity by likening people to packages of knowledge and skill little different from machinery components. Instead, the concept powerfully emphasises how important people have become, in knowledge- and competence-based economies. It is useful to distinguish between the different forms of "capital" employed in economic activity – in particular physical and human".*[28]

Human capital is not homogeneous

60. Human capital is also characterised by its multi-faceted nature. Skills and competencies may be general in nature (like the capacity to read, write and speak). Many skills and competencies are highly specific in nature and more or less appropriate in different settings and contexts. Firm-specific skills, knowledge and competence are acquired through learning on the job and firm-based training. On the other hand, skills and knowledge can be quickly lost when individuals move to another firm unless they carry most of their specific skills with them to be used elsewhere.

61. Unlike physical capital which consists of produced goods that can be owned and bought in markets, human capital is embodied in individuals[29]. Human capital is highly heterogeneous and tends to depreciate through lack of use. On the other hand, it grows through various types of experiences as well as informal and formal learning which take place throughout life. Neither is it apparent how market value and opportunity cost can be fully measured since much of the benefit is public in nature and extends to outcomes that cannot easily be quantified or priced. Moreover, the implicit idea of human capital as consisting of homogeneous bundles of skills or competence residing in individuals and proxied by highest completed levels of initial education hardly does justice to the multi-faceted and complex nature of human competence as well as its operation in social and group settings.

62. Skills and personal attributes relevant to human capital may be categorised in a non-exhaustive and non-mutually exclusive way as follows:

1. Communication (including foreign language competence in each of the items directly below)
   - Listening
   - Speaking
   - Reading
   - Writing

28 Page 9.

29 Human capital shares common features with physical capital to the extent that it involves (i) a time dimension where investments take place and benefits accrue, and (ii) involves forgoing short-term benefit. However, it differs from physical capital to the extent that the normal rules of alienability and consumer sovereignty whereby consumers can purchase and "own" an external good do not apply. By definition, human capital is embodied in individuals and its services can be sold on the market but, strictly speaking, its ownership cannot be transferred or sold except in conditions of human slavery.

2. Numeracy
3. Intra-personal skills
   - Motivation / perseverance
   - "Learning to learn" and self-discipline (including self-directed learning strategies)
   - Capacity to make judgements based on a relevant set of ethical values and goals in life
4. Inter-personal skills
   - Teamwork
   - Leadership
5. Other skills and attributes relevant to multiple areas above include
   - Information and Communications Technology
   - Practical cognition (sometimes referred to as tacit knowledge)
   - Problem-solving (also embedded in other types of skills)
   - Physical attributes and dexterity

What is a learning organisation?

63. Chapter 1 emphasised the social nature of knowledge and competence. The term "learning organisation" has come to express the notion of a group in which shared knowledge, team-work and norms of behaviour and interaction constitute a valuable source of organisational capacity and learning with benefits for organisational performance. Lundvall and Johnson (1994) have classified knowledge into four categories:

1. *Know-what*: refers to knowledge about "facts".
2. *Know-why*: refers to knowledge about principles and laws of motion in nature, in the human mind and in society.
3. *Know-how*: refers to skills (i.e. ability to do something).
4. *Know-who*: involves the social ability to co-operate and communicate with different kinds of people and experts.

The fourth category of knowledge introduced by Lundvall and Johnson (1994) especially relates to organisational capital. Fukuyama (1995) noted that "virtually all economic activity…is carried out not by individuals but by organisations that require a high degree of social co-operation". Building and sustaining organisations, such as firms, which function efficiently, demands trust and a common sense of purpose, i.e., social capital.

Competent organisations in an experimentally organised economy

64. Linked to organisational competence and learning is the interactive process in which firms interact with customers, suppliers and knowledge institutions (Eliasson, 2000). Eliasson develops a model for a competitive and experimental economy, in which actors compete with each other on the basis of knowledge and competence. Efficient allocation and selection means giving the losers incentives to re-train, up-skill and if necessary move to areas where their skills are employed, while rewarding the winners and giving them incentives to keep on using their skills.

The nature of organisational competence capital

65. Intellectual capital is typically defined to include both human and organisational capital. Organisational capital refers to the structures and relations within the firm including the practices, networks, culture and way in which production is carried out. Leana and Van Buren (1999) define organisational capital as "a resource reflecting the character of social relations within the firm. It is developed through "members' levels of collective goal orientation and shared trust, which create value by facilitating successful collective action". This implies that the success of organisations involves complementary activities: creating the desired organisational structure, creating an environment that fosters high motivation, and encouraging co-operation. In this approach, co-operative effort is encouraged when organisational factors attenuate opportunism, foster trust, encourage open communication, and promote the acceptance of common purposes and values (e.g. Axelrod, 1984).

Learning is not synonymous with the outcome of initial education…

66. Learning and acquisition of skills and knowledge takes place from birth to death. The concept of lifelong learning has been in vogue for many decades. It emphasises not just the importance of adult learning and training, but also learning at all stages of life including 'learning to learn' in the context of schools and other institutions of formal education.

67. Given the broad definition of human capital which includes both lifelong and "lifewide" [30]dimensions of learning, there is a need to acknowledge the various contexts in which learning (and health) are developed (OECD, 1998):

- Learning, and preparation for learning, that is nurtured within the family and early child care settings, provides an important basis for future acquisition of human capital;

- Formal education and training at different levels – early childhood, school-based compulsory education, post-compulsory vocational or general education, tertiary education, workplace training, public labour market training, adult education etc.;

- Learning at work where experience is acquired in different types of organisation and through specific activities such as research and innovation or participation in various professional networks;

- Informal learning "on-the-job" and in daily living and civic participation. Informal environments are becoming increasingly important as countries move towards diverse,

30 Lifelong learning describes learning from birth to death. Lifewide learning describes learning in all types of settings from formal education to informal learning.

demand-led, individualised forms of learning. Learning in the home can be potentially enriched as access to media and information networks expands.

Human capital is not static or acquired once and for all

68. An important insight of early human capital theorists such as Mincer (1974), was that the level of human capital is not static, but changes with experience in the course of the lifecycle. For example, income associated with initial education tends to peak just after a mid-career point to begin declining gradually until retirement (most micro-wage based analyses of human capital tend to confirm this hypothesis). For any given level of initial education, workers add to their initial stock of human capital through experience on the job as well as in training off the job. It is likely that some skills atrophy in the course of a lifetime and that this process partly explains the observed decline in measured human capital (or at least additional earnings associated with any given level of education) beyond a certain age.

69. Throughout the lifecycle various types of skills and knowledge are learned or acquired, while others are lost, typically through lack of use ("use it or lose it"). There is also some evidence that the way individuals learn or apply skills varies at different ages. For example, very young children can acquire certain skills and attributes more quickly than older children. Future research on the functioning of the human brain and cognitive processes may reveal further valuable insights on how complex dimensions of human capital change over the lifecycle.

2.3 How do we measure human capital?

The measurement of human capital poses a serious challenge…

70. A broad definition of human capital was suggested in section 2.2, above which includes non-cognitive and physical attributes of individuals. However, it is likely that in practice most attempts to measure human capital will be reduced to more limited measures based on what is feasible to measure and what is directly useful in applied analysis. So, it is not surprising that traditional proxy measures for human capital have tended to focus heavily on completed levels of formal education, or the results of standardised test scores to measure some aspect of cognitive skill (e.g. mathematics, science, literacy or numeracy). These proxy measures are more or less useful to the extent that they enable simplified and summary comparisons and analysis to be made over time and across geographical space and groups within society. However, precision in measuring one proxy for human capital may be at the cost of a high degree of abstraction and generality and deflects attention from the specific and complex nature of human capital embodied in individuals. The competencies required for daily life and work vary depending on the needs of individuals and the demands of societies and economies.

Direct tests of competence tend to be more accurate than measures based on qualifications…

71. Educational credentials are only one proxy for skills and competence. As particular skills and competencies evolve, atrophy and increase in the course of a lifetime, measures based on average years of schooling or completed level of initial education are very crude. Measures of human capital based on tests of student achievement or adult literacy seem to come nearer to the task. However, these tests, which are based on international surveys such as the *Programme for International Student Assessment* (PISA) and the *International Adult Literacy Survey* (IALS), measure only some aspects of skill and competence and are subject to survey and test limitations (for example, with respect to the size of sample, range of inter-related variables covered and coverage of countries).

Adding up individual embodiments of human capital is difficult…

72. As in the case of physical capital, and even more in the case of embodied human competencies, there is no undisputed or trouble-free way of estimating the market or monetary value of individual components of human capital and adding them up to some aggregate level. Attempts have been made to use data on estimated or projected labour market earnings of individuals by level of initial education over a lifetime to derive monetary estimates for human capital stock[31]. For example, a summing up of the estimated market value of individual endowments of competence to arrive at a total stock value of human capital is likely to omit the importance of "collective knowledge or skill" residing in organisations and other collective entities[32]. Such aggregation is also likely to omit the impact of interactions and spillovers arising from enhanced human capital in some members. Finally, the highly specific, culturally-bound, non-communicative, tacit and heterogeneous dimensions of human capital are not easy to encapsulate in such aggregate measures of human capital.

Modesty and a sense of proportion are called for in the measurement of human capital…

73. These caveats point to the need for considerable caution in estimations of stocks or flows of investment in human capital, especially at the international comparative level. Aggregate or single-index measures of human capital, based on simple aggregation from individual units such as average years of schooling, highest completed level of education or similar measures, need to be complemented with more specific measures based on direct measurement or observation of skills and competencies at the local, organisational or community level. Given the potentially enormous cost of any attempt to extend the measure of human capital in this way, a targeted and strategic approach to measuring competence is needed and one which is guided by "need to know" for informing corporate or public policy making.

2.4 How is human capital developed?

Investment in skills takes place in many different settings and stages of the lifecycle

74. The accumulation of skills, knowledge and other attributes conducive to well-being takes place in a wide range of different settings from families, local communities, schools, workplaces to places of leisure, recreation and voluntary activity. As emphasised earlier, learning is both a lifelong as well as a lifewide activity in the sense that it takes place at different stages in the lifecycle and encompasses a very broad range of settings. The sources of human capital formation are found not only in systematic or organised training and education, such as formal education or training programmes, but also in the cumulative experiences of individuals derived from interaction with others as well as from self-reflection and self-directed learning. The quality of learning experiences is clearly vital to the effective assimilation of knowledge and competence. This quality varies tremendously depending on the socio-economic position of individuals, the quality of teaching experience and the existence of a supportive environment for continuous learning. The relative importance of different factors in human capital formation has been debated for decades.

31 The value of human capital stock is given by the present value of a future stream of net additions to earnings less costs over a lifecycle, discounted by some social rate of return to reflect the opportunity cost of investing in more education.

32 Although human capital is defined as a property or characteristic of individuals, the aggregation and combination of different quantities of individual human capital leads to organisational level competence which has impacts over and above those of the individual parts.

75. This section reviews some of the empirical evidence for the impact of various home, school and other factors on student learning outcomes in schools at primary and secondary level. It examines the evidence for the impact of spending, changes in class size, teacher quality and the importance of peer or family influences. The impact of class size is discussed at some length in this section because the issue of class size and class size reduction has received much attention in recent decades following declining birth cohorts and a gradual increase in funding at primary and secondary levels partly effected through across-the-board cuts in class size. However, a number of reservations are in order. Much of the empirical evidence centres on relatively narrow measures of achievement using test scores in areas such as reading and mathematics. Care needs to be taken in relation to any assessment of the empirical evidence for a number of reasons, not least the following two reasons:

1. In any given cultural or social setting, different factors (family, school climate and teachers) can have different impacts on achievement outcomes, not all of which are measured: for example social or interpersonal skills and, in some cases, reading may be relatively more influenced by non-school factors than formal instruction as in the case of mathematics and science;

2. Across different cultural and social settings, a given input of resources or combination of inputs (teaching practices, pupil-teacher ratio, school organisation etc.) has potentially different impacts depending on the outcome measured, the target group involved and the mix of public policy and other influences. It is not possible to generalise from empirical evidence from one country to different settings since the policy strategy mix for effective learning outcomes may vary widely across (and within) countries and over time. It is not clear how these cultural aspects can be fully incorporated into an explanatory model.

76. Researchers have studied the impact of additional funding or resources for schools in a number of ways: changes in the teacher-pupil ratio reflecting policies on staffing, school climate and organisational quality, interventions to improve effectiveness of teachers and teaching practices, family background and student's peer group.

There is no unique human capital production function….

77. The importance of the cultural context in which learning and instruction takes place has been emphasised by many. A culture relates to a system of attitudes, values and knowledge that is widely shared within a society or social group and is transmitted from generation to generation. Fuller and Clarke (1994) reviewed a number of different approaches including what they describe as "policy mechanics" and "classroom culturalist" approaches to evaluating school productivity. The "policy mechanics" approach seeks to identify discrete school inputs which make a significant difference to school and learning outcomes using a universal production function incorporating various inputs to explain the production of individual or school level learning outcomes.

The meaning and interpretation of material inputs to the learning process are not same everywhere….

78. By contrast, an approach which emphasises the importance of classroom culture seeks to integrate into the debate on school effectiveness the normative and social aspects of classroom instruction and inter-personal relationships. According to the culturalist approach, the role of norms and socialisation in the classroom is important for an understanding of achievement and school effectiveness. As well as carrying particular norms and attitudes from their homes and social backgrounds, students learn particular norms, habits and values in the cultural setting of the school and classroom. These norms reinforce or modify perceptions of merit, status and norms of behaviour and participation as well as attitudes towards

learning. Hence, the culturally constructed meanings attached to learning and instructional practices and tools may matter as much as the material content of school inputs or volume of resources expended. Both approaches are viewed as being useful by Fuller and Clarke (1994) although they note that the culturalist approach has been less successful in producing empirical evidence on cross-cultural variability in meanings assigned to teaching tools and practices as well identifying policy levers that can boost learning in different cultural settings. Further progress can be made by situating the various measurable inputs, including teaching practices, social participation, and classroom tasks, in different cultural settings.

Increased expenditure on education needs to be complemented by other strategies to enhance performance…

79. A key consideration is whether increased schooling as well as increased educational spending can appreciably improve student learning outcomes. Over time, there has been a very major expansion in public spending on education at all levels reflecting both increased participation (especially at the post-compulsory stages) as well as increased spending per student in real terms, especially at primary and secondary levels (frequently tied to gradual reductions in class size or the pupil-teacher ratio). Have increased spending and reduced class size yielded increases in student learning outcomes? The evidence is mixed. It suggests that spending does matter to learning outcomes but not as much as might be assumed or commonly believed, and that the efficacy of spending is very much tied to how teaching practices, school organisation and parental support combine with increased funding for education (Hanushek, 1995, Hanushek and Kim, 1999 and Gundlach, Wossmann and Gmelin, 2000[33]).

There may be diminishing returns to spending on education for higher levels of economic development….

80. The above conclusion is important in so far as the total impact of spending on formal education is in no small way tied to the way in which resources are used and the way in which human and social capital complement each other within particular institutional and cultural settings. The potential complementarity between human and social capital is discussed at further length in Chapter 3. From international studies covering a wide range of developing and developed countries, the evidence seems to suggest that there may be diminishing returns to spending on formal education in more economically developed countries as increases in spending or reductions in class size beyond certain thresholds seem to have less effect (Hanushek, 1995).

81. Fuller and Heyneman (1989) showed that in developing countries, school effects on achievement are greater than family background influences within impoverished settings, thus giving weight to public policy leverage in influencing student learning outcomes among the most disadvantaged. Whether this conclusion can be generalised to developed countries is not clear. An important conclusion from much of the empirical work is that, in general, increased spending through expansion in educational participation (especially in terms of lower early school drop-out) may provide better returns (increased earnings in the labour market) than increased spending per student grade-year. This seems to hold for the United States (Betts and Roemer, 1998) as well as for developing countries (Psacharopolous, 1994).

33 Gundlach, Wossmann and Gmelin (2000) use international test data on student achievement in mathematics and science over the period 1970 to 1994 to claim that school productivity has, at best, not increased in nine out of eleven OECD countries studied in spite of increased spending per student.

Evidence suggests that generalised reductions in class size in OECD countries probably has a limited impact on student performance…

82. A significant part of increased spending on education in recent decades has been accounted for by gradual reductions in class size. A major choice for future policy-making is whether further reductions in class size represent the most effective use of public resources compared to other spending uses in the education area. Hanushek (1998) reviewed almost 300 different estimates of the effect of altering class size on achievement and argued that there is no indication that general reductions in class size are associated with any average improvement in student achievement. Out of 277 studies on the impact of pupil-teacher ratios reviewed by Hanushek, only 15% showed a positive and statistically significant impact on student performance, compared to 13 that showed a negative and significant link. The evidence does not indicate that across-the-board reductions in class size will necessarily yield better results – at least possibly not in the absence of other changes in teaching practices, student motivation and home influence. These findings are also supported by the review of Fuller and Clarke (1994).

The target population may hold the key to assessing the impact of class size differences…

83. Class size reductions may have different impacts depending on the age-group or special needs group targeted. For example, smaller classes for young children (nursery schools or first grade year of elementary school) may have a positive impact when allowing for other factors. Evidence has emerged from at least one "random-assignment" experiment conducted in the mid-1980s in the US State of Tennessee (the STAR project[34]) which showed modest improvements in student achievement for class size reductions in kindergarten or early grades of elementary school[35]. The positive impact of class size reduction at more senior grades seems to be much less, if at all perceptible. However, using data from STAR and other research findings, Mosteller (1995) has found that disadvantaged students do benefit from class size reductions compared to other students, thus making a case for targeted class-size reductions as one possible policy response to social disadvantage. More generally, more research is needed on the relative impact of class size in explaining learning outcomes at all levels of education. Class size (or the ratio of students to teaching staff in the case of secondary and especially tertiary levels) varies significantly within countries by level of education (primary through to tertiary), by field of study, by type of school (special needs or mainstream) and by nature of location (urban and rural). The scope for class size changes and the likely impact of these changes will vary according to the type of education and target group under consideration.

Weighing up the evidence for the returns to class-size reduction….

84. The general picture which emerges from US research as well as cross-country research for OECD countries using international student test data is that smaller classes at primary or secondary level within the size-ranges usually experienced in most OECD countries appear to yield relative improvement in student performance. Whatever gains might be achieved as a result of smaller classes need to be weighed up against the costs and the returns to alternative strategies such as attention to teacher training and quality. A large reduction in class size, say from 25 to 15 might yield some improvement in results but the cost would be likely to be huge. Compared to other potential strategies, generalised reductions in class size seem to offer limited returns. Further research is needed on the specific conditions and strategies under which class size reductions could translate into more effective learning outcomes. It is possible that for

34 STAR refers to the Tennessee Student-Teacher Achievement Ratio experiment.

35 For a review of the STAR project findings, see Hanukshek, 1998). The STAR project used a specially designed random experiment to assign children to different size classes in kindergarten through to third grade of primary school.

specific subject areas, for specific groups of students and in combination with particular adaptations in teaching methods, smaller classes could yield improved results.

Investment in improving the quality of teaching practices may yield higher returns than generalised class size reductions...

85. In the United States, research has revealed that schools vary significantly in quality, and that within schools, effectiveness of teaching practice varies widely. Examining whether test scores or earnings of individuals differ systematically according to the schools attended, researchers have also looked at the impact of school quality on the future labour market performance of students. A number of papers have shown that students attending different public schools in the United States have systematic variations in their earnings, after controlling for personal traits of the students (Betts, 1995; Grogger, 1996). Moreover, the test-score literature provides similar signs that schools vary in quality. Hanushek, Kain and Rivkin (1998) provide evidence based on test scores of individual students in Texas that schools vary significantly in how quickly their students learn, controlling for other relevant factors.

Differences in teacher quality can make a difference of more than one grade-year…

86. Variations in teacher quality have been shown to be important for student achievement, and the econometric studies providing such results suggest that these variations outweigh the effects of altered class size. Hanushek, Kain and Rivkin (1998) show that within schools, much of the variation in rates of learning between one grade and the next appears to depend on variations in teacher quality. Hanushek (1992) estimates variations in total teacher differences (measured and unmeasured) and shows that the differences in student achievement with a strong versus a weak teacher can be more than 1½ grade levels of achievement within a single school year. Similarly, Murnane (1975) shows that individual teachers differ systematically in how quickly their students learn, even after controlling for student traits. These studies may suggest that the strongest impact on the performance of students appears to be not class size, but other factors including the quality of teaching and teachers. Moreover, variations in teacher quality have been found by Rivkin, Hanushek and Kain (1998) to be more significant within schools than between schools in a district or region.

School choice and competition may raise standards...

87. Some studies have focused on educational efficiency by examining the impact of competition between schools (through greater parental choice in a locality or through the use of voucher-type schemes where individuals buy education where they want with a publicly funded credit voucher). However, the impact of voucher programmes in the United States is still a hotly debated issue and the research on outcomes is still unclear. Hoxby (1994a) suggests that the presence of private schools in an area appears to improve the efficiency of nearby public schools that must compete for students. Shleifer (1998) shows that private ownership of schools combined with choice and competition provides strong incentives for cost reduction and improved educational performance. However, a key concern is the equity implications of changes in competition and use of parental choice in the context of unequal opportunities and endowments of financial and social capital. Whether such innovations in the USA and elsewhere raise quality while not affecting equity remains to be seen. Furthermore, studies of various types of contractual arrangements

including the performance of private and public schools are constrained by the lack of suitable counter-factual evidence and the need to compare like with like[36].

Central public examinations and national standards may improve performance...

88. There is some evidence from international data on student achievement in science and mathematics (TIMSS) that the existence of central examinations as well as centralised control mechanisms with respect to standards and budgets at national or regional level can help to improve school performance[37] (Wossmann, 2000 and Bishop, 1997). Also, effective delegation of decision-making to schools or intermediate levels of public authority (between central and local), especially in certain areas of responsibility such as personnel policy and recruitment as well as purchase of educational material may help to improve school performance (Wossmann, 2000)[38].

Learning facilities and materials are important…

89. Evidence from various studies covering a large range of countries (and summarised in Fuller and Clarke, 1994) suggest that availability of textbooks and supplementary reading materials as well as school library facilities have a significant impact on student achievement, especially at primary level. However, frequency and type of use made of these facilities is likely to be more crucial than the mere presence of a library in the school.

Peer influences are important but difficult to measure....

90. Empirical analysis of peer effects on student achievement has been limited, and what exists has been open to question because of the difficulties of identifying peer effects per se. Hanushek, Kain, Markman and Rivkin (2000) estimated growth in elementary level school achievement (in tests of mathematics and science) in the US State of Texas and showed that the achievement level and racial composition of peers has a direct influence on achievement[39]. All students appeared to benefit from having higher-achieving school peers, although the effect was found to be small.

The respective impact of families and schools is debated….

91. There is considerable agreement that family and home backgrounds are important factors which interact with schooling to provide higher learning achievement. The impact of home or social environment is thought to account for a significant part of the variation in test scores among students. Many studies point to the importance of "cultural capital" in the home. This refers to factors such as the support, aspirations and work habits which parents provide their children. Bourdieu (1979) defines the term cultural capital as the habits or cultural practices based on knowledge and demeanours learned through exposure to role models in the family and other environments. It also represents the collection of family-based

36 As in other areas of the social sciences, it is not easy to entirely randomise studies since statistical controls are limited to the samples used which are drawn from a non-random environment and where group and individual selection bias are difficult to remove entirely.

37 Although the impact appears to be stronger in mathematics than in science. See Wossmann, 2000.

38 The results in relation to school autonomy and the existence of central examinations and standards hold up both at the micro level using data from the Third International Mathematics and Science Survey (TIMSS) as well as at the macro level using country averages for 39 countries participating in TIMSS.

39 The study uses various statistical methods to separate peer effects from school, community and other effects.

resources such as parental education levels, social class, and family habits, norms and practices which influence academic success. Five major categories have been identified (Kellaghan, Sloane, Alvarez and Bloom, 1993): work habits of the family, academic support and guidance, stimulation to explore and discuss ideas and events, language environment (opportunities for thinking and imagination) and academic aspirations and expectations[40]. Parents or siblings can help children with homework as well as in promoting values of learning and discipline. These can be effective buffers against the negative impact of low socio-economic status and low parental education attainment on children's academic outcomes (White and Kaufman 1997). The higher the expectations of parents (particularly those of the mother), the lower the probability of drop-out.

Parental interest and involvement influence learning outcomes....

92. A student's family background and involvement appear to be strong determinants of student performance. Using micro-level cross-country data from TIMSS, Wossmann (2000) found evidence for a positive impact on student learning outcomes in mathematics and science of parental influence over, and interest in, teaching of their children as well as curricular decisions. Parental educational aspirations for their children together with a favourable and facilitating home environment are likely to be important ingredients in successful learning outcomes. One study shows that the frequency of reading to children before initiation of formal schooling has significant positive impacts on 11-year olds' reading scores (Kellaghan, Sloane, Alvarez and Bloom, 1993).

Cultural capital may be more important than socio-economic status and family structure….

93. Cultural capital is distinguished from social capital in so far as the former relates to resources such as level of education of the parents, attitudes to study and work and cultural goods available to families to assure that the next generation would accede to its own social position. By contrast, the impact of social capital refers to the resources gained through social ties (including family and, hence, overlapping with the concept of cultural capital), memberships of networks and sharing of norms. Numerous studies (Iverson and Walberg, 1982 and Kellaghan, Sloane, Alvarez and Bloom, 1993) point to the important role of cultural capital in influencing student learning outcomes. Achievement in some schools seems to be predicted more by cultural capital than measures of social class or family structure.

What parents do seems to be more important than social background….

94. What parents do seems to be more important than their socio-economic status (although, in practice, both are highly inter-related). The quality and amount of time parents spend with their children is crucial. Using US longitudinal data on reading and mathematics achievement of 8th-graders, Ho Sui-Chu and Willms (1996) found that the effects of parents' engagement at home (through for example discussion of student-related activities) outweighed the effects associated with volunteering at school or being involved in school governance. They also found that measures of parental involvement explained more than social background – reinforcing the point that the effect of social background can be considerably mitigated by differences in parental involvement and behaviour. Carlson (1999) found, using U.S. longitudinal data, that active involvement by biological fathers, including biological fathers not living with

40 There have been a few recent attempts at identifying proxies for cultural capital. So far, they have focused on family outside activities (e.g. attending a symphony concert, visiting an art gallery, travelling), weekly occurrences of family activities in the home (e.g. family discussions, evening meal, debates about issues outside the home), the types of reading materials available in the home (e.g. daily newspaper, encyclopædia, books of poetry), as well as languages understood and spoken by the mother or father (see Willms, 1999).

their children, in the lives of their children can have a range of favourable impacts on adolescent behavioural outcomes, including school attendance, over and above the effect of family structure.

New evidence on the role of schooling following earlier scepticism …

95. In a large survey of US schools in the mid-1960s, Coleman and others (Coleman, 1966) found that material school inputs affect pupil achievement only slightly, especially relative to family background. These findings initiated four decades of debate and analysis. However, these results are very much conditional on the range of outcomes being assessed as well as the level of economic and social development of the societies under examination. Some learning outcomes such as those related to mathematical or scientific ability are more closely related to school effect. Other areas including inter-personal and especially intra-personal skills are likely to be related to family, social and home background and mediated to a lesser extent by school. A further difficulty in separating home from school effects is the non-availability of "counter-factual" evidence in the case of OECD countries. It is not possible to predict what results would ensue if students did not attend school at all. On the other hand, Fuller and Clarke (1994) raise the possibility that school effects may be over-stated if family and social background proxy measures are inadequate or poorly specified.

Social capital can provide a useful organising concept for understanding the impact of families and local communities on learning…

96. Families and students have access to varying amounts of financial, human, cultural and social capital. Financial resources, alone, do not guarantee positive educational outcomes for students. James Coleman, who was primarily responsible for introducing the concept of social capital to educational research, emphasised the importance of a surrounding community of adults for young persons who are "embedded" in the enclaves of adults closest to them, (Coleman, 1988). Through what Coleman calls multiplex relations and "closed intergenerational" relations, learning can be supported by social capital. This can happen through the existence of many types of supportive relations among adults who are parents of the children in the same school. The types of support relate to homework, out-of-school activities, direct parental involvement in school activities and support for families and children in difficulty.

Measuring the impact of family social capital on learning is not easy…

97. Coleman measures social capital in families by indicators of: (i) physical presence of adults or parents in the household; and (ii) the quality and intensity of attention paid by adults or parents to children. The ratio of adults to children is also a way of measuring the latter. In general, controlling for other factors, the more siblings and the lower the number of adults in the house, the less social capital available to students.

Examples of social networks around schools….

98. Coleman used as examples of factors to strengthen social capital networks around schools the efforts and time invested by parents in developing strong relationships with their children, their children's teachers, their children's friends, parents of their children's friends and other adults significant in their children's lives. Mutual trust among the various individuals in such a network makes for a climate of support, surveillance and social influence. Parents are potentially more involved and better informed about their children's friends, activities and scholarly progress. A study by Coleman and Hoffer of religious, private and public schools in the US found that religious based schools had significantly lower drop out

rates than non-religious private and public schools (Coleman and Hoffer 1987). Coleman and Hoffer argued that these schools tended to perform better not only because of the existence of religious norms and precepts favourable to learning and good teaching practice, but also because of "social closure" in which parents of students are connected through school as well as wider community networks. As communities of learning, schools with higher levels of "relational trust" performed better even after accounting for various other factors including teacher background and student characteristics (Bryk, Lee, and Holland, 1993[41]).

Early childhood care as an example of how family social capital can be applied….

99. In the case of early childhood education and care outside the home, partnerships between providers of care and families can enhance not only children's development but parental skills and self-esteem (Powell, 1989). Through participation in the organisation of learning activities, operation of programmes and decision-making, parents can develop more positive attitudes towards themselves and greater life satisfaction. As in primary and secondary level education, early childhood education and care can generate social support networks and strong ties with other families.

Recent US evidence suggests a link between social capital and learning outcomes…

100. Evidence on the impact of social capital on education in the United States is reviewed by Putnam (2000a). He finds a strong and significant correlation between measures of social capital at the aggregate State level and quality of learning outcomes using Standard Aptitude Test scores (SAT)[42]. Controlling for race, level of income, and income inequality, levels of educational completion in the adult population, poverty rates, educational spending, teachers' salaries, class size, family structure, and religious affiliation, as well as the size of the private-school sector, he finds a significant and strong impact for measures of social capital (Putnam 2000a[43]). These conclusions need to be qualified by the observation that the measures of social capital and learning outcomes are at the average aggregate level of the State. Even allowing for considerable controls for income and other factors, there may be other unobserved factors correlated with the proxy measures of social capital used and learning outcomes. However, the conclusions are highly suggestive and indicate that:

- Over and above the socio-economic position of communities and families, there seems to be a positive and strong impact on learning of higher levels of social interaction and reciprocal engagement;

- Levels of trust and informal socialising seemed to be more significant than levels of organisational membership and related measures; and

- Compared to traditional policy levers such as reductions in average class size, the likely leverage of social capital seems to be greater in raising achievement scores.

41 Page 314

42 The composite measure used by Putnam is made up of indicators of: (i) intensity of involvement in community, organisational life, (ii) public engagement (e.g. voting), (iii) community volunteering, (iv) informal socialiability (e.g. visiting friends), and (v) reported levels of trust.

43 pp299-230.

Alternative sources for creating and renewing social capital need to be found…

101. Coleman argues that strong families and communities constitute important means of creating and renewing social capital. If these are weakened, then it is necessary to find compensatory means for supplying social capital to young people and children. He says that substitution of formal organisation for voluntary and spontaneous social organisation needs to be found. Social capital tends to be lower for children in single-parent families, other things constant. The greater the number of adults in the household, the fewer the children, and the less often a family moves residence, the higher on average the level and quality of attention given to any one child (McLanahan and Sandefur, 1994 and Hao, 1994). McLanahan and Sandefur review US research to claim that divorce, particularly with often-attendant drops in income, parental involvement with children and access to community resources tends to diminish children's well-being and educational achievement. A number of studies (Biblarz, Raftery and Bucur, 1997 and Simons, 1996) show that residing in single-parent or step-parent homes is correlated with a number of disadvantages for children such as lower rates of school completion, higher rates of criminality and substance abuse and higher rates of teen pregnancy. Painter and Levine (1999) confirm this point: they find, by using longitudinal data for the United States, that the link between family structure and various measures of child well-being seemed to be causal rather than linked to innate characteristics of families at risk. Social relations that constitute social capital are more frequently broken when families move residence – a pointed noted by others who show an inverse relationship between social capital and frequent mobility (Glaeser, 2000).

Social capital can provide additional leverage for improving school outcomes

102. Coleman and Hoffer (1999) and Henderson and Berla (1994) conclude on the basis of a review of a large number of studies that "…the evidence is now beyond dispute. When schools work together with families to support learning, children tend to succeed not just in school, but throughout life. . . . When parents are involved in their children's education at home, their children do better in school. When parents are involved at school, their children go further in school, and the schools they go to are better." [44] The potential for school, community and family partnerships to support learning is especially relevant for families from disadvantaged areas and backgrounds where they can be at a treble disadvantage of poor access to income and employment as well as social networks.

Some tentative conclusions on the impact of various factors on student learning outcomes…

103. In summary, caution is needed in identifying the most significant determinants of learning outcomes. Clearly, several factors and conditions is involved. The mere presence of physical resources or highly-trained teachers is not enough. Much depends on how the various actors including students, parents, teachers and those in the wider school community interact and make use of resources. The high degree of mutual interaction and co-determination between different determining factors makes it very difficult to separate out various influences. The difficulty in identifying key factors is compounded by the susceptibility of results to what it being measured on the outcome side (impacts vary by subject area or skill domain) and to the population under examination (targeted support for particular groups may be more effective than for other groups). In general, it is clear that stronger partnerships between students, parents, teachers supported by appropriate institutional and funding arrangements are vital and that increased spending, alone, is not necessarily effective.

44 P.1 of Coleman and Hoffer (1999)

2.5 How is human capital distributed?

Distribution is linked to overall standards and quality of human capital…

104. The allocation, distribution and demand for competence are vital determinants of how well knowledge and skills impact on economies and societies. Skills, competencies and opportunities to continue learning are unevenly distributed across the adult population and there is evidence for large-scale under-achievement by children from disadvantaged backgrounds in the early stages of formal education (OECD, 1998). Groups which are vulnerable to under-achievement, and therefore at risk of exclusion from the labour market and society, start out with a disadvantage at the beginning of formal education. Over time, this disadvantage interacts with low achievement at school to bring about very different patterns of graduation and progression to higher levels of education and eventually well-paid jobs in the labour market. Educational disadvantage has been defined and measured in various ways according to whether the focus is on individuals or groups, or whether the phenomena examined relate to funding, access, graduation or levels of achievement or skill proficiency in daily life. At the level of the school, one definition used has focused on the "child as being at a disadvantage at school if, because of economic, cultural or social factors, the competencies which the child brings to school differ from those valued in schools, and which are required to facilitate adaptation to school and school learning". (Kellaghan, 1999)

The position of the less advantaged has not improved in many countries …

105. There has been a large increase in average levels of literacy and educational attainment in the last century across OECD countries. In most cases, groups with very basic levels of educational attainment have moved forward as compulsory schooling has been progressively expanded. Yet, it is not clear education has helped to narrow the gap between different social groups either in terms of access to further and higher education, or in terms of the relative position of different groups in the labour market and society. In some cases, expansion of demand for tertiary education has not necessarily benefited those from socially disadvantaged backgrounds and may even have worsened the labour market position of the low-skilled. Since the 1980s, income from employment has become more unequal in some OECD countries such as the USA, not only across different educational attainment groups in the adult working population, but also within particular educational groups suggesting a number of hypotheses including greater variation in quality of initial education, changing demand for different types of skills not measured by initial education as well as other market or institutionally determined reasons (Levy and Murnane, 1999).

Despite policy initiatives in the area of educational equity, inequalities persist…

106. A study by Blossfeld and Shavit (1993) of 13 countries linking socio-economic background to educational attainment and "major transitions" for two cohorts (born in 1910 and in 1960) showed the persistence of inequality in opportunities in most of the countries, especially at the tertiary level where bottlenecks against wider participation persist in spite of expansion at the upper secondary level. They also found that the effects of social origin are stronger at lower transition stages (for example from lower to upper secondary education) with social selection occurring earlier on. Finally, the authors claimed that educational reform had little or no impact in terms of narrowing inequalities, with the possible exceptions of Sweden and Netherlands.

However, carefully designed and targeted programmes can have a positive impact on learning …

107. Hanushek and Somers (1999) find weak evidence that systematic differences in public spending within and among U.S. States are related to differences in student achievement or in ultimate labour market outcomes. On other hand, carefully designed and targeted programmes can have a positive impact on learning and life chances if they respond to the needs of individual learners from disadvantaged backgrounds. For example, early childhood care and education can improve cognitive development during early childhood and result in long-term improvement in learning and school success (OECD, 1999). Also, the impact of interventions aimed at disadvantaged youth cannot be assessed in terms of cognitive outcomes alone. The benefits of socialisation and personal growth associated with such interventions are more difficult to measure.

Economic inequality goes hand in hand with inequality in educational access and adult literacy…

108. Workers with low skills and education are exposed to risks of unemployment and social exclusion. Steedman (1998) and ILO (1999) point to increased risk of unemployment and economic inactivity for those with low skills or limited job experience. Societies that tend to be less equal in terms of access to education and learning outcomes also tend to be less equal in terms of income distribution. There is likely to be a two-way inter-relationship here with education, social background and access to social capital playing an important role in determining life chances, and inequality in income and social status affecting education and access to social capital. Successive waves of the OECD *International Adult Literacy Survey* (OECD and Statistics Canada, 2000) have shown:

- Large differences in the overall level of literacy (comprising prose, document and quantitative literacy skills[45]) across countries;
- Large pockets of low skill, even in countries with high levels of educational attainment;
- A strong link between levels of literacy and outcomes in terms of labour market, civic participation and social outcomes; and
- A link between overall literacy and the degree of inequality in literacy results by educational level.

Tackling disadvantage may be a key to raising overall standards…

109. The latter point is particularly significant. Countries with more equal distributions of literacy and higher skills for poorly educated adults tend to perform better at the aggregate level on international comparisons of literacy. Differences in literacy scores for highly educated adults across OECD countries are smaller than for less educated adults. This suggests that a key to raising overall literacy standards and meeting future skill needs may be to address pockets of widespread low skill linked to social and educational inequalities. This view is supported by micro-level analysis undertaken by Willms (2000). His analysis shows a strong relationship between the family, educational and social background status of

45 IALS was conducted amongst persons aged 16-65 to test the capacity of adults to use printed and written information. Prose literacy covered capacity to read and understand continuous text; document literacy related to ability to interpret reports, documents and various types of "discontinuous text" while quantitative related to ability to interpret quantitative information such as mathematical charts and displays usually embedded in prose. Literacy was measured not as a dichotomy of literate versus illiterate, but according to a measurable skill continuum.

individuals on the one hand, and school achievement and adult literacy on the other. This holds for different countries and for different sub-groups within countries analysed by him. This analysis demonstrates that:

- For low levels of parental education or social status, there are wider variations in literacy performance across sub-groups or countries than for higher levels; and

- Across communities, nations or regions, there tend to be larger differences in literacy or school achievement for disadvantaged groups than for other groups. Hence, differences in overall skill level seem to be strongly related to how well disadvantaged groups perform.

There appears to be a link between overall levels of learning achievement and distribution of learning outcomes…

110. Countries that have managed to reach high levels of adult literacy by international standards (notably the Nordic countries and the Czech Republic) appear to have done so in part by reducing the inequality between different social groups in terms of literacy. The United States, is distinguished by high overall levels of educational attainment and medium level scores on adult literacy, but is among those OECD countries showing the highest concentrations of low skill among the poorly educated. Hence, the impact of increasing literacy levels for the lowest levels appears to be high.

2.6 Changing demand for human capital

Pattern of demand for skills is changing

111. The rapid growth in educational attainment and levels of literacy in the last decades suggests that human capital is not in short supply in OECD countries. If anything, there may be signs of some "over-education" as qualifications and credentials partly serve as signals for ability and skills that are formed outside formal education. "Over-education" occurs where levels of educational attainment (specified by type or level) do not match current labour market demand for a given type or level of education. Many labour market analysts including Hartog (1997) find evidence for over-education both in Europe and the United States of America, with a possible increase in the former[46]. However, a focus on demand for education and educational profiles of various occupations may miss a crucial aspect in considering the role of learning in knowledge-based societies.

Over-education, if it exists, is not to be confused with over-skilling….

112. Research on the impact of skill-biased technological change[47] on the return to skills has unveiled some significant findings. With an increasing concentration of new employment creation in high

46 Green, McIntosh and Vignoles (1999) draw an important distinction between "over-education" and "qualifications inflation". They find evidence for some increase in over-education in the United Kingdom between the 1970s and 1980s but little evidence for widespread qualification inflation whereby employers systematically upgrade the education requirements of jobs without a corresponding increase in skill content.

47 In a period of skill-biased technological change, most employers demand that not only newly hired employees be qualified but also be "trainable". Some analysts have referred to this trend as evidence of "credential inflation" where employers have raised educational requirements in order to ensure a given ability level. This new approach has an impact on the supply of labour since it appears critical that individuals strive to build and to continually upgrade a strong platform of education and generic employability skills to secure employment openings.

knowledge occupations, certain types of skills may be playing a more important role in determining wages. For example, evidence from the US suggests that economic returns to literacy skill increase with the knowledge intensity of jobs (Raudenbush and Kasim, 1998)[48]. Analysis of job and skill mismatches using IALS data in the United Kingdom (Green, McIntosh and Vignoles, 1999) suggests that for any given level of education, not only lower levels of skill but under-utilisation of skills carries a penalty in terms of lower earnings in the labour market. Hence, under-utilisation of skills is compatible with over-education to the extent that some highly educated individuals lack certain key skills for their current jobs while possessing other skills and knowledge which are not utilised. A clear distinction needs to be drawn between over-education relative to current labour market demand and over/under skilling relative to the requirements of specific occupations.

Changes in technology and work organisation exert upward pressure on the demand for higher level skill and knowledge….

113. Changes in technology coupled with the emergence of sectors and forms of economic activity that are more "knowledge intensive" are driving up the demand for knowledge, skills, flexibility and adaptability, not just in individuals but in organisations and firms also. More intensive demand for "social knowledge" at the level of organisations and firms implies a demand for not only more skilled individuals, but also for more effective management practices and for sharing of knowledge, team-working and flexibility. Structural changes in the economy towards service and high-technology sectors are accompanied by rising educational levels within sectors, including traditional manufacturing. Some of these changes are supply-driven reflecting, among other things, rising educational attainment levels everywhere. However, the trend towards more highly-skilled and knowledge-intensive activity reflects important technological and organisational changes (Cappelli and Rogovski, 1994).

And inter-personal and communication skills are increasing in importance, reflecting the growth of certain service related occupations…

114. The rise of new forms of organisational capital involving more teamwork, less hierarchical control and more individual responsibility point towards new skills profiles and forms of inter-personal co-operation. With frequent weakening of lifetime commitments and ties within companies, new forms of social capital are springing up in which individuals with the capacity to form links with knowledge networks across different sectors and specialities are more in demand. Data from two British surveys conducted in 1986 and 1997 show increased demand for communications skills, "social skills" and problem-solving among recent company recruits (Green, Ashton, Burchell, Davies, Felstead, 1997). In more traditional and less knowledge-orientated sectors, there is a tendency for workers to be required to perform more narrowly defined tasks, although team-working and flexibility are features of many traditional sector firms. These claims are supported elsewhere by studies of the workplace and firm organisations (for example, Cappelli and Rogovski, 1994 and Freeman, Kleiner, and Ostrogoff, 1997).

48 Recent studies have suggested that in Canada, it is likely that many higher educated workers were forced into low skilled occupations due to a lack of demand for higher educated workers (Heisz and Côté, 1999; Gingras and Roy, 1998). Further evidence from the International Adult Literacy Survey (IALS) showed that Canadian university graduates with low levels of literacy skills were far more likely to experience job-education mismatch than are other university graduates (Boothby, 1999) .

Growing wage dispersion within levels of completed education may point to shifting demand for skills….

115. Data on wage inequality in the United States and the United Kingdom shows increased variation in wage income *within* each level of educational attainment (controlling for age and gender). Levy and Murnane (1999) suggest that the US trends may be due, in part, to an increased premium for "soft skills" covering inter-personal communication, team-work and problem-solving demanded by the growing personal services and marketing sectors. These "soft skills" are not reflected in completed educational levels – giving rise to differences in wage compensation within any given level of education. Increased wage dispersion within given educational levels may also indicate a poor match between level of education and the skill requirements of particular jobs. This can be consistent with varying quality of initial education or endowment of innate ability because, for example, individuals may be over-qualified and still under-skilled relative to the requirements of their current jobs. There is an emerging literature, which suggests that a growing wage gap in some countries could be explained by the differential returns to different types of skill (e.g. Carliner, 1996; Rivera-Batiz, 1994). These studies suggest that there may be a larger return to quantitative skills compared to prose reading skills in some countries, notably Canada, the United Kingdom and the United States.

The case for lifelong learning in response to skill mismatches and under-utilisation of competence…

116. An exclusive focus, driven by the available data, on skill and education profiles of existing occupations may miss the crucial dimension of demand for competence. Demand is constantly changing and multi-faceted. In response to changes on the demand side, it takes a long time to leverage the human capital of a society through formal and initial education given the modest proportions of entry flows to the labour market from initial education. This fact has long been recognised as an argument for a comprehensive strategy to promote lifelong learning for all. Lifelong learning includes not only formal training and "up-skilling" of adults but an approach which fosters learning habits and behaviour at all stages of life and at all relevant levels of organisation (families, communities, firms and larger organisations). In that sense, it is possible to argue that, on the one hand, there is a need to promote transition to a more flexible, adaptable and competent workforce and civil society more broadly. On the other hand, current trends and emphasis on: (i) initial, formal education; (ii) credentialist approaches to recognising competence; and (iii) under-utilisation of highly educated persons due to organisational or market inefficiencies represent potential blockages to sustained economic and social progress. Long-term structural unemployment can co-exist with skills shortages in key sectors, and in countries undergoing rapid economic growth combined with a declining working-age population. It is essential to identify some of the factors leading to such long-term exclusion from work and social participation and the role of learning and social capital in combating exclusion.

2.7 What is the impact of human capital on economic well-being?

The relationship of education to labour market earnings has been analysed over 3 decades…

117. Individuals are motivated to undertake studies in a particular field or level of higher education for many reasons including the expected additional earnings over a long period of time. Although individuals are confronted with uncertainty as well as lack of information or financial impediments to further study, they implicitly weigh up the cost implications of further study (which include forgone earnings) with the expected additional income (based on recent or projected earnings differences for different types of education). Other factors also influence their choice including personal tastes and perceived opportunities for employment or use of skills in various types of occupations following graduation as well as a better choice of work schedules and job satisfaction (Hamermesh, 1996).

Education is positively correlated with employment and earnings…

118. There is a strong positive correlation between initial level of education and employment rates following graduation. The "wage premium" is positive for both upper secondary and tertiary levels of education. In some countries, it is very large, reflecting a greater wage spread in the labour market and possibly higher returns to particular skills. Micro-economic evidence indicates that an additional year of education is associated with, on average, between 5 and 15% higher earnings (Krueger and Lindahl, 1999). The correlation between education and labour market performance also holds for risk of unemployment, where generally, rates of unemployment are lower for higher levels of education taking a cross-section of individuals in any country. However, these results, do not necessarily prove that more education necessarily increases individual productivity or income.

Alternative explanations for the link between education and earnings

119. There has been some debate about how to interpret the statistical link between schooling and earnings. One issue is whether the link really reflects the contribution of schooling, net of other factors, to the productivity of individuals. An alternative hypothesis is that education is serving more as a sorting or signalling device. Employers may use educational qualifications as signals of innate ability, motivation and aptitude, which are not necessarily the result of education. The fact that innate ability or other factors are correlated with school achievement might suggest that selection processes are at work whereby individuals choosing to stay longer in formal education are different in important ways to others and in a way that cannot be easily picked up in the underlying micro-level data on earnings and characteristics of individuals.

Credentialism is advanced by some as a reason for the positive association between education and earnings…

120. The signalling controversy was given a boost by the work of Spence (1973) who claimed that educational wage differentials largely demonstrate the signalling role of educational qualifications. Family background and traits such as innate ability or determination are notable examples. This argument suggests that education (particularly higher education) may be no more than a screening device. The hypothesis is that education primarily acts as a filter, or screening device, to identify pre-existing talents, intelligence, motivation, etc., that employers find attractive. Credentialism suggests that employers use hiring standards that appear too severe for the skill requirements of the job at hand. Hence, the observed link between individual earnings and education may be 'false' in that the skills acquired through education may not actually be used in the workplace and "over-education" is the result[49]. Few doubt that signalling plays some role in explaining educational wage differentials, but its overall importance remains controversial[50].

Disentangling the effect of education from other effects is not easy…

121. The task of estimating correctly the direct contribution of education to productivity is a difficult one due to compounding influences. To control for various influences, it would be desirable to randomly choose individuals who are identical in some key respect not related to education such as genetic

49 Estimates of wage equation in which education appears along with other explanatory factors may be biased to the extent that: (i) education is a poor measure of human capital (measurement error); and (ii) education may be correlated with factors not directly related to schooling.

50 Weiss (1995), among others, provide very different perspectives on the theoretical generality and empirical validity of signaling models.

characteristics. In the absence of entirely random or natural experiments, it is not possible to entirely control for compounding factors. However, some progress has been made by analysts, especially in the case of identical twins. The use of twins or siblings is an attempt to control for genetic differences by exploiting the differences between twins in levels of schooling and earnings (e.g. Ashenfelter and Krueger, 1994). Given that only identical twins have the same genes, and will usually share the same family background, the wage differential between twins with different years of schooling may provide useful information on the productivity effect of education. For an overview of some recent studies based on "semi-natural experiments" see Card (1999).

Summarising the results of micro-wage studies…

122. The evidence from various studies which control for factors likely to be associated with schooling tend to confirm the hypothesis that education does have a real impact on earnings and cognitive skills. There is broad agreement among most labour economists that the private rate of return to a year's extra schooling is typically in the region of between 5% and 15%. However, estimates of earnings functions capture, at best, the private return to education. It is the broader macro-economic and social returns which are of most interest to policy-makers.

Evidence on adult literacy shows a strong impact of literacy, net of education, on earnings in the labour market…

123. As noted in 2.3 above, proxy measures of human capital based on estimated average years of schooling or highest completed level of initial education may provide a very crude and potentially misleading indicator of the "quality" of education as indicated by the skills, knowledge and competence acquired by individuals inside and outside formal education. A related area of research examines the return to adult literacy skills. The evidence shows that the return to literacy skills is as high as the return to educational attainment in the OECD countries (OECD and Statistics Canada, 2000). In Canada and Norway notably, the net returns to literacy skills exceed the returns to formal educational qualifications, which may indicate that the comparatively large variation in literacy skills in these country facilitates differential recognition by employers.

The unexplained residual in growth accounting has focussed the attention of economists on the role of knowledge and human capital…

124. Initial forays into explaining the economic growth of countries brought about a standard model of economic growth (see Solow, 1956) based on physical capital and labour. Because output had grown faster than would be implied by the rate of expansion of the two main economic inputs, capital and labour, the unaccounted-for growth was attributed to a "residual" factor, assumed to represent technical progress or the "quality of labour". In the early models of economic growth, there was no explicit role for different levels and quality of education and no account of the potential of human capital to generate "externalities" or "spillover" effects (through, for example, its impact on the productivity of other factors). With the rise of "new growth" economics, Romer (1990), Lucas, Barro and others emphasise the role of education and learning in generating new technology and innovation. New designs and ideas created by research and development and knowledge-intensive sectors enhance the productivity of physical capital investment in other sectors and regions. For example, a growing, "leading-edge" export sector can leverage knowledge and innovation throughout the whole economy through mobility of skills and entrepreneurs and dissemination of new technologies and products . The initial stock of human capital in a previous period can generate innovation and downstream effects in the form of "spillovers" or positive "externalities"

which affect other firms and even regions or countries. Part of the initial stock of human capital may refer to basic or applied scientific knowledge acquired in higher education.

The role of knowledge and research and higher education…

125. Higher education is important for the development of innovative research and the ability to acquire and adopt it. Hence, some "new growth" theories have tried to build a more complex model, accounting for human capital formation by giving prime importance to not just education itself, but its by-products such as research and innovation. When, for instance, spending on research and development is included in growth models, the independent effect of schooling appears to be reduced. Using R&D spending relative to GDP as an approximation for technological know-how, Nonneman and Vanhoudt (1996) find that some of the attribution of growth to initial education was instead associated with R&D spending.

Results of macro-economic growth analysis in relation to education have not been clear…

126. Although few economists would object that education has an important impact on macro-economic growth, empirical evidence is difficult to interpret. Proxy measures used for human capital include: gross enrolment rates (e.g. percentage enrolled in secondary education); average years of completed education in the adult population; estimates of the proportion of the labour force or adult population which has received primary, secondary or tertiary education; or estimates of educational quality where the results of student test scores or adult literacy surveys are employed. In analysing the impact of these proxy variables on economic growth, there are a number of pitfalls and challenges.

1. Completed level of education is only a crude proxy for the role of knowledge and skills;

2. The combined effect of many factors is such that the role of education and learning may be obscured due to the way in which learning works through innovation, adaptation of new technologies and work organisation and more effective allocations of physical capital;

3. Some countries with low initial stocks of human capital at the beginning of the 1960s, which is the point at which most growth period analysis begins (such as Korea and Ireland), may have had greater opportunities and incentives to grow by importing and implementing technology developed abroad;

4. Alternatively, countries with low initial levels of income but high initial stocks of human capital (or a critical mass of higher education graduates) may benefit from a catch-up or convergence process by adopting or applying imported technologies; and

5. The direction of causation is not clear as to whether economic growth generates higher demand for education – even in cases where educational expansion preceded economic growth, in time, the expansion in education may have been in anticipation of economic growth.

Quality of proxy measures is an important consideration in capturing the effect of human capital…

127. The inconclusiveness, or even negative nature, of many recent studies on the impact of education on macro-economic growth may be linked in part to poor data quality (e.g. Pritchett 1999 and Benhabib and Spiegel, 1994). Many of these studies tended to find no significant impact for education in developed

or high-income countries (e.g. Barro, 2000). Apart from considerations of the adequacy of measures based simply on completion of formal education, there is a likelihood that some measurement error exists in these comparisons based on educational attainment in the adult population. These errors may arise due, among other factors, to incorrect classification of educational completion according to international standards. For example, Steedman (1996) has pointed to inconsistencies in the way data on attainment were reported and classified under the *International Standard Classification of Education* (ISCED). Krueger and Lindahl (1999) also believe that measurement error in the main international data sources used may be at the source of these results, especially in relation to the negative results for attainment of females[51]. The latter result is difficult to reconcile with the view that education of girls and women does make an important contribution to economic growth and welfare in both developed and developing countries[52]. Temple (2000) also raises the possibility that a number of atypical or "outlier" countries may have biased the results in many of these studies.

Recent empirical work based on improved attainment data has produced stronger and more robust statistical results for the role of education in OECD countries…

128. More recent work has strengthened the case for seeing measurement error as an important part of the story. De la Fuente and Domenech (2000) examined the Barro-Lee data set[53] and other data sources such as that of Nehru, Swanson and Dubey (1995). Comparing these data over time and with more recent data provided by the OECD from its education indicators database, they found considerable measurement problems, in particular in the time series. Using an improved data set they reach much more intuitive results and find that the proxy measures for human capital do matter. Hence, even very incomplete proxy measures of human capital do show a positive impact on growth in GDP or income per capita according to this latest study. The results are also significant in so far as they relate to a limited sample of countries (mainly OECD) whereas in most of the other studies, a mixture of high and low-income countries were included in cross-country samples and it was difficult to isolate OECD countries. When high-income countries were identified separately, there seemed to be little or no significant impact of education in these countries compared to the larger sample comprising developing countries (e.g. Barro, 2000). Work by the OECD in relation to the causes of recent divergences in rates of economic growth has made use of the data developed by De la Fuente and Domenech. They show that "the improvement in human capital has been one of the key factors behind the growth process of the past decades in all OECD countries, but especially so in Germany (mainly in the 1980s), Italy, Greece, Netherlands (mainly in the 1980s) and Spain where the increase in human capital accounted for more than half a percentage point acceleration in growth with respect to the previous decade" (OECD, 2000).

Accounting for differences in growth rates by physical capital and the quality and quantity of labour provides an alternative approach …

129. A somewhat different approach is taken in the case of growth-accounting exercises which attempt to explain growth in GDP per capita in terms of growth in the quantity and quality of labour as well as the growth in physical capital still leaving a residual. This residual corresponds to what is referred to as multi-factor productivity growth which represents the joint effect of all factors combined as well as

51 Barro and Sala-i-Martin (1995), Barro (1997) find that initial levels of female education (both secondary and tertiary) appear to be inversely related to growth.

52 Other studies indicate a strong correlation between a mothers' level of education and the lifetime health of her children.

53 The well-known Barro-Lee data set gives a historical series of educational attainment data for the population 25+. The data set was compiled largely from census results collected by the UN Statistics Division with missing years estimated using a perpetual inventory method and enrolment data by education attainment, which are readily available on an annual basis.

unaccounted for factors. Growth accounting exercises are not undisputed. Critics point out that measuring the stock and the value of human capital is problematic. As Barro and Sala-I-Martin (1995) observe, use of growth accounting does not provide any guide to the relevant counterfactual evidence[54].

Studies using measures of quality of schooling seem to have higher explanatory power…

130. One drawback of most cross-country work is the likelihood of important differences in the nature and quality of schooling across countries, which could undermine the usefulness of international comparisons (Temple 2000). Hanushek and Kimko (2000) and Barro (2000), using data on international tests of cognitive ability in mathematics and science, estimate the quality of different groups in the adult labour force. They found that more of cross-country growth could be explained by using measures based on quality of education than simply years of schooling.

Higher education seems to matter in OECD countries…

131. An important consideration, especially in OECD countries is the extent to which differences of impact by level of education can be detected. Since universal participation has been achieved in most OECD countries up to the end of compulsory or even upper secondary education, there is a need to examine the role of higher or post-compulsory education. The evidence for the cross-country impact of higher education, in particular, is not well developed since suitable and comparable time series data are not available to distinguish by level of education. However, a study by Gemmell (1996) using an index of labour force education – numbers of workers who have passed through primary, secondary and tertiary education – investigates the effects of the three levels of education across developing and OECD countries over the 1960-85 period. Splitting the country samples by income level he finds that, other things equal, tertiary education seems to be more important for economic growth in OECD countries, while primary and secondary education are more important for economic growth in developing countries. Using enrolment data, Gemmell (1995), obtained similar results. Barro and Sala-I-Martin (1995) and Jenkins (1995)[55] found similar results[56]. Both the initial level and subsequent growth of tertiary education were found to be positively and significantly associated with per capita income growth in OECD countries. The potential for higher education to generate significant productivity spillover effects may account for the difference in results obtained from micro and macro-level studies of income. In the former case, estimates of private returns to higher education appear to be modest in comparison with upper secondary education (OECD, 1998). However, at the macro-economic level, the role of higher education in generating indirect and spillover effects may be better captured, thus resulting in more significant impacts for higher education.

Field of study at higher education is relevant…

132. Two further considerations in considering economic productivity impacts of higher education may be the balance between different fields of study and the extent to which higher education graduates

54 Temple (2000) remarks "As an example, consider a claim that X percentage points of growth in a given country is due to a change in the quality of the labour force. This does not imply that, in the absence of the change in labour force quality, the growth rate of output would have been precisely X percentage points lower. The problem is that educational attainment may have other, indirect effects on output through labour force participation, investment, and even R&D and the growth of total factor productivity. Growth accounting does not capture these indirect effects, and so it is necessarily silent on the overall importance to growth of variables like education"

55 Using time series data on educational qualifications over 1971-1992 for the United Kingdom only.

56 For a large sample of countries they found that higher education had large effects – increasing average male secondary schooling by 0.68 years raised annual growth by 1.1 percentage points per year while an increase of 0.09 years in average tertiary education raises annual growth by 0.5 percentage points.

enter sectors of the economy whose contribution to GDP is under-measured. Investigating the impact of human capital on labour productivity growth for OECD countries during 1950-88, Wolff and Gittleman (1995) found that the number of scientists and engineers per capita has a significant positive economic productivity impact[57].

Summarising the evidence on the impact of education on macro-economic growth…

133. After a recent wave of scepticism and questioning of the data for developed or OECD countries, recent studies have established that human capital, even using incomplete proxy measures such as school attainment, does seem to have a positive impact on economic growth. Following a review of a complex and disputed territory in both micro-level studies of earnings and schooling and recent growth accounting and cross-country regression analysis, it appears that a generally optimistic and favourable picture of the impact of human capital has emerged from the recent literature. As Temple (2000) remarks:

> *"Over the last ten years, growth researchers have bounced from identifying quite dramatic effects of education, to calling into question the existence of any effect at all. More recent research is placed somewhere between these two extremes, but perhaps leaning closer to the original findings that education has a major impact. In examining the studies that have not detected an effect, we have some convincing reasons (measurement error, outliers, incorrect specification) to doubt such results. The balance of recent evidence points to productivity effects of education which are at least as large as those identified by labour economists."*

Education may be a necessary but insufficient factor in economic growth and its impact is highly contingent and unstable depending on how other factors enter in. The evidence is very limited or non-existent for particular levels or types of education mainly because of the difficulty of drawing any firm conclusions from specific national efforts in one area of education. At best, it is possible to say that more education has been beneficial in terms of increasing economic growth but the scale of impact is uncertain.

2.8 What is the impact of human capital on all aspects of human well-being?

Positive social impacts of education outweigh negative impacts …

134. Some forms of human competence can be put to socially destructive purposes including crime and various other types of anti-social behaviour. On a less dramatic scale, pursuit of some forms of human capital may preclude other desirable goals and may undermine social relationships and personal well-being. For example, a trend towards excessive "scholarisation" in the early years of childhood at the expense of experiences and social care which is more adapted to the development needs of children may represent a negative outcome. As with social capital, these potential negative impacts are the exception. The evidence reviewed in this section focuses on the measured impacts of initial education in a number of areas including health, social insurance, parenting, crime and personal or subjective well-being.

57 This observation holds up for different specification of mathematical equations.

"Indirect" impacts of education on economic growth via social benefits may be as large as the direct impacts…

135. A number of important measurement techniques have been developed to place a monetary value on particular social benefits of education, including health. Work by Wolfe and Haveman (2000), McMahon (2000)[58] and Wolfe and Zuvekas (1997) provide a range of estimation techniques. The monetary estimates made by Wolfe and Haveman for certain social benefits such as education involving calculating the cost of "purchasing" the same effects by alternative means to increased education[59]. As well, Behrman and Stacey (1997) summarise work on a variety of sources of wider social impacts. Much of the evidence is from North America. However, new evidence on the impact of education on various types of social and personal benefits for the United Kingdom drawing on European, American and Australian research is contained has emerged in a number of recent reports[60].

136. Using extensive controls for income, race, social status and other variables, various studies show that a number of important outcomes of education in the areas of better health, lower crime, political and community participation and social cohesion, are likely. However, care needs to be taken in interpreting these results. Correlation need not imply causation. Also, even extensive controls for background characteristics of individuals may not remove the impact of other underlying characteristics which explain the correlation of education and health. The conclusion of Wolfe and Haveman (2000) as well as McMahon (2000) is that the social benefits of education are large – possibly larger than the direct labour market and macro-economic effects.

Health

137. One of the clearest social benefits of education is better health and increased life expectancy. Research has shown that people with higher educational attainment have healthier habits and lifestyles. For example, more educated individuals are less likely to smoke or to drink heavily. It is estimated that an additional year of schooling reduces average daily cigarette consumption by 1.6 for men and 1.1 for women (see Wolfe and Haveman, 2000). Better-educated people are also less likely to be overweight and tend to engage in more exercise per week than are less educated people – about 17 minutes for each additional year of schooling – (Kenkel, 1991). According to Wolfe and Haveman (2000), the associated health benefits of education may be due, in part, to occupational choices (choosing occupations with relatively lower occupational hazards) or locational choices (electing to live in less polluted areas). More highly educated individuals are likely to be better skilled at identifying relevant health-related information and in using this information to achieve behaviour conducive to better health (Kenkel, 1991). However, Kenkel demonstrates from US data that most of the variation in health outcomes cannot be explained by differences in knowledge relating to health. There appears to be an independent effect associated with education, while controlling for income, race, social background and other factors.

58 Using data for 78 countries, McMahon examines interactions among various social outcomes (measured as elasticities) such as health, democratisation, reduction of inequality in the income distribution, and poverty, environmental impacts, and crime. He finds that more than half of the total effects of education are due to induced indirect effects such as improved health which feed back on growth in income per capita.

59 Hence, it is possible to use information on revealed preferences of individuals in purchasing a given level of health through private expenditure and computing the monetary value of more education by adding up the values of increments in various social outcomes including lower crime, better health etc.

60 Refer to Bynner et al., forthcoming (2000), Bynner, J. and Egerton, M., forthcoming (2000) and Schuller et al. (2000).

Education lowers demand for social insurance

138. There are other ways in which attaining a high level of education may enhance the public good. For instance, there is evidence that more schooling is associated with a lower probability of receiving transfer benefits, either disability-related benefits or welfare (Wolfe and Haveman, 2000). Recent analyses have found that higher education of mothers reduces the probability that their daughters will, if eligible for welfare benefits, elect to receive them. Studies of applicants for disability transfers also find that more education decreases the probability of receiving disability-related transfers. More educated workers also tend to have lower unemployment rates and receive higher wages, by which society benefits from more taxes[61].

Effects on parenting have been measured…

139. This literature reveals that educational attainment in one generation has positive effects on the human capital attainments of youths (including schooling, non-marital childbearing, and crime related and other anti-social activities) in the next generation. Children of parents who graduate from high school are themselves far more likely to graduate from high school than are children of less well educated parents, and parental schooling beyond the high school level increases this probability [See Sandefur, McLanahan, and Wojtkiewicz (1989)]. Better-schooled parents appear to have children with a higher level of cognitive development as well as children with higher future earnings. There is also some evidence that living in a community in which the young adults have more education increases the probability that the children living in the community will complete secondary schooling (Wolfe and Haveman, 2000).

Labour market search and consumer efficiency …

140. An additional benefit accruing to better-schooled individuals is increased job search efficiency (Wolfe and Haveman, 2000). It appears that more schooling has a positive influence, probably through gaining information that promotes more efficient decisions. Part of this gain may be simply in the ability to accomplish better matches – in the labour market, for example – but another part may be in the reduction of time spent in the search. In addition, more educated individuals appear to be "more efficient" as consumers (Michael, 1982; Benham and Benham, 1975; Rizzo and Zeckhauser, 1992). Michael (1982), in particular, translated the finding that a person with an additional year of schooling was significantly more efficient as a consumer into dollars of additional income.

Human capital appears to benefit several dimensions of social cohesion…

141. Beyond the gains to one's self and family are broad gains to society that may go unmeasured. Indeed, schooling appears to promote social cohesion. Among others, education is deemed as one of the most important predictors of many forms of political and social engagement. Nie, Junn and Stehlik-Barry (1996) point to the importance of relative as opposed to absolute levels of education in determining levels of participation (hence, more education is associated with greater participation at any one point in time, whereas an overall increase in educational levels is not necessarily associated with an overall increase in political participation). Helliwell and Putnam (1999) found that increases in average education levels increased levels of trust and did not reduce participation levels. Verba, Schlozman, and Brady (1995) also found that education, other things constant, increases political participation. Moreover, literacy skills

61 As more educated workers tend to work more continuously on average and the tax take from these workers are proportionally higher as they are taxed at higher marginal rates due to higher salaries.

among adults have shown a positive relationship with participation in voluntary community activities for several OECD countries (OECD and Statistics Canada 2000). Schooling is also associated with reduced alienation and social inequalities (Comer, 1988).

Education correlated with lower crime…

142. Criminal activity may also decrease as schooling increases (Wolfe and Haveman, 2000; Behrman and Stacey, 1997). Education appears to lessen the risk of crime through helping to socialise young people who remain in school. Furthermore, Wolfe and Haveman (2000) find a persistent (though not universal and often non-significant) positive effect of neighbourhood human and social capital variables on youth human capital in the form of schooling, non-marital childbearing, and criminal behaviour. Although the total impact of these social benefits take time, society may benefit from investing in education by paying less for social welfare programmes and crime prevention/law enforcement.

And with volunteering and giving...

143. There is also evidence that the amount of time and money devoted to charity is positively associated with the amount of schooling one has (Wolfe and Haveman, 2000). For example, one study found that college graduates volunteered nearly twice as many hours and donated 50% more of their income than high school graduates (See Hodgkinson and Weitzman, 1988).

There is a growing literature on the relationship between education and subjective well-being and happiness ...

144. It is likely that other things equal, education has both an immediate consumption benefit in terms of higher personal satisfaction as well as long-term effects on life satisfaction. Blanchflower and Oswald (2000) report estimates of "happiness equations", in regressions that relate measures of well-being to various individual characteristics. They find that educational attainment is associated with greater happiness, even when controlling for family income. It is possible that the extent of an individual's education has a positive effect on the happiness of others, in which case self-interested individuals may tend to under-invest in education from a social point of view. Alternatively, education may affect happiness because it influences perceptions of status relative to others, in which case the results of Blanchflower and Oswald could overstate the effect on well-being of an expansion of educational provision. However, Putnam (2000b) finds that, comparing various US states show that at the state level, one's own level of education has a strong positive effect on happiness, but there is no effect from average state levels of education. At the county level, both individual and average education levels have a significant positive effect on happiness. However, an individual's measure of happiness rises if his or her income is higher but falls if the average state income is higher. Thus, although people value their own income more when their neighbours earn less money, people feel no worse off when either they or their neighbours have higher levels of human and social capital.

2.9 Summing up

145. Education, learning and training can play an important role in providing the basis for social cohesion and personal growth and development. There is strong evidence which links education to higher individual earnings, although less in the case of economic growth. A link between aggregate indicators of schooling and various economic and social outcomes provides little indication about the appropriate direction that formal education should take, apart from the intuition that more education is probably

beneficial. It is difficult to construct "counterfactuals" while maintaining "other things equal". Moreover, there are synergies and complementarities as well as possible cases of substitution. Skills and competencies can have an indirect influence through enhancing the economic and social impact of other factors. Low levels of skill or completed education can also be partly offset by substitution of other factors for human capital.

Human capital as an underpinning for social capital…

146. This chapter also pointed to a potentially strong interaction between human and social capital which can be summarised as follows: learning and preparation for learning that is nurtured within families and local communities (including early childhood care) provides an important basis for continuing acquisition of human capital through formal education and learning throughout life. The social bonds inherent in families, neighbourhoods and societies can powerfully enhance learning outcomes at all stages of the lifecycle. The benefits of learning can also strengthen social capital by providing the basis for skills and values which promote trust, co-operation and reciprocal engagement. A key inter-relationship identified in this chapter is that between human and social capital. Together, and in combination with other aspects of the political, institutional and social environment, human and social capital can help to enhance well-being as well as economic growth.

Social and human capital may not always be complementary …

147. However, the link is not automatic, and in some cases learning may not be directed towards acquisition of skills conducive to social capital formation, and some forms of social capital can actually block learning or human capital investment (for example where strong ethnic ties and expectations might discourage young people or girls from pursuing further education).

Quality and distribution of human capital are important

148. As in the case of physical and natural capital, here is no absolute threshold of skill and competence in a society which can be identified and estimated, and beyond which economic growth is slowed down. Rather, relative to the recent surge in educational attainment which accompanied fast economic growth on average since the mid-20th century, the prospects for, and implications of continued increases in human capital are not clear. Increasing numbers of more highly educated and literate young entrants to the labour force will certainly pull the level of human capital upwards and this process will continue all the faster in countries that are catching up from lower starting points of human capital. However, this increase in aggregate human capital may not be enough to sustain progress without more attention to: (i) the quality of investment in human capital and the relevance of skills to social and economic demands; (ii) the distribution of learning opportunities within OECD societies; and (iii) the potential for market "under-investment" because of the "public good" or "externalities" characteristics of human capital (not all of the benefits and gains of higher skills are fully appropriated by those investing be they firms or individuals). Ultimately, the question of adequacy of investment in human capital may rest on these three points.

A widening of the measure of human capital necessary for understanding key linkages …

149. An important implication of the above is that relying mainly or exclusively on initial education as a response may not suffice. Similarly, reliance on estimates of average years of schooling to calculate the social returns to learning provides a very incomplete and inadequate measure of human capital through its

neglect of its complex and qualitative nature. Given the growing policy consensus on the importance of lifelong learning and learning in a wide range of environments (lifewide), there is an emerging awareness of the problems of focusing unduly on narrow interpretations and measures of human capital. The review of evidence in this chapter has tended to focus mainly on the measured impact of education on well-defined measures of productivity. However, other areas of analysis including impacts on various social and personal outcomes are opening up. Measures of the impact of informal learning including adult learning and training are much less developed.

Some key conclusions flow from the above analyses:

- Strategies for investing in education, training and know-how need to be highly discerning if the desired impact on economic and social development is to be realised. Understanding the national, regional and institutional context in which human capital investment takes place is vital;

- The quality of human capital (levels of literacy and school achievement) seems to matter more than quantity of formal education completed;

- Investment in the lives of children through families, schools and public authorities, especially in the early years, can reduce the costs of early drop-out from school, crime and unemployment – these effects may be greatest where child poverty is high and public support unco-ordinated and uneven;

- There appear to be higher returns to investment in wider participation and avoidance of early school drop-out. The returns from improvements in teaching practices may exceed those from increases in funding per student or generalised reductions in class size;

- Research efforts are hampered by the inadequacy of measurement proxies as well as limitations in the way that existing models of economic growth account for the dynamic role of knowledge and organisations – however, the evidence points to a significant role for skills and knowledge in sustaining long-term economic growth on condition that other favourable factors are in place;

- The evidence points to a positive role for education in fostering economic growth and in the case of developed countries a likely role for higher education in stimulating research and innovation conducive to faster growth in national income;

- There is also evidence to show a correlation between level of completed education and a wide range of positive social outcomes including better health, personal well-being and social, labour-market and civic participation[62];

- In so far as impacts can be measured and compared, the broad social impacts of learning (health, crime, social cohesion) can be as large as the impacts on economic productivity, if not larger.

62 However, establishing the causality of these links is not easy since underlying personal characteristics are not completely controlled for.

REFERENCES

Angrist, J. and Krueger, A.B. (1991a), "Does Compulsory School Attendance Affect Schooling and Earnings?", *Quarterly Journal of Economics* 106, 979-1014.

Angrist, J. and Krueger, A.B. (1991b),"Estimating the Payoff to Schooling Using the Vietnam-Era Lottery." Princeton University Industrial Relations Section Working Paper #290, August.

Ashenfelter, O. and A.B. Krueger (1994), "Estimates of the Economic Return to Schooling from a New Sample of Twins", American Economic Review, vol. 84, no. 5, December, pp. 1157-1173.

Axelrod, R. (1984), *The Evolution of Cooperation*. New York: Penguin.

Baker, B. and D. Benjamin (1994), "The Performance of Immigrants in the Canadian Labor Market", *Journal of Labour Economics*, vol. 12, no. 3.

Barro, R.J. (2000), "Education and Economic Growth", Paper presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 19-21.

Barro, R. J. and Sala-i-Martin, X (1995) Economic Growth. New York: McGraw-Hill

Behrman, J.R. and N. Stacey (eds.), The Social Benefits of Education, The University of Michigan Press, Ann Arbor, 1997.

Benhabib, J. and M. Spiegel (1994), "The Role of Human Capital in Economic Development: Evidence from Aggregate Cross-Country Data", *Journal of Monetary Economics* 43, 143-174.

Benham, L. and Benham. A. (1975). "Regulating through the Professions: A Perspective on Information Control." *Journal of Law and Economics*, 18(2), pp. 421–47.

Betts, J. (1995),"Does School Quality Matter? Evidence from the National Longitudinal Survey of Youth." *Review of Economics and Statistics*, May, 77(2), pp. 231-50.

Betts, J. and Roemer, J (1998),"Equalizing Opportunity through Educational Finance Reform" manuscript, Department of Economics, University of California, San Diego

Biblarz, T., Raftery, A. and Bucur, A. (1997) "Family structure and social mobility", *Social Forces*, 75(4): 1319-1339.

Bishop, J. (1999) "Are national exit examinations important for educational efficiency?" *Swedish Economic Policy Review* 6(2): 349-398.

Blossfeld, H.P. & Shavit, Y. 1993, *Persistent Inequality: Changing Educational Attainment in Thirteen Countries*, Westview Press Inc, Colorado.

Boothby, D. (1999), "Literacy Skills, the Knowledge Content of Occupations and Occupational Mismatch", *Applied Research Branch research papers*, Human Resources Development Canada, August.

Borjas, G.J. (1998), "The Economic Progress of Immigrants", *NBER Working Paper 6506.*

Bourdieu, P. (1979), "Les trois états du capital culturel", *Actes de la recherche en sciences sociales*, no. 30 (Thema 'L'institution scolaire'), S. 3-6.

Bryk, A, Lee, Holland, P., (1993) *Catholic Schools and the Common Good*, Cambridge, MA: Harvard University Press.

Bynner, J., McIntosh, S., Vignoles, A., Dearden, L., Reed, H., Van Reenen, J. forthcoming (2000) "*Wider benefits of learning improving adult basic skills: Benefits to the individual and to society"*, Report prepared for the Department for Education and Employment (UK), DfEE Wider Benefits of Learning Research Centre, Institute of Education, London University, the Centre for Economic Performance, London School of Economics and the Institute for Fiscal Studies.

Bynner, J. and Egerton, M. forthcoming (2000) *"The wider benefits of higher education"*, Report sponsored by the Higher Education Funding Council for England in Association with the Smith Institute, Department for Education and Employment (UK), DfEE Wider Benefits of Learning Research Centre, Institute of Education, London University.

Cappelli, P. and Rogovski, N. (1994), "New work systems and skills requirements", *International Labour Review*, No. 2, pp. 205-220.

Card, D. (1994), "Earnings, Schooling, and Ability Revisited," *NBER Working Paper 4832, August.*

Card, D. (1999), "Causal Effect of Education on Earnings", in Ashenfelter, O. and Card, D. (Eds.) *Handbook of Labor Economics*, Vol. 3A, Chapt. 30, Amsterdam: North-Holland, pp.1801-1863.

Carliner, G. (1996), "The wages and language skills of U.S. immigrants", *NBER Working Paper No. 5793*, National Bureau of Economic Research, Cambridge, MA.

Coleman, J., Campbell, E., Hobson, C., McPartland, J, Mood, A., Weinfall, F and York, R. (1966) *Equality of Educational Opportunity*, Washington, U.S. Government Printing Office

Coleman, J. and Hoffer, T., (1999) *Public and Private High Schools: The Impact of Communities* (New York: Basic Books, 1987), 94, 133-135, 231, 229. For contrary evidence, see Stephen L. Morgan and Aage B. Sørensen, "A Test of Coleman's Social Capital Explanation of School Effects," *American Sociological Review* 64: 661-681.

Comer, J. P. (1988), "Educating Poor Minority Children." Scientific American 29(5), pp. 42–48.

Eliasson, G. (2000), "The Role of Knowledge in Economic Growth", Paper presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 19-21.

Freeman, R.B., Kleiner, M.M., and Ostrogoff, C. (1997), "The anatomy and effects of employee involvement", Paper presented at the meeting of the *American Economic Association*,

Fuller, B. and Clarke P., (1994) "Raising school effects while ignoring culture? Local conditions and the influence of classroom tools, rules and pedagogy" *Review of Educational Research*, Spring, Vol. 64, no. 1, pp. 119-157.

Fuller, B. and Heyneman S., (1989) "Third World School Quality. Current Collapse, Future Potential" *Educational Researcher*, 18(2), 12-19.

Fukuyama, F. (1995), *Trust: The Social Virtues and the Creation of Prosperity*, New York, The Free Press.

Carlson, M. (2000) "Family Structure, Father Involvement and Adolescent Behavioral Outcomes", Bendheim-Thoman Center for Research on Child Wellbeing Working Paper 99-04, Princeton University.

Gemmell, N. (1995) "Endogenous growth, the Solow model and human capital" *Economics of Planning*, 28, 169-183.

Gemmell, N. (1996) "Evaluating the impacts of human capital stocks and accumulation on economic growth: some new evidence", *Oxford Bulletin of Economics and Statistics*, 58, 9-28.

Gingras, Y. and Roy, R. (1998), "Is There a Skill Gap in Canada?", Applied Research Working Paper Series, Human Resources Development Canada.

Glaeser, E.L. (2000), "The Formation of Social Capital", Paper presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 19-21.

Green, F., Ashton, D., Burchell, B., Davies, B., and Felstead, A. (1997), "An analysis of changing work skills in Britain", paper presented at the Analysis of Low Wage Employment Conference, Centre for Economic Performance, London School of Economics, 12-13 December.

Green, F, McIntosh, S. and Vignoles, A. (1999) "Overeducation and skills – clarifying the concepts", London School of Economics, Centre for Economic Performance, Labour Market Programme discussion paper no. 435.

Grogger, J. (1996),"Does School Quality Explain the Recent Black/White Wage Trend?" *Journal of Labor Economics*, April, 14(2), pp. 231-53.

Gundlach, E., Wossmann, L. and Gmelin, J. (2000) "The decline of schooling productivity in OECD countries", paper presented at the annual meeting of the Royal Economic Society, St Andrews, July 10-13.

Hamermesh, D.S. (1996), *Workdays, Workhours,Work Schedules: Evidence for the United States and Germany*. Kalamazoo, M.I.: The W.E. Upjohn Institute.

Hanushek, E., (1998), "The Evidence on Class Size", *W. Allen Wallis Institute of Political Economy: Occasional Paper Number 98-1*, University of Rochester, February.

Hanushek, E. and Kim, D. (1995), "Schooling, Labor Force Quality, and Economic Growth." NBER Working Paper 5399, December.

Hanushek, E. and Kim, D. (2000), "Schooling, Labor Force Quality, and the Growth of Nations," *American Economic Review* (forthcoming).

Hanushek, E., Kain, J. and Rivkin, S. (1998), "Teachers, Schools, and Academic Achievement." *National Bureau of Economic Research Working Paper 6691*, August.

Hanushek, E., Kain, J. and Rivkin, S. (1999), "Do Higher Salaries Buy Better Teachers?", *National Bureau of Economic Research Working Paper Number 7802*, March.

Hanushek, E., Kain, J., Markman, J. and Rivkin, S. (2000), "Do Peers Affect Student Achievement?" Paper prepared for the *Conference on Empirics of Social Interactions*, Brookings Institution, January 14-15.

Hanushek, E., Rivkin, S., and Taylor, L. (1996), "Aggregation and the Estimated Effects of School Resources." *Review of Economics and Statistics*, November, 78(4), pp. 611-27.

Hanushek, E. and Somers, J. (1999), "Schooling, Inequality and the Impact of Government" Paper presented for conference on Increasing Income Inequality in America, Texas A&M University, March.

Harmon, F. and I. Walker (1995), "Estimates of the Economic return to Schooling for the United Kingdom", *American Economic Review* 85, 1278-1286.

Hartog, J. (1997) "On returns to education: wandering along the hills of ORU Land", Keynote speech for the LVIIth Conference of the Applied Econometrical Association, Maastricht, May.

Haveman, R H. and Wolfe. B. (1984). "Schooling and Economic Well-Being: The Role of Nonmarket Effects." *Journal of Human Resources* 19, Summer, pp: 378–407.

Helliwell, J.F. and R.D. Putnam (1999), "Education and social capital", NBER Working Paper No. 7121, National Bureau of Economic Research, Cambridge, MA.

Henderson, A. and Berla, N., (1994), *A New Generation of Evidence: The Family is Critical to Student Achievement.* (Washington, DC: National Committee for Citizens in Education).

Ho Sui-Chu E. & Willms, J. D. (1996). The effects of parental involvement on eighth grade achievement. *Sociology of Educatio*n, 69, pp. 126-141.

Hodgkinson V. and Weitzman, M. (1988). *Giving and Volunteering in the United States: Findings from a National Survey, 1988 Edition*. Washington, D.C.: Independent Sector.

Hoxby, C.M. "Do Private Schools Provide Competition for Public Schools?" *National Bureau of Economic Research Working Paper 4978*, December, 1994a.

–-. "Does Competition between Public Schools Benefit Students and Taxpayers?" *National Bureau of Economic Research Working Paper 4979*, 1994b.

–-. "The Effects of Private School Vouchers on Schools and Students," in Helen F. Ladd, ed., *Holding Schools Accountable: Performance-Based Reform in Education*. Washington, D.C.: Brookings Institution, 1996, pp. 177-208.

Iverson, B.K., and Walberg, H.J. (1982) "Home environment and school learning: A quantitative synthesis" *Journal of Experimental Education*, 50(3), 144-151.

Jenkins H (1995) *Infrastructure, Education and Productivity: A Multi-Country Study*. DPhil thesis, Nuffield College, Oxford University.

Katzenstein, P.J. (1985) *Small States in World Markets: Industrial Policy in Europe*, Cornell University Press, Ithaca and London.

Kellaghan, T., Sloane, K., Alvarez, B., and Bloom, B. (1999). *The home environment and school learning. Promoting parental involvement in the education of children*, San Francisco: Jossey-Bass.

Kellaghan, T. (1999). "Educational Disadvantage: An Analysis", Paper presented at the Irish Department of Education and Science Conference of Inspectors, Killarney, 6-8December, 1999.

Kenkel, D. (1991). "Health Behavior, Health Knowledge, and Schooling." *Journal of Political Economy* 99(2): 287–305.

Krueger, A.B. and M. Lindahl (1999), "*Education for Growth in Sweden and the World*", *NBER Working Paper* 7190.

Leana, C.R. and Van Buren, H.J. (1999), "Organizational Social Capital and Employment Practices", *Academy of Management Review*, Vol. 24, No. 3, pp. 538-555.

Levy, F. and Murnane, R.J. (1999) "Are There Key Competencies Critical to Economic Success? An Economics Perspective" Paper given at the OECD Symposium on "Definition and Selection of Competencies" in October 1999

Lucas, R.E. (1988), "On the mechanisms of economic development", *Journal of Monetary Economics*, vol.22, pp.-40.

Lundvall, B.-A. and Johnson, B. (1994), "The Learning Economy", Journal of Industry Studies, Vol. 1, No. 2, pp. 23-42.

Maddison, A. (1987). "Growth and slowdown in advanced capitalist economies: techniques of quantitative assessment", *Journal of Economic Literature*, 25, 649-698.

Macmahon, W.W. (2000), The Impact of Human Capital on Non-Market Outcomes and Feedbacks on Economic Development: Techniques for Measurement and Estimates of Impacts of Education in OECD Member Countries. Paper presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 19-21.

Mankiw N.G. (1995) 'The growth of nations', *Brookings Papers on Economic Activity*, 1:1995, 275-326.

Mankiw, N.G., Romer, D. and Weil, D.N. (1992), "A contribution to the empirics of economic growth", *Quarterly Journal of Economics*, 107, 407-37.

Michael, R.T. (1982). "Measuring Non-Monetary Benefits of Education: A Survey," in *Financing Education: Overcoming Inefficiency and Inequity*, W. McMahon and T. Geske (eds.), Urbana: University of Illinois Press.

Mincer, J. (1974), "Schooling, experience and earnings", New York *National Bureau of Economic Research*, London.

Mingat, A. and J. Tan (1996), "The Full Social Returns to Education: Estimates Based on Countries' Economic Growth Performance", Human Capital Development Papers, World Bank, Washington, DC.

Mosteller, F. (1995) "The Tennessee study of class size in the early school grades", *The Future of Children* 5, no. 2 (Summer/Fall, 1995): 113-27.

Murnane, R.J. (1975), *Impact of School Resources on the Learning of Inner City Children*. Cambridge, MA: Ballinger.

Nehru, V. and A. Dhareshwar (1994), *New Estimates of Total Factor Productivity Growth for Developing and Industrial Countries*. Policy Research Working Paper 1313, Washington D.C.: The World Bank.

Nie, N.H., J. Junn and K. Stehlik-Barry (1996), *Education and Democratic Citizenship in America*, Chicago: University of Chicago Press.

Nonneman, W. and Vanhoudt, P. (1996), "A further augmentation of the Solow model and the empirics of economic growth for OECD countries," *Quarterly Journal of Economics*, 111, pp. 943-953

OECD (2000) "Links between policy and growth: Cross-country evidence", draft paper for Working Party 1, Economics Department.

OECD and Statistics Canada (2000), *Literacy in the Information Age: Final Report of the International Adult Literacy Survey*, Paris.

OECD (1999), *Education Policy Analysis*, Paris

OECD (1998), *Human Capital Investment*: *An International Comparison*, Paris.

Painter, G. and Levine D., (1999) "Family structure and youths' outcomes: which correlations are causal?", Institute of Industrial Relations, Working Paper Series, no.69, September.

Powell, D.R. (1989) "Families and early childhood progams", Washington D.C. National Association for the Education of Young Children

Pritchett, L. (1996) "Where has all the education gone?" Working Paper, The World Bank.

Psacharopoulos, G. (1994), "Returns to Investment in Education: A Global Update", *World Development* 22(9), 1325-1343.

Putnam, R. (2000a) *Bowling Alone: The Collapse and Revival of American Community*, Simon Schuster, New York

Putnam, R. (2000b) "Social Capital: Measurement and Consequences" – Keynote Address at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 19-21.

Raudenbush, S.W. and R.M. Kasim (1998), "Cognitive skill and economic inequality: Findings from the National Adult Literacy Survey", *Harvard Educational Review*, Vol. 68 (1), pp. 33-79.

Rivera-Batiz, F.L. (1994), "Quantitative literacy and the likelihood of employment among young adults in the United States", *Journal of Human Resources*, Vol. XXVII, No. 2, pp. 313-328.

Rivkin, Steven G., Eric A. Hanushek, and John F. Kain. (1998), "Teachers, schools, and academic achievement", Paper presented at the annual meetings of the Econometric Society, Chicago, January.

Rizzo, J., and R. Zeckhauser. (1992). "Advertising and the Price, Quantity, and Quality of Primary Care Physician Services." *Journal of Human Resources* 27(3): 381–421.

Romer, P.M. (1990), "Human capital and growth: Theory and evidence", *Carnegie-Rochester Conference Series on Public Policy*, no. 32, pp. 251-286.

Rouse, C.E. (1998), "Schools and Student Achievement: More Evidence from the Milwaukee Parental Choice Program." *Economic Policy Review*, March, 4(1), pp. 61-78.

Sandefur, G.D., McLanahan, S. and Wojtkiewicz, R.A. (1989), "Race and Ethnicity, Family Structure, and High School Graduation," *Institute for Research on Poverty*, Discussion Paper no. 893-89.

Shleifer, A. (1998) "State versus private ownership", *Journal of Economics Perspectives* 12 (4): 133-150.

Simons, R. (1996) *Understanding differences between divorced and intact families: stress, interaction and child outcome*, Thousand Oaks, CA, Sage.

Solow, R.M. (1956) 'A contribution to the theory of economic growth', *Quarterly Journal of Economics*, 70, 65-94.

Spence, A. (1973), "Job Market Signalling", *Quarterly Journal of Economics* 87, pp. 355-374.

Steedman, H. (1996), "Measuring the quality of educational outputs: a note." Center for Economic Performance, Discussion paper no. 302, LSE.

Temple, J. (2000), "Growth effects of education and social capital in the OECD", background paper for Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, 20-21 March.

Temple, J. (1999a), "The new growth evidence," *Journal of Economic Literature*, March 1999, 37(1), 112-156.

Temple, J. (1999b), "A positive effect of human capital on growth", *Economics Letters* 66 (1999), pp. 131-134.

Topel, R. (1999), "Labor Market and Economic Growth", in Ashenfelter, O. and Card, D. (Eds.) *Handbook of Labor Economics*, Vol. 3C, Chapter 44, Amsterdam: North-Holland.

Topel, R. (1997), "Factor proportions and relative wages: the supply-side determinants of wage inequality," *Journal of Economic Perspectives*, 11(2), pp. 55-74.

Verba, S., K.L. Schlozman, and H.E. Brady (1995),*Voice and Equality: Civic Voluntarism in American Politics*,Cambridge, M.A.: Harvard University Press.

Weiss, A. (1995). "Human capital vs. signalling explanations of wages" *Journal of Economic Perspectives*, 9(4), 133-154.

Wolff, E. and Glitterman, M. (1993), "The role of education in productivity convergence: does higher education matter?" in A. Szirmai et al. (Eds.), *Explaining Economic Growth*. North-Holland.

Wolfe, B. and Haveman, R. (2000), "Accounting for the social and non-market benefits of education". Paper presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March.

Wolfe, B.L. and Zuvekas, S. (1997), *Nonmarket Outcomes of Schooling*, University of Wisconsin, Madison. Mimeo.

Wossmann, L., (2000) "Schooling resources, educational institutions and student performance: the international evidence", *Kiel Working Paper* no. 983, May.

Young, A. (1995), "The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience," *Quarterly Journal of Economics,* Vol. 110, pp. 641-80

Young, A. (1992), "A tale of two cities: factor accumulation and technical change in Hong Kong and Singapore" in Macroeconomics Annual, pp. 13-54.

CHAPTER 3

THE EVIDENCE ON SOCIAL CAPITAL

"Virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time. It can be plausibly argued that much of the economic backwardness in the world can be explained by a lack of mutual confidence."

Kenneth J. Arrow, "Gifts and Exchanges," *Philosophy and Public Affairs*, 1, Summer 1972, p. 357.

3.1 Introduction

From human capital to social capital…

150. This chapter considers the definition, measurement, sources and impacts of social capital. Structured like Chapter 2 on human capital, this chapter seeks to assemble the evidence on the sources, distribution and impact of social capital in various domains. Conceptual clarification and consideration of the various ways of measuring social capital precede the evaluation of the evidence for the impact of social capital. Since the term is relatively new and its meaning, role and relevance is not universally agreed, this chapter attempts to map out one possible approach, among others, in defining the concept and measuring its contribution to well-being. Some of the questions which will be addressed relate to the way in which social capital can be developed by various actors in civil society and its impact on various dimensions of well-being including enhanced economic productivity. Although the evidence, is as yet tentative and suggestive, it points to a need to explore the concept and measurement of social capital further as well as to examine its potential for clarifying discussions of public policy options. Evidence on the impact of social capital on learning in schools has already been considered in Chapter 2. The potential for social capital to enhance economic and social performance of other factors such as physical and human capital as well as institutions is a recurring theme in the literature on social capital.

3.2 What do we mean by social capital?

Social capital is not the same as human capital…

151. Human capital is possessed by individuals. Physical capital consists of tangible goods possessed by individuals and firms. Natural capital can be appropriated and owned by individuals and businesses, but it is mainly a public good. The concept of "social capital" is different from the other three forms of capital. It is relational rather than being the property of any one individual. It is a public good to the extent that it is shared by a group, or, at least between or among individuals although it can be used to exclude others. It is not produced by direct investment in the same way that societies invest in education, physical capital and

infrastructure. It is the result of historical, cultural and social factors which give rise to norms, values and social relations that bring people together in networks or associations and which result in collective action. Social capital, which refers to aspects of social life – the existence of networks, norms and relationships – conditions the ways in which people act together, create synergies, and build partnerships. Social capital is the glue that holds together communities, organisations, firms and different social and ethnic groups.

The roots of social capital in earlier work

152. The idea of social capital is not new[63]. In the last century writers such as Alexis de Tocqueville[64], Emile Durkheim[65] or Max Weber[66] and many others have written about the concept. The first known reference to the expression "social capital" in its contemporary sense was made in the context of its importance for education and local communities (Hanifan, 1916). Social capital was used by Jane Jacobs[67] in her analysis of city neighbourhoods. Glen Loury (1987) introduced the concept in relation to labour markets and social network analysis. James Coleman (1988) used the term in relation to its complementary role with human capital, while Robert Putnam (1993) and Francis Fukuyama (1995) applied the concept at the level of nation state or region (the former emphasising the role of civic engagement in fostering democracy and social cohesion). Pierre Bourdieu (1979) and Jean-Claude Passeron used a closely related concept, "cultural capital"[68].

There is more than one way of cutting the cake….

153. There is no unanimity in definitions of social capital and at least four broad approaches to the understanding of the concept may be distinguished. The first whose roots are in anthropological literature rests on the notion that humans have natural instincts for association. For example, Fukuyama (1999) stresses the biological basis for social order: for him social capital is rooted in human nature. Humans adapt, learn and negotiate to create social norms and order. The second approach going back to sociological literature rests on the study of social norms and of the sources of human motivation. It emphasises features of social organisation such as trust, norms of reciprocity and networks of civic engagement. The third approach originating in economic literature emphasises utility-maximising behaviour. It is based on the utilitarian doctrine that people will decide to interact with others and draw on social capital resources to conduct various types of group activities including economic, (Glaeser, 2000). In this approach, the focus on is on the investment strategies of individuals faced with alternative uses of time. A fourth approach originates in political science and emphasises the role of institutions, political and social norms in shaping human behaviour. Recent work at the World Bank on the role of social capital in

63 For an extensive account of the historical roots of the concept the reader is referred to Woolcock, 1998.

64 De Tocqueville (1835) wrote: "The Americans combat individualism by the principle of interest rightly understood" where he claimed, for example, that "they show with complacency how an enlightened regard for themselves constantly prompts them to assist each other, and inclines them willingly to sacrifice a portion of their time and property to the welfare of the State".

65 Durkheim saw society as composed of "organs" (social facts), or social structures, that had a variety of functions for society.

66 Weber focused on individuals and patterns and regularities of action and not on the collectivity. He was primarily concerned with action that clearly involved the intervention of thought processes (and the resulting meaningful action) between the occurrence of a stimulus and the ultimate response.

67 Jacobs (1961) defines social capital as "neighbourhood networks".

68 Refer to section 2.4 in Chapter 2.

reducing poverty and promoting sustainable development has emphasised the role of institutions, social arrangements, trust and networks[69].

"Broad" and "lean" definitions of social capital are used….

154. One approach has been to link the concept to macro-institutional issues or what some economists refer to as social capabilities (e.g. Abramovitz and David, 1996, Omori, 2000; Hall and Jones, 1999; Temple and Johnson, 1998) or social cohesion (e.g. Ritzen, 2000). Ritzen prefers a concept of social cohesion the objective of which "…implies a reconciliation of a system of organisation based on market forces, freedom of opportunity and enterprise, with a commitment to the values of solidarity and mutual support which ensures open access to benefit and protection for all members of society". However, Putnam (2000a), Woolcock (2000) and Knack (1999) prefer a "lean and mean" definition that focuses on social networks and the immediately linked norms of reciprocity (or trust in the case of Knack).

Rethinking the definition of social capital….

155. In this report, the operational definition suggested and used is:

> *Networks together with shared norms, values and understandings which facilitate co-operation within or among groups.*

This definition stresses the importance of both norms and networks in facilitating co-operation. Networks constitute the objective component of the definition and relate to the behaviour of actors who enter into associative activity. By contrast shared norms, values and understandings relates to the subjective dispositions and attitudes of individuals and groups as well as sanctions and rules governing behaviour, which are widely shared. The normative, cultural or subjective component of social capital thus described is important in understanding the role of attitudes in fostering social co-operation[70]. Even an exclusive focus on networks and associated norms needs to recognise the crucial role of culture in influencing the choices and preferences of individuals and groups to co-operate. Different systems of values and meanings can exist alongside shared ones without necessarily undermining co-operation, if a climate of tolerance and mutual respect prevails. Shared norms and values enable people to communicate and make sense of common experiences as well as divergences in some norms and values. Hence, dialogue and mutual understanding founded on tolerance of different cultures or beliefs, are important dimensions of social cohesion and are close to the concept of social capital as discussed in this report.

Bonding, bridging and linking are important dimensions of social capital…

156. Three basic types of social capital have been identified: bonds, bridges and linkages (Woolcock, 1999). Bonding refers typically to relations among members of families and ethnic groups. Bridging social capital refers to relations with distant friends, associates and colleagues. Linking refers to relations between different social strata in a hierarchy where power, social status and wealth are accessed by

69 A definition used by the World Bank: "Social capital refers to the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions. Increasing evidence shows that social cohesion is critical for societies to prosper economically and for development to be sustainable. Social capital is not just the sum of the institutions which underpin a society – it is the glue that holds them together" (refer to http://www.worldbank.org/poverty/scapital/whatsc.htm)

70 Some writers on social capital would incorporate a consideration of "beliefs". For example, Adler and Kwon (2000) describe "beliefs" as shared strategic visions, interpretations and systems of meaning. "Beliefs" are close to value orientations which underpin co-operation.

different groups. Woolcock (2000) relates linking social capital to the capacity of individuals and communities to leverage resources, ideas, and information from formal institutions beyond the immediate community radius.

Both bonding and bridging are needed to avoid social fragmentation…

157. Although strong bonding ties give particular communities or groups a sense of identity and common purpose, without "bridging" ties that transcend various social divides (e.g. religion, ethnicity, socio-economic status), bonding ties can become a basis for the pursuit of narrow interests, and can actively exclude outsiders. Relatively homogeneous groups may be characterised by strong trust and co-operative norms within a group, but low trust and co-operation with the rest of society. Some forms of exclusive bonding can then be a barrier to social cohesion and personal development. These are examples of weak bridging but strong bonding. As Powell and Smith-Doerr (1994) observed: "the ties that bind may also turn into ties that blind".

Some examples of closely knit groups which may exclude outsiders….

158. A restricted radius of trust within a tightly knit group, such as family members or closed circles of friends, can promote forms of social interaction that are inward-seeking and less orientated to trust and co-operation at the wider community level (Knack, 1999; Portes and Landholt, 1996). An exclusive focus on group interests to the neglect of wider public interests can promote socially destructive "rent-seeking" activities (Olson, 1982 and Knack, 1999). In companies, strong tries of trust and mutual obligation may, in some circumstances, block information from outside closed networks and impede innovation (Kern, 1998 and Uzzi, 1997). For immigrant groups, ethnic bonds may serve as a 'source of adaptive advantage' when they first arrive in a new country. Existing informal networks in the community can provide new-comers with valuable information on society and labour markets. However, exclusive ethnic ties can impede individuals in expanding their contacts with a wider network. Thus, the importance of bridging social capital is underlined where there is considerable diversity of ethnic and other groups.

The downside of some forms of social capital has been recognised …

159. Particular forms of bonding social capital have the potential to impede social cohesion in certain circumstances. In this respect, social capital is no different to other forms of capital, the use of which may serve different ends – not all necessarily desirable for communities at large. Some highly bonded groups such as drug cartels, illegal immigrant smuggler groups, mafia operations and terrorist groups can embody high levels of internal trust and reciprocity[71]. Likewise, these same groups can contain individuals with high levels of human capital, using financial and other forms of capital for socially destructive and undesirable purposes. Even some forms of exclusive social bridging at the level of national or regional-level may have socially destructive consequences[72]. These examples do not undermine the potential of human or social capital in other cases to generate benefits for all or most members of society. The benefits from most types of social bonding and bridging generally greatly outweigh the negative consequences.

71 The examples given do not imply that all highly bonded groups have a negative social impact. For example, some forms of bonding such as in families or ethnic groups can have positive health and employment effects which spillover to other groups.

72 Exclusive forms of social bridging may include forms of extreme or totalitarian ideologies.

Social capital is partly a public good and partly a private good…

160. Social capital allows individuals, groups and communities to resolve collective problems more easily. Collective action involves use of norms and networks in situations where individuals might otherwise be reluctant to be co-operative or socially engaged. Thus, norms of reciprocity and networks help ensure compliance with collectively desirable behaviour. In the absence of trust and networks ensuring compliance, individuals tend not to co-operate because others cannot be relied on to act in a similar way. Many social scientists refer to such co-ordination problems with various labels including "the prisoner's dilemma" or the "free-rider problem". Social capital may be frequently a by-product of various social activities not necessarily undertaken with a view to strengthening social capital[73]. As with the case of human capital, social capital has "positive externalities" and therefore risks under-investment when actors do not fully internalise or appropriate its benefits. As Coleman observed: "The result is that there will be in society an imbalance between the relative investment in organizations that produce private goods for a market and in organizations (often voluntary associations) from which the benefits are not captured" (Coleman, 1990[74]). However, access to information and influence through social networks also confers private benefits on individuals and in some cases can be used by individuals or groups to exclude others and reinforce dominance or privilege.

Social capital as a moral resource…

161. Many users of the term social capital have applied an individualistic approach to understanding the incentives of individuals to use social capital and invest in its acquisition (Glaeser, 2000). To some extent, Coleman emphasised the instrumental nature of social capital in achieving certain outcomes. Others, including Albert Hirschman, have emphasised the efforts of individuals to act collectively to achieve non-monetary goals such as justice, beauty, love, community, and friendship. This non-instrumental aspect of collective action represents "an investment in individual and group identity" (Hirschman, 1984[75]). Hirschman extends social capital beyond ordinary market economics and rational self-interest. Whatever the motivation for co-operating and trusting, investment in individual and group identity can lead to the creation of dense social networks and ultimately better economic and social outcomes. In this way, civic engagement, honesty and social trust can reinforce each other.

Trust and co-operation can lower economic transaction costs…

162. Temple (2000) observed in relation to social capital that "It provides a useful umbrella term for those aspects of societies which, though difficult to measure and incorporate into formal models, are widely thought to be an important determinant of long-run economic success. For some economists (not all) the intuition that 'society matters' is strong enough to outweigh the current absence of much in the way of a theoretical underpinning". There is a growing awareness in the economic literature of the importance of institutions, social and personal relations and networks as well as the role of trust and various norms in establishing expectations and obligations. While much of the recent empirical work on social capital has tended to focus on the micro-economic or individual level, there has been a recent increase in studies of the impact of social capital at a more macro-level, including the interaction between norms of trust and co-operation and patterns of investment, and readiness to share knowledge and creative ideas. Fukuyama

73 Putnam (1993) gives the example that "members of Florentine choral societies participate because they like to sing, not because their participation strengthens the Tuscan social fabric".

74 Page 317

75 Page 92

(1995) argues that, during periods of technological and structural change, high-trust societies might be more amenable to organisational innovations.

3.3 How do we measure social capital ?

Measuring of social capital is in its infancy…

163. As in the case of human capital, the measurement of social capital is problematic. In the rush to measure, sources, functions and outcomes may be confused. A pitfall in the measurement of social capital may be a tendency to identify and focus exclusively on one or another ready-to-measure proxies, such as membership of groups and associations, self-reported levels of trust towards others or types of co-operative behaviour, which approximate to outcomes of social capital. It is early days yet in the measurement of social capital. It would seem wise to base any efforts to improve measurement on a more solid theoretical framework as well as attend to the cultural and local context in which social capital is analysed and which may defy national-level aggregation.

Social capital is relational and complex…

164. Key difficulties in the measurement of social capital stem from the nature of its definition which is multidimensional, multi-faceted, relational and which incorporates different levels and units of analysis. Much of what is relevant to social capital is tacit and relational, defying easy measurement or codification. Social capital can be observed or measured at a shared or collective level, whereas many potential sources of data relate to characteristics of individuals. Individual attitudes (e.g. trust) or behaviour (e.g. joining organisations and voting) provide proxy measures of social capital[76]. However, the proxy measure should not be confused with the underlying concept. Attempts to capture key dimensions of how people interact and relate to each other are hampered by the lack of suitable data sources. This in turn reflects the absence of a sufficiently comprehensive range of questions in survey questionnaires, and the fact that surveys are not designed to assess social capital per se. Hence, sources of data on social capital at the international level are difficult to obtain.

Existing surveys can be utilised, even if not tailor-made for measuring social capital….

165. Typically, most measures of social capital centre around two aspects: (i) levels of inter-personal trust; and (ii) levels of engagement or interaction in social or group activities. Putnam (2000a) in his analysis of differences in social capital across US states has made extensive use of a wide range of cross-sectional and longitudinal data sets. His measures of social capital are typically based on a composite index containing the following elements: (i) intensity of involvement in community, organisational life; (ii) public engagement (e.g. voting); (iii) community volunteering; (iv) informal sociability (e.g. visiting friends); and (v) reported levels of inter-personal trust.

The World Bank has been to the fore in piloting measurement instruments in developing countries…

166. The World Bank has developed measures of social capital "from the ground up" in the form of specially designed surveys or modules of existing surveys. For example, Narayan and Pritchett (1998)

76 Trust should be distinguished from trustworthiness. In practice trust is heavily influenced by patterns of trustworthiness.

constructed a measure of social capital in rural Tanzania, using data from the Tanzania Social Capital and Poverty Survey (SCPS). This large-scale survey asked individuals about the extent and characteristics of their associational activity, and their trust in various institutions and individuals. A number of new surveys or survey modules are also presently undergoing development in the United Kingdom and Australia (see Cox and Macdonald, 2000 and Schuller et al, 2000).

Signs of social dysfunction – or the absence of trust and social connectedness…

167. One way of measuring changes in social capital is through measurement of various types of social dysfunctions or examples of absence of social co-operation or trust. For example, Fukuyama measures changes in social capital through changes in crime, family breakdown and of trust. Allied to increasing crime rates is increased "social deviance" (increased incivility and lack of civic spiritedness etc). Fukuyama focuses on long-term shifts in mores and values as indicators of changes in social capital. However, care is needed in using indicators of social dysfunction to measure changes in social capital since the full range of causes of social breakdown is not known and social capital is only one potential contributor.

The World Values Study has been used to measure aspects of trust in an international comparative context…

168. Various waves of the World Values Survey (in 1981, 1991 and 1996[77]) have been used to test the willingness of respondents to trust others. Respondents were asked "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?". The evidence suggests large differences in reported levels of trust across OECD members (refer to Table 3.1, below); with cross-country differences relatively stable over time within countries[78]; and with neighbouring countries tending to be clustered suggesting strong cultural and regional antecedents of trust. However, the usefulness and accuracy of a single question on trust has been questioned because of its high cultural and context dependence.

77 It has carried out representative national surveys of the basic values and beliefs of publics in more than 65 societies. It builds on the European Values Surveys, first carried out in 1981-89. A second wave of surveys, designed for global use, was completed in 1990-1993, a third wave was carried out in 1995-1997 and a fourth wave is taking place in 1999-2000. For further details see http://wvs.isr.umich.edu/index.html

78 Over time, measures of trust seem to be fairly stable for the twenty countries reporting trust in 1981 and 1990 (with a correlation coefficient of 0.91).

Table 3.1

A measure of trust (World Values Study), 1995-96

"Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?"

OECD members

Norway	65.3	Italy *	35.3
Sweden	59.7	Belgium *	33.2
Denmark *	57.7	Austria *	31.8
Netherlands *	55.8	United Kingdom	31.0
Canada *	52.4	Korea	30.3
Finland	47.6	Czech Republic *	30.3
Ireland *	47.4	Spain	29.8
Japan	46.0	Mexico	28.1
Iceland *	43.6	Hungary *	24.6
Germany	41.8	France *	22.8
Switzerland	41.0	Portugal *	21.4
Australia	39.9	Turkey	6.5
United States	35.6		

* 1990-91 data

Non-OECD members

India	37.9	South Africa	18.2
Chile	21.9	Argentina	17.5
Nigeria	19.2	Brazil	2.8

Source: World Values Study and Knack and Keefer (1997)

The measure of trust is open to question …

169. Measurement error is potentially a major problem in the use of self-reported data on trust as it is not clear if respondents interpret the meaning of "trust" or "most people" in the same way across countries, cultures and time. Also, a distinction needs to be drawn between dispositions of individuals to trust others in general and regardless of context, and the dispositions of individuals to trust persons known to them as distinct from the general "other". The particular environment, context and situation are crucial. In countries such as France, Italy and Spain, where spontaneous trust levels tend to be low compared to other OECD countries, individuals report high levels of trust in their immediate family circles (according to the World Values Study – see Galland, 1999). Although trust and civic engagement are correlated, Galland finds important differences between different social groups in the way in which individuals exercise their choice of social networks and relations. High levels of trust in one area can co-exist with a restricted radius of engagement or trust in another area. Galland concludes that neither general measures of trust nor

civic engagement offer a reliable guide to the quality of social relations or to their interaction at a macro-level.

However, other comparisons and experiments argue for not rejecting general measures of inter-personal trust…

170. Knack and Keefer (1997) also report on an experiment in which a large number of wallets containing $50 were deliberately 'lost' in a number of cities. The percentage of 'lost' wallets that are returned to their owners in each country has a correlation with the measure of trust of 0.67, providing a tentative indication that people are genuinely more trustworthy in countries with high values of the trust index. Knack and Keefer (1997) also constructed a second index, *civic*, designed to capture the strength of norms of civic co-operation and trustworthiness. The index was obtained by averaging across five questions, addressing the attitudes of the respondents to such things as fraudulent benefit claims and avoidance of fares on public transport. The index showed relatively little variation across OECD countries, although it was positively correlated with trust[79].

In practice, trust and civic engagement are likely to be highly inter-related….

171. Evidence on measures of social capital across US states reviewed by Putnam (2000a) shows a high degree of correlation at the State level between trust and other measures of social capital related to civic engagement and social connectedness, suggesting that trust may be an acceptable proxy for social capital in the absence of a wider and more comprehensive set of proxy indicators. Ideally, measures of social capital should be (i) comprehensive in their coverage of key dimensions; (ii) balanced between attitudinal or subjective elements on the one hand (e.g. reported levels of trust) and behavioural aspects on the other (e.g. membership of associations and extent of social ties); and (iii) related to the cultural context in which measurement takes place (as the interpretation of various types of behaviour and reported attitudes is the not the same everywhere).

3.4 The sources of social capital

172. Research has identified a number of key sources of social capital in the context of social and economic development. Social capital is built at the "level" of families, communities, firms, and national or sub-national administrative units and other institutions. Typically, the idea of social capital is associated with relations in civil society. However, relationships of trust and networks also involve public organisations and institutions. Social capital is embedded in norms and institutions, which include public and legal entities. The focus of analysis may also extend to different groups within civil society such as gender, occupational, linguistic or ethnical groups. The following sources can be identified for the development of social capital: (i) family; (ii) schools; (iii) local communities; (iv) firms; (v) civil society; (vi) public sector; (vii) gender policy; and (viii) ethnicity. The distribution of social capital within and across these categories is important for its overall impact on society. Although much attention has been given to the role of voluntary and civic associations, the key roles of families, schools and firms may have been relatively neglected in the recent rise of debate and analysis of social capital.

79 The proportion of wallets returned was correlated with a measure of trust at r=0.65. This correlation cannot be attributed to a possible confounding effect of higher per capita incomes: the partial correlation between trust and wallets returned, controlling for per capita income, was higher than the simple correlation

The family as a basic social unit…

173. The family has been identified as a primary building block of social capital as it both creates many of the norms and social ties that constitute social capital and constitutes an important social network that produces benefits for its members – especially in the context of extended families in "familial societies" (see Coleman, 1990 and Bourdieu, 1985, 1979). Relations within the family based on reciprocity and exchange and the ability to meet the emotional and physical needs of children, can also foster the development of trust and co-operative behaviour outside the immediate family circle. The material and emotional support shared freely between family members can generate an implicit willingness and expectation to reciprocate such support within and outside the family. The family is also a primary source of learning, as well as a potential stimulator of success in formal education. Given that education has potentially strong effects in increasing social capital (see below), the family's role in education adds an indirect positive influence on social capital. However, strong family ties may not foster learning or models of good relationships and civic virtues in all circumstances. "Familialist" cultures may promote internal bonding social capital with weaker ties and radii of trust outside immediate family circles.

The school as a source of social capital…

174. The role of schools in building social capital has been extensively discussed in Chapter 2 of this report. A key role for schools is both in fostering norms and values which can underpin co-operation as well as providing "meeting places" where various social networks can intersect. The latter aspect has been emphasised by Coleman in particular. More broadly, institutions of higher education, adult learning and professional associations can foster the creation of crucial networks crossing different sectors of learning, enterprise and voluntary initiative.

Other generators of trust and engagement include local communities...

175. Communities and neighbourhoods also play a role in social capital formation. Social interactions among neighbours, friends and groups generate social capital and the ability to work together for a common good. Coleman (1990) links the family to local community in his analysis of "closure" whereby communities exercise influence over its members through risk of sanctions for non-compliance with certain norms. Loury[80] (1987) discusses social capital as "local public goods" that communities produce. These local public goods may be very general in nature, such as education, peer influence, contacts, and friendship networks.

Firms…

176. Some of the growing literature on the "new economy" (e.g. Peter Drucker) emphasises networks, trust, partnerships and collaborative ventures. According to this view, innovation is increasingly based on collaboration, rapid learning and networks. There is a potentially strong growth capacity through innovative networks within and across industries linking suppliers, customers and researchers. Clustering of industries, with all the benefits of collaboration associated with networks may be correlated with national competitive advantage (Porter, 1990). In this view, ability to "network" or communicate outside formal channels is increasingly important. Taylorist organisations based on formal rules and hierarchical power structures rely less on networking and trust than post-Fordist organisations where authority and management responsibilities are more internalised and where trust and information-sharing are more

80 Loury is primarily concerned with the inequality of social capital and its capacity to produce and reproduce the socio-economic class structure.

crucial. Hence, higher skills are needed across the workforce. Informal networks promoting sharing of tacit knowledge are important. Organisations which "learn" to socialise knowledge and skills through more effective forms of interaction, networks and norms of trust and co-operation are important sources of social capital.

Wider geographical communities…..

177. Another source of social capital is civil society. Civil society consists of the "groups and organisations, both formal and informal, which act independently of the state and market to promote diverse interests in society"[81]. There are important synergies in the relationship between civil society, state and market. The extent and density of relations among groups can be important for these synergies to be effective in promoting well-being and economic growth. In his analysis of social capital in different Italian regions, Putnam (1993) explains differences in economic and political performance among regions in terms of historically acquired social capital in various types of associations and civic traditions. Putnam stresses the importance of various types of associations between people (groups like sports clubs, co-operatives, mutual aid societies, cultural associations, labour unions, etc.). These groups promote the accumulation of bonding and bridging social capital, with positive impacts including improved efficacy of political institutions. Thus, for Putnam, interactions among people in these groups and organisations create horizontal networks of civic engagement that help participants to act collectively in a way that has an impact on community productivity and well-being. In short, voluntary associations and networks can act like schools in fostering of trust and civic engagement with potential positive spillovers on other sectors of the society, including the state and market.

And public governance…

178. Public governance based on commitment to public welfare, accountability and transparency provides a basis for trust and social inclusion, which in turn can strengthen social capital. The political, institutional and legal conditions prevailing in a country (referred to as PIL in Chapter 1 of this report) are important for underpinning networks and norms for social co-operation. These two categories can complement and reinforce each other in promoting well-being. Hence, social capital not only produces better public governance and more effective political institutions, but the latter can complement rather than replace community-based networks and reinforce trust.

The influence of gender policy and issues…

179. Levels of trust, social engagement and types of engagement (formal, informal) can vary considerably between men and women as they face different social networks and levels of access to information. Depending on the society, men and women's personal networks may differ in composition. In some cases, men's networks tend to be more formal since men are more often involved in formal employment, whereas women's networks tend to be more informal and include more kin (Moore, 1990). Women are frequently the primary carers in families and their role can be critical, particularly in the early development of children. The capacity of children to trust has roots in the relationship of children with mothers, although the quality of father-child relationship is also important (Amato, 1998[82]). Social capital

81 This definition is used by the World Bank at http://www.worldbank.org/poverty/scapital/sources/civil1.htm

82 Page 247.

can also be built through active civic, labour market and political participation of women. Discrimination based on gender can therefore have negative effects on the formation of particular forms of social capital[83].

Ethnicity…

180. Ethnicity frequently arises in discussions of social capital. Whether it is immigration, micro-enterprise development, tribal nepotism or racial conflict, ethnic ties are an example of how actors who share common values and culture can band together for mutual benefit. However, the potential for negative influences on social cohesion vis-à-vis other groups has already been noted (section 3.2 above).

Table 3.2 Definition, purpose and analysis of social capital in a selection of three writers

	Definition	Purpose	Analysis
Bourdieu	Resources that provide access to group goods (cultural capital)	To secure economic capital	Individuals in social class competition
Coleman	Aspects of social structure that actors can use as resources to achieve their interests	To secure human capital	Individuals in family and community settings
Putnam	Trust, norms and networks that facilitate co-operation for mutual benefit	To secure effective democracy and economy	Regions in national settings

Source: "Towards a theorised understanding of family life and social capital" by Ian Winters, 2000
Bourdieu, P. (1985), "The Forms of Capital" in J.E. Richardson (ed.) Handbook of Theory of research for the Sociology of Education, New York: Greenwood Press, pp. 241-58.
Coleman, J. (1988) "Social Capital in the Creation of Human Capital", *American Journal of Sociology*, Vol 94 Supplement S95-120.
Putnam, R. (1993). *Making democracy work*. Princeton University Press, Princeton

3.5 What is the evidence for changing levels of trust and civic participation over time ?

Strong evidence of civic disengagement in some countries but not in others

181. Changes in levels of social capital reflect longer-term shifts in norms, values and patterns of social interaction. Putnam (2000a) has pointed to a decline in social and civic engagement in the United States and more generally in social capital in the U.S. Trend in Europe and Australia, however, are quite to different to those observed by Putnam in the U.S.. Social capital is not a homogeneous entity. While some aspects of traditional, locally embedded forms of social connection (families, neighbourhoods and traditional mass organisations) seem to be on the decline in many OECD countries, other forms of social connection, often distant, transitory and more self-interested are also emerging. Whether these new forms of social connection are sufficient to replace the older forms is an open question. Trends and patterns based on civic engagement, voting, membership of various types of organisations, levels of trust and

83 Picciotto (1998) remarks "Gender discrimination squanders trust, hinders family relations, restricts social networks, and depletes social capital, the valuable capacity of societies to work toward common goals".

informal socialising all provide important clues to emerging trends in OECD countries. This section reviews evidence in a selection of OECD countries (Australia, Germany, France, Japan, Netherlands, Sweden, United Kingdom and the United States).

Strong evidence of civic disengagement in some countries but not in others

182. The pattern of declining civic engagement along with declines in levels of trust reported by Putnam for the United States are not fully matched by evidence for other countries. In the United Kingdom and Sweden, membership of various types of civil organisations has increased in both absolute terms and relative to total population. The evidence also suggests that in some countries (notably Australia and the United Kingdom), patterns of civic engagement have changed as the nature of engagement has become more individualistic and transient. Differences in levels of trust and civic engagement by age-cohort are apparent in some countries. Long-term shifts in the nature and quality of engagement may be taking place in some countries. Trends in social capital seem to be related to the specific characteristics of national history rather than any single, global process of modernisation. The evidence is summarised in respect of a few OECD countries in Table 3.3, below. Each dimension of social capital is described: volunteering, membership of organisations, informal socialising, political engagement, inter-personal trust and trust in institutions.

	Australia	France	Germany	Netherlands	Japan	Sweden	USA	UK
Volunteering (unpaid work in organised activities benefiting those outside other than self or family)	↓ **?**	↑**?**	↑**?**	↑	↑**?**	↑	↑ (For very young and old only)	↑
Membership of organisations (voluntary, civic, political, special interest, trade union, cultural etc)	↓ **?**	↑**?**	↑**?**	↑	↑**?**	↑	↓	↑
Informal socialising (visiting friends, dining with others etc)	↓	**?**	↑**?**	↑ **?**	**?**	↑ **?**	↓	↑ **?**
Political engagement (including expression of interest, voting and activism)	**?**	**?**	**?**	Stable	**?**	Stable (although less active)	↓	Stable
Inter-personal trust (extent to which others can be trusted)	↓	↓	↓	↓	↑	↑	↓	↓
Trust in public institutions (government, legal enforcement agencies etc)	↓	↓	↓	↓	**?**	↓	↓	↓

Little evidence for declining social engagement outside Australia and the United States….

183. This evidence highlights:

- Stable or rising participation in civic organisations (but not in Australia and United States);
- Stable or increasing levels of volunteering in most countries;
- No clear evidence of declining engagement by young people in organisations and volunteering;
- No clear evidence of declining levels of informal sociability (although the quality and comprehensiveness of data is lacking); and
- No clear evidence of declining levels of political interest and activism.

However, some traditional civic organisations appear to be waning…

- There is evidence for declining participation in certain more traditional forms of civic organisations including trade unions, Churches and women's organisations;
- Some evidence of declining levels of general social trust and trust in political institutions (especially among the young in the United Kingdom and the United States of America).

And new forms of engagement have arisen including greater concerns about single issues …

- New social movements (environmental, single-issue) have sprung up in the 1960s through the 1980s, with mixed evidence in the 1990s;
- Cultural and sporting organisational membership appears to have increased in most countries;
- Shifts in political participation appear to have occurred from face-to-face contact and dialogue to professionals with the media playing a more dominant role;
- There is some evidence of shifting engagement towards more informal, personal forms of social connection. These tend to be more individualistic and transient but not necessarily more materialistic or selfish; and
- The newer forms of civic participation tend to be narrower, more individualistic, and less focussed on collective or group interest or purpose. A type of privatisation of social capital may be at work.

Trust among individuals is up, but trust in institutions is down….

184. Using cross-national data from the WVS, Inglehart (1997) has also noted declining levels of trust in various types of institutions including political and religious hierarchies. Hence, levels of reported confidence or trust in the State, civil service, police, churches as well as in the education system and media, declined for most countries between 1981 and 1990. By contrast, there was relatively little change or even some increase in inter-personal trust in the same period. These trends may be associated with increased levels of educational attainment and a shift in values towards greater personal autonomy and less subservience to authority.

3.6 What lies behind changes in levels of trust and civic participation ?

Common patterns emerge as well as differences in national experiences…

185. Some clear patterns and shifts in behaviour emerge from the selection of countries reviewed in section 3.5, above. The singularity of the experience in the United States has been noted. Is the US pattern of declining social capital exceptional, or is it anticipating developments for other countries? The balance of evidence seems to indicate that inter-generational impacts are especially strong in the United States. In other words, more recent generations (especially those born from the 1950s onwards) are generally less inclined to join, volunteer, vote or engage socially and less inclined to trust others. Using a variety of data sources to distinguish between changes that occur in the course of people's lives (for example civic engagement tends to increase towards middle age and then fall, other things constant) and differences between cohorts at a point in time, he concludes that the effect of intergenerational differences over time is particularly strong and outweighs differences by social class, ethnic group or sub-national level.

Common patterns emerge as well as differences in national experiences…

186. It is not easy to discover what lies behind these strong intergenerational effects. Putnam explores the likelihood of the impact of World War II in creating a strong national civic spirit, the effects of which stayed with generations born in the period 1910-1940. The resurgence in social capital from the earlier years of the 20th century in the United States (following a period of decline towards the end of the 19th century which has parallels with recent trends) was linked to various civic renewal movements there at the turn of the century.

Fundamental shifts, often inevitable, are taking place in value systems…

187. Important shifts are taking place in values, norms and patterns of social behaviour in most OECD countries. Some observers claim (e.g. Inglehart, 1997) that these are part of a natural evolution in modern societies towards more personal autonomy, less hierarchical control, lower group and cultural identity and, in some cases, post-materialistic or "post-modern" and individualistic goals. Inglehart and Yankelovich also suggest increased that material wealth is a major cause of social turmoil and dysfunction in the initial and middle stages of economic development, while at a later stage of economic development, relative economic security might lead to a return to more traditional values. The implication of these shifts is that the nature of social ties may be changing rather than some linear decline in the overall amount of social engagement and commitment to common goals.

A weaker commitment to common causes and the public good may be a by-product of erosion in more traditional values and attitudes…

188. The rise of new values with an emphasis on personal control and autonomy over subservience to authority or tradition may have some undesirable side-effects such as weakened commitment to duty and common enterprise. Where once individuals could fall back on extended families, churches and other social supports, these traditional supports have weakened. One impact is that the transition to adulthood is likely to be more problematic for those in search of identity, beliefs and place in society. In the view of some commentators (for example, Fukuyama, 1999), the intellectual ground was laid for these shifts in outlooks based on relativist morality with mass media playing a key role. An erosion in common values, common identities and social goals to strive for, it is argued, are eroding trust and commitment to high-quality, public-interest civic engagement.

Based on new values, the nature of engagement may be changing …

189. Rothstein (1998) argues that people may share less and less the same values and lifestyles, but may be more interested and socially engaged. Using survey data for Sweden, he suggests that individuals are more willing to give support to other individuals but also to accept that they have other, different values and want to engage themselves for different causes. A key challenge associated with shifting values and norms is not necessarily how to re-create past values and traditions of engagement, but how to re-invigorate societies with greater civic and public commitment based on new aspirations and attitudes.

Mass media are likely to have impacted negatively on civic engagement…

190. To a much lesser extent than the impact of intergenerational differences in the United States, Putnam finds a strong link between the growing incidence of watching television there (and less selective programme viewing) and declining social engagement, controlling for other factors such as race, social status and age. Strong intergenerational effects, combined with the growing amount of time watching TV, seem to explain the bulk of the decline in social capital in the US since the mid-1960s. However, the US has not been alone in the rise of TV. Has television-watching been associated with civic disengagement elsewhere? De Hart and Dekker (1999) find a link between television-watching and civic disengagement in the Netherlands (but not to explain a decline in total social capital but rather why some groups are more engaged than others). They found that persons who watched a lot of TV set aside comparatively little time for visiting friends and acquaintances, community volunteering, receiving visitors at home, conversations with other members of the household, conducting correspondence or telephone calls[84]. The greater amount of time spent watching television since the 1950s may not have reduced associative activity outside the home as much as it did in the United States because of compensatory effects (e.g., increasing levels of education as well as other cultural factors).

Impact of working time and urban sprawl

191. Other factors examined by Putnam in relation to the United States include the impact of increased working time (in the US), double-income families and urban sprawl. These factors seem to account much less for the decline in engagement compared to the effects of inter-generational differences and incidence of TV-watching. The shift from multi-use rural neighbourhoods to single-use (residential) urban and

84 De Hart and Dekker also found that this relationship remains present even when the effects of education level or sex of the respondent, age or income level are controlled for.

suburban areas appears to have reinforced a decline in civic engagement. At the same time, however, Putnam did not find evidence that changing patterns of female employment in the paid labour force had a major impact on community involvement. Controlling for level of education, marital status and year of birth, Putnam found that US women were more socially engaged than men for all categories of employment (full-time, part-time and non-employed); and that women in part-time jobs (especially those who had found a preferred balance of work and family-care) tended to be more socially engaged than other[85]. A striking conclusion was that declines in community participation in the United States were present for all categories of employment including women not in paid employment, thus indicating that changes in patterns of female employment were not a major factor in declining civic engagement. However, pressure of time allied to increased working hours (in the United States) may have played some role for both men and women.

Does the welfare state crowd out voluntary activity and social capital?…

192. The impact of the welfare state, especially in providing community and social services has been mentioned as a possible cause of declining social capital. According to this view, when social obligations become increasingly public, voluntary, familial or inter-personal ties tend to weaken. A pervasive welfare state, it is argued, would act as a disincentive for people to undertake unpaid work in voluntary organisations (Norton, 1998). It is not possible to systematically test the claim that the welfare state has undermined social capital, in the absence of a more complete picture of the determinants of unpaid voluntary work and caring, and of a detailed historical analysis of the development of welfare policies and their interaction with aspects of social behaviour.

Higher levels of social insurance may not necessarily undermine voluntary initiative and caring…

193. An alternative view is that welfare state policies, rather than "crowding out" voluntary effort and initiative, can encourage solidarity both symbolically and practically. This may be achieved by reducing the risks individuals face through social protection programmes and by support for skills acquisition as a way to encourage and empower individuals to develop their potential (HRDC, 1999). The evidence in de Hart and Dekker (1999), Rothstein (1999) and Hall (1999) for, respectively, the Netherlands, Sweden and the United Kingdom do not provide support for a "crowding-out" hypothesis. They find that levels of volunteering, informal socialising and participation in community projects are relatively high in these countries and that there is little evidence that these have declined or have been adversely affected by public social policies.

194. In particular, two of the countries countries with the most extensive welfare policies, the Netherlands and Sweden, also have the highest scores in the amount of unpaid work in voluntary associations according to a survey of eight European countries (Gaskin and Davis Smith, 1995)[86]. In response to the question, "In the past year, have you carried out any unpaid work or activity for or with an organization which has nothing to do with your paid work and is not solely for your own benefit or the benefit of your family?", 36 percent of the Swedish population answered yes, as compared to an average of 27 percent across other European countries (Gaskin and Davis Smith, 1995).

85 However, non-employed women were more engaged than full-time.

86 Other countries with high unpaid work in voluntary associations include Belgium, Bulgaria, Germany, Ireland, Slovakia and the United Kingdom.

Increasing instability in family life may have contributed to some erosion of social capital….

195. The long-term decline, since the inception of the industrial revolution, in the role of the nuclear or extended family as educator and provider (and frequently constituting an enterprise) is likely to have eroded some family networks. More recent changes in family structures and patterns of stability imply that individuals are more likely to turn to impersonal ties to obtain finance, take care of children, educate them, etc. However, extended family cultural capital can still provide an important social safety net by meeting material and financial needs during difficult times, and assisting in the care of children and elders (Abrams, 1986).

196. According to projections based on recent patterns, *The State of America's Children, 1998 Yearbook (Children's Defense Fund)* 1 in 2 children will live in a single parent family at some point in childhood, 1 in 3 will be born to unmarried parents, 1 in 4 will live with only one parent, 1 in 8 will be born to a teenage mother and 1 in 25 will live with neither parent. Fukuyama identifies family break-up, absent parents and rising individualism as factors corroding trust and contributing to rising social dysfunction. He argues that Scandinavian countries fared better than the United States in regards to mitigating some of the negative effects of social and family disruption by having more parental presence in families (father and mother). While the longer-term impacts of these changes for the fostering of trust and civic engagement are not clear, they have important implications for social policy as with fewer family ties and ageing populations, there is risk of social isolation for those in need.

3.7 What is the impact of social capital on well-being?

Social capital and the wider social benefits…

197. As with human capital, social capital can also engender important benefits to individuals and societies. Some of these benefits are directly economical in nature, such as increased productivity, investment and macro-economic growth. The evidence for the impacts on economic well-being will be reviewed in section 3.8. Evidence for the impact of social capital on other aspects of well-being are reviewed in this section. Perhaps the clearest empirical evidence for the potentially positive impact of social capital is through its impact on the quality of life of individuals, including their health and general well-being. Recent research has established a link from social networks and ties to longevity but levels of health. Individuals who have active and trusting connections to others tend to act for the benefit of the rest of society as well as draw various benefits themselves. Much of the evidence is restricted to studies of the United States. However, the results are broadly suggestive of likely patterns elsewhere. It is likely that these health benefits impact favourably on economic productivity even if it is difficult to find direct links. Kawachi, Kennedy, Lochner and Prothrow-Stith (1997) argue that social capital, based on composite measures of voluntary civic participation, trust and other forms of social ties, explains differences in levels of mortality across US States. It appears that social capital "mediates" the impact of income inequality on various outcomes such as health and crime.

A variety of benefits flow from higher levels of social connectedness

198. Positive outcomes of social capital are likely in the area of health. A number of existing or prospective studies in various countries have shown that, controlling for initial health status, the extent of social connectedness – the degree to which individuals form close bonds with relations, friends and

acquaintances – is associated with increased life expectancy[87]. Putnam (2000a) reviews a large number of empirical studies which report a positive link between social capital (largely measured in terms of social networks) to education, child welfare, lower crime, neighbourhood vitality (e.g. resale prices), health (both physical and psychological), happiness, and democratic government. Evidence on the impact of social capital on child welfare including education is reviewed by Putnam. He finds a strong and significant correlation between measures of social capital[88] at United States state level and a composite measure of child welfare, controlling for characteristics such as race, income and level of initial education.

The precise way in which social capital improves health needs to be better understood…

199. Perhaps the most convincing evidence on the positive impact of social capital is in the area of personal health. Arguably, this is not a new insight. The nineteenth century sociologist, Emile Durkheim in his book *Suicide*, found a close link between incidence of suicide and the degree to which individuals are integrated into society. He found that rates of suicide tended to increase during periods of rapid social change which disrupted the fabric of society and weakened social connectedness. Putnam (2000a) reviews the results of numerous studies which indicate a link from social connectedness to health and personal well-being even when controlling for social, racial and demographic characteristics of individuals. Longevity also appears to be affected by the extent of social connectedness. He suggests two possible reasons for these links: (i) social networks furnish tangible assistance and care which reduce psychic and physical stress; and (ii) social capital might trigger a physiological mechanism stimulating individuals' immune systems to fight disease and buffer stress.

Social isolation tends to precede illness more than the reverse….

200. The research on health impacts of social capital show that social isolation tends to precede in time illness – thus countering the likelihood of a predominating reverse causality: illness leading to isolation. The psychological literature which spans more than three decades of work, confirms the association between supportive relationships and mental health (e.g. Brown and Harris, 1978). Putnam also reviews some of the evidence on the impact of social capital on self-reported happiness and well-being. Again, a positive link emerges even when controlling for other factors. He observes that "… in study after study, people themselves report that good relationships with family members, friends, or romantic partners – far more than money or fame – are prerequisites for their happiness" (Cohen, P, Struening, E., Muhlin, G., Genevie, L, Kaplan, S. and. Peck, H., 1982, pp 377-391 and Myers, D., 1999).

201. Elderly persons living alone and without friends or relatives have a relatively greater risk of developing dementia or Alzheimer's disease, other factors constant. A survey of 1,200 persons over three years carried out by the Stockholm Gerontology Research Centre showed that among other factors, an extensive social network protects against dementia (Fratiglioni, Wang, Ericsson, Maytan, Winblad, 2000). The importance of satisfying contact with others, especially immediate family and children was highlighted. Satisfying contact seemed to protect against dementia even if the contact was relatively infrequent.

87 However, as potential downside of social capital, not all forms and degrees of social ties may necessarily promote health. Some social ties may be oppressive or associated with unhealthy behaviour.

88 The composite measure used by Putnam is made up of indicators of (i) intensity of involvement in community, organisational life, (ii) public engagement (e.g. voting), (iii) community volunteering, (iv) informal socialiability (e.g. visiting friends) and (v) reported levels of trust

Evidence from other countries corroborates the US evidence produced by Putnam and others

202. The findings reported by Putnam in respect of the United States resemble those reported by Rose (2000) in respect of Russia. Rose used measures of connection to others who can be relied on to help, control over what happens to oneself and trust in others. He found that these measures explained significant differences in both physical and emotional health. The impact of social capital was a close tie with that of household income, and was greater than that of the level of education completed. Rose found evidence for strong informal networks between friends, relatives, and other face-to-face groups parallel to the existence of a more distant political and social life in which trust is lower. He claimed that there was stronger reliance on informal social capital than on the formal institutions of the state to deal with their problems.

Social capital is a strong predictor of child welfare…

203. In the case of child welfare, Putnam (2000a) reports evidence to show that measures of social capital are second only to poverty in correlating with the breadth and depth of impact on children's lives[89]. While poverty is associated with higher teenage fertility, mortality and idleness, community engagement has the opposite effect. Putnam concludes that the level of education of the adult population has much less of an impact on child welfare once poverty, social capital and demographic characteristics are controlled for. However, given the known impacts of education on poverty and social capital, these results may not adequately account for the interactive or combined effect of human capital working through various channels including social capital and socio-economic status.

Neighbourhood social capital related lower rates of child abuse…

204. Work by community psychologists shows that child abuse rates tend to be higher in neighbourhoods where cohesion is lower (Korbin and Coulton, 1997. Garbarino and Sherman (1980) study two neighbourhoods with similar income levels and similar rates of working women and single-parent households. It highlights that residents in neighbourhoods at greater risk of child abuse were more reluctant to ask for help from neighbours and that parents were less likely to exchange child-care with neighbours or allow their children to play with others. Children in low-risk neighbourhoods, on the contrary, were more than three times as likely as children in high-risk areas to find a parent at home after school. Studies by Runyan and others found that social connectedness of mothers of children was a key factor in successfully avoiding behavioural and emotional problems later in childhood. Aspects of social connectedness included presence of supportive social networks for mothers as well as socially supportive neighbourhoods. They conclude: "the parents' social capital…confers benefits on their off-spring, just as children benefit from their parents' financial and human capital" (Runyan, D., Hunter, W. et al., 1998).

Social capital in families is important for transition to adult life

205. In addition to the effects of social capital created in families on learning outcomes in schools reviewed in chapter 2, there is evidence that social capital created within families has a beneficial effect on child development and subsequent personal growth and development. Families based on relatively close bonds appear to be more likely to "gain a greater degree of compliance and adherence to their values". Trusting relations learned and fostered in families can assist young people in their transition to adulthood

89 These results hold up even when controls are used for income, level of education, racial composition and family structure in each United States state.

and their full civic participation (Teachman, Paasch, and Carver, 1999: pp 1343-1359 and Darling and Steinberg, *Volume II*, 120-131).

Effects of social capital on crime have been noted….

206. The impact of social capital on criminal or other anti-social behaviour has been examined by researchers. The role of norms, networks and sanctions are potentially important not only in discouraging anti-social or criminal behaviour but in rewarding and channelling community energies in a positive direction. International evidence linking the World Values Study to results of the International Crime Victim Survey[90] (ICVS) suggests that a range of social norms and values associated with social capital may be connected to cross-country differences in victimisation crime. Halpern (2000) uses data for 18 countries relating values to incidence of crime provided by ICVS. He finds that, after controlling for inequality, GDP per capita and trust showed that "self-interested" attitudes related to propensity to keeping money found, cheating, lying and avoiding fares on public transport were significantly correlated with crime. These attitudes were more prevalent among the young, males and urban dwellers. Two-thirds of cross-national variation in crime rates could be accounted for by means of country-level variables for self-interested values, economic inequality and social trust[91]. He summarises his results by referring to economic inequality as the "motive", social trust as the "opportunity" and "self-interested" values as the means to undertake offending behaviour. While these results relate to country level data at one point in time and do not prove causality, they suggest some potentially important linkages at an aggregate level between aspects of social capital and crime.

207. Kawachi et al. (1997) also suggest that a key causal link in the relationship between violent crime, social distrust and inequality is low self-esteem, dignity and social status. Where self-esteem, dignity and social status are undermined by poverty and exclusion, trust and social ties are undermined with negative consequences in terms of ill-health and crime.

The role of sanctions and neighbourhood vigilance in reducing crime….

208. US evidence reviewed by Robert Sampson shows that even controlling for poverty and other factors that might encourage criminal behaviour, communities characterised by (i) anonymity and limited acquaintance among residents; (ii) unsupervised teenage peer groups; and (iii) low level of local civic participation, face an increased risk of crime and violence (Sampson and Morenoff, 1997 and Sampson, 1995). Putnam (2000a) argues that the decline in neighbourhood social capital in the United States, as revealed through community monitoring, socialising, mentoring and organising, is an important factor in inner-city decline. Sampson, Raudenbush and Earls used extensive survey data for Chicago neighbourhoods to show that mutual trust and neighbourly altruism were key factors in explaining inter-neighbourhood differences in crime rates (controlling for neighbourhood economic and social characteristics). Complementing Putnam's observation about the impact of informal social capital on learning outcomes, their analysis suggests that "individual participation in local organizations, number of neighborhood-based programs, and extent of kin and friendship ties in the neighborhood – didn't seem to make much of a difference". Rather, the authors conclude, "reductions in violence appear to be more

90 The ICVS relates to surveys of victims of all types of crime as distinct from reported crime. These surveys took place in 1989, 1992 and 1996. Refer to http://ruljis.leidenuniv.nl/group/jfcr/www/icvs/

91 A curious result of his empirical investigation is that social trust is associated with higher levels of crime, when inequality and self-interest are controlled for. This finding may reflect a supply of "victims" at a given level of inequality and self-interest. Victims continue to trust by leaving doors and cars open in spite of the untrustworthy behaviour of others.

directly attributable to informal social control and cohesion among residents"(Putnam, pp 314, and Sampson, Raudenbush and Earls, 1997: pp918-924).

Civic associations as "schools for democracy" for fostering of mutual tolerance and understanding…

209. Effectiveness of public institutions and government in promoting inclusion and cohesion may depend crucially on social capital. Putnam (1993 and 2000a) uses data on voting behaviour, tax cheating and civic and political engagement to show a link from social capital to performance of government institutions. Regions or states with higher levels of trust and engagement tend to have better quality government, even controlling for other social and economic factors. Moreover, individuals who are connected to others by community, occupation or association are less likely to be disengaged in local political activity and to share extremist views. In other words, social and civic skills are fostered in voluntary civic associations – what Putnam refers to as "schools for democracy". Most forms of civic engagement, although not all, help to create trust, reciprocity and co-operation with positive spin-offs for local communities, societies and economies. In civic associations, individuals learn to engage in discussions with others – often of an opposing view.

The impact of social capital on life satisfaction….

210. As noted in Chapter 2, a growing literature has focussed on the determinants of "life satisfaction" or subjective well-being. Using survey results in which individuals report different levels of happiness, these studies examine the association between levels of reported well-being or happiness and demographic, social, ethnic and other factors. For want of suitable data which can track individuals over time it is difficult to draw general conclusions. However, a number of pertinent insights have emerged from this literature. Putnam (2000a) tracks trends in reported levels of happiness and associated characteristics of individuals[92]. He finds that, along with personal health, the single most significant factor appears to be social ties. Marital status is also strongly related to reported happiness. Putnam (2000c) finds that with diminishing returns to US state level increases in income, human and social capital seem to yield increases at both individual and more aggregate levels[93]. Average regional-level income impacts on well-being much less than either education, health or social capital. Holding other things constant, an increase in average income at the US state level does not increase happiness of individuals, whereas state level increases in human or social capital do.

The returns to social capital compared to human and financial capital are high….

211. Education is also important as a correlate of happiness, although it appears to occupy third place after social ties and health. Income does matter, but not as much as social ties, health or education, and its impact declines at higher levels of income. This result is consistent with the macro-level relationships between levels of GDP per capita and overall levels of well-being reported across countries. Evidence from the United States and Britain reviewed by Blanchflower and Oswald (2000) supports the view that social ties may be important for happiness more so than education and income – at least for average to above-average levels of income. Myers (1999) finds similar results for the US on the impact of close personal relations and social ties on subjective reporting of quality of life. Blanchflower and Oswald focus

92 p333.

93 Putnam (2000c) does not find any local area (US county) level impact of social capital on happiness although an individual impact still holds. This may stem from measurement error associated with smaller country-level samples).

on the impact of life events including marriage, unemployment, divorce, etc. As in Putnam (2000a), they find evidence for falling levels of happiness between the early 1970s and the late 1990s.

Summarising the evidence on well-being impacts….

212. The evidence reviewed indicates a positive impact of social capital for individuals in terms of a variety of direct personal, social and economic benefits. It is less clear that these benefits are "additive" in the sense that benefits from social capital accruing to individuals would lead to a general benefit for society. There is reason to believe that some of the gains to increased social capital are appropriated by others and are not simply re-distributions from one group of individuals to another. The extent of a positive spillover depends on the nature of social capital.

3.8 The relationship between social capital and social inequality

213. Acute forms of social exclusion (by social, ethnic, gender or regional status) also appear to go hand in hand with lower levels of trust and civic engagement – especially of the "bridging" type. Groups may be less inclined to co-operate with or trust other groups even when high levels of co-operation and trust prevail within each group. This section addresses two inter-related issues:

- At the micro level, how does social capital interact with social inequality more broadly (access to learning, jobs and income) ?

- At the macro-level, does social capital lead to more equality in income and social opportunity, and does such equality generate higher levels of trust and social connectedness?

Inequalities in social capital parallel those of human capital…

214. As in the case of human capital, the level, type and quality of access to social networks varies considerably across different social groups. Moreover, the shared values and norms facilitating co-operation within and among groups also varies. Within any social network, the quality and density of relations with others is important for individual's access to information and social support. The value of a specific form of social capital is linked to the fate of the social sectors in which it is nested. Hence, any consideration of precariousness and of the mechanisms of social exclusion needs to assess the access of various groups to different types of social capital. Barbieri, Russell and Paugam (1999) in their analysis of job search and social contacts in a number of European countries show that social capital is a valuable resource for finding employment, especially in open and flexible labour markets. More than the number of social connections available to an individual, successful job search hinges on the range of persons with whom the individual is connected with and can rely on. Bridging as distinct from bonding social capital is an important asset for individuals in search of employment. However, the unemployed experience less access to extensive, job-based networks and contacts.

215. Attempts to address areas of social exclusion, such as lack of employment or education and training, need to consider the different social networks that groups can draw upon. Policy interventions to counteract exclusion and to raise participation in the labour market or in learning can be more effective if they: (i) target areas of acute social capital shortfall; and (ii) help leverage greater social capital support. In addition to imparting valuable social skills, education enables individuals to experience more diverse social relations and to gain access to a wider and more diverse network of persons.

Does social capital lead to more equitable societies?..

216. Comparisons, both cross-national and over-time, of various measures of social capital suggest that there is a link between levels of social capital and economic and social inequality. Countries and regions with high levels of trust and civic engagement tend to be more equal in terms of income, adult literacy and access to further learning. However, correlation does not prove causality, and still less the direction of causality.

Is social capital a self-perpetuating resource for the more advantaged?..

217. A counter-indication to the positive link between social capital and equality is the possibility that some social networks may exclude others and that over time, social networks and civic participation may have become more unequal in some societies. According to this line of thinking, some forms of cultural, social and human capital tend to be self-reinforcing. The higher the initial endowment, the more likely that individuals will acquire more throughout life. For those on the "inside" of particular networks and communities there are important means of access to resources and assistance from which "outsiders" are effectively excluded. For example, Hall (1999) reports significant differences in social capital in the United Kingdom across social groups (a point also developed in relation to the data for France in Galland, 1999) and that individuals from middle class backgrounds were more likely to join new associations at frequent intervals, accumulate more memberships over their lifetimes, and join diverse and extensive social networks . Individuals from a working class background, on the contrary, tended to join fewer associations, but often associated with specific endeavours and stayed in them for long periods of time.

The trend seems to be that inequality leads to lower social capital rather than the reverse….

218. The evidence for trends in social capital was considered in section 3.6. These trends may have be linked to changes in patterns of economic inequality within and across countries. Putnam (2000a, p.360) finds evidence that, over time, trends in social capital in the US appear to be closely linked to trends in inequality of income and wealth with the direction of causation working in both directions but probably more from inequality to lower social capital than the other way reverse. He also finds some evidence that inequality and lower civic engagement tend to reinforce each another. Knack finds a positive correlation between equality of income and trust at the cross-country level. The likelihood that rising poverty and economic inequality are linked to erosion of social capital in the United States and possibly elsewhere is contested by Fukuyama. He does not see any necessary relationship running from inequality to erosion of social capital and social cohesion. Rather, he argues that family break-up and declining trust (partly related to family break-up) has been responsible for some of the increase in US poverty (especially rising incidence of single-parent families).

There seems to be a link between social exclusion, social capital and health....

219. Using data from the U.S. General Social Survey at the US State level, Kawachi, Kennedy, Lochner and Prothrow-Stith (1997) make the case that income inequality leads to lower social capital and that, in turn, this is linked to higher mortality rates as well as higher rates of crime. In addition to the mediating role of social capital, there are, of course, direct linkages between poverty and ill-health. However, the impact of poverty or income inequality seems to be partly via social capital. Their key insight is that income distribution matters more than average income at the US state level in terms of health

outcomes and that social capital is a key mediating influence[94]. This finding is consistent with the observation by Wilkinson (1996) and others that differences in average levels of health across countries or regions seem to be related to differences in inequality and poverty more than average income levels. Work by Halpern and Nazroo (2000) also indicates that individuals from ethnic minority groups experience better mental health and personal well-being when living in areas of high group concentration, other things being constant.

Social fragmentation, diversity and social capital

220. Some studies have suggested that countries polarised along lines of class, ethnicity or language (Collier, 1998; Knack and Keefer, 1997) face a higher risk of social fragmentation, conflict and exclusion compared to societies with high levels of ethnic homogeneity. Heterogeneity alone, however, is insufficient to explain a lack of social bridging occurring within a country or community. Many multi-racial and linguistically diverse societies have proved to be able to manage and harness diversity with positive outcomes. For example, La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997) in their cross-country study did not find significant correlation between ethnolinguistic heterogeneity and levels of reported mistrust.

Some suggestive international evidence that social capital can mediate differences in overall literacy or learning outcomes…

221. Willms (2000), using Canadian data on student achievement, finds that individuals from less advantaged backgrounds who live in less advantaged communities are especially vulnerable to low educational achievement. His findings suggest that communities with high social capital can achieve higher learning outcomes. Willms stresses the importance of disciplinary climate, parental involvement and high expectations in raising school and literacy standards. Furthermore, family and community effects are important in raising the skills and literacy of disadvantaged adults. These findings suggest that the responses of societies and communities to disadvantage is an important determinant of how well they perform in terms of overall literacy. High cross-country differences in adult literacy and skill levels for persons with low levels of social status contrasts with smaller differences for more socially advantaged groups. This suggests that a key element in strategies to improve overall literacy standards is the identification of the needs of the socially disadvantaged and especially those with poor access to social networks.

3.9 What is the impact of social capital on economic well-being?

222. This section presents some evidence on the potential for social capital to contribute to enhanced economic performance at various levels. The evidence is reviewed under five headings

- productivity gains in firms and organisations;
- productivity gains in regions or neighbourhoods;
- gains in job search; and

94 For an alternative view of the role of social capital in mediating the impact of poverty and inequality on health see Lynch et al. (1999). They claim that, based on limited conceptual and empirical evidence, the impact of social capital on health may have been exaggerated.

– macro-economic growth benefits.

3.9.1 Productivity gains in firms and organisations

Trust as an ingredient in facilitating productivity…

223. Trust underwrites transactions whether they are private, social, economic or political in nature. Central to the definition of social capital is the concept of networks[95]. Firms can benefit from norms of co-operative trust embodied in various types of intra-firm or inter-firm networks because they facilitate co-ordination with the potential for minimising transaction costs, such as negotiation and enforcement, imperfect information and layers of unnecessary bureaucracy[96]. In this perspective, trust has many dimensions including a belief in the good intentions of others as well as their competence and reliability.

Trust is embodied in the organisational culture of firms…

224. Humphrey and Schmitz (1998) highlight how "trust based relations between economic agents have been seen as part of the competitive advantage of manufacturing enterprises in Germany, Japan and parts of Italy…". Suppliers and buyers can sustain long-term relations of co-operation and mutual obligation through repeated transactions forged on trust and networking. Business networks relating to joint effort on marketing, training, lobbying or research can generate long-term benefits in reduced overhead costs, information-sharing and sanctions for opportunistic behaviour. In some niche markets, such as in software development or the garment industry, entrepreneurs can take advantage of economies of time, by sharing information, and adapting quickly to changing demands of customers (Uzzi 1996 and 1997).

Generalised trust leading to larger and more effective production units…

225. Some of the research has explored the notion of generalised versus specialised trust. La Porta Lopez-de-Silanes, Shleifer and Vishny (1997) find that there is a distinction to be made between forms of trust. For example, they found that the revenues of the 20 largest firms as a percentage of GDP is positively associated with trust in people in general, and negatively associated with trust in family. They suggest that larger firms might prevail in high trust societies where sanctions and penalties for opportunistic behaviour are less in evidence than in closely knit societies based on bonds of family or ethnicity. In large organisations, individuals meet less frequently and need to draw on norms of trust to sustain relationships and co-operation. They argue that where trust prevails, larger organisations can more easily flourish. In this model, trust tends to be an exogenous factor shaped by historical and cultural factors and acting to facilitate collective action and co-operation, including higher civic engagement and government effectiveness.

95 "Where people are trusting and trustworthy, and where they are subject to repeated interactions with fellow citizens, everyday business and social transactions are less costly". (Putnam 2000a: 288).

96 Fukuyama (1999) defines a network as "as a group of individual agents that share informal norms or values beyond those necessary for ordinary market transactions".

Intra-firm social capital….

226. Similarly, intra-firm networks and co-operative norms can also facilitate teamwork, enhance efficiency and quality as well as improve the flow of information and knowledge (Smith 1994). Haruo Shimada (1988) has argued that the basic reason for the strong competitiveness of Japanese automobile companies was a co-operative attitude among the workers and management. "In a US company, each worker is eager to make his individual success, and unwilling to tell what he knows to his colleague. But here, everybody is willing to tell what he knows as much as possible to the colleague. This is because he believes that he can make a success only as a team, not on his own" (cited in Omori, 2000).

3.9.2 Productivity gains in regions and neighbourhoods

The impact of social capital at the regional/industrial complex level

227. Regional industrial systems based on local area networks are potentially more flexible and dynamic than those in which learning is confined to individual firms. Regional networks can allow for information flows, mutual learning and economies of scale. Putnam (2000a) contrasts the impact of Silicon Valley and *Route 128* in the US. He cites Silicon Valley in California where a group of entrepreneurs helped by research effort in the local university community, contributed to the development of a world centre of advanced technology. He comments that "The success is due largely to the horizontal networks of informal and formal cooperation that developed among fledgling companies in the area". By contrast, the *Route 128* corridor outside Boston, lacked such inter-firm social capital, according to Putnam. A more traditional form of corporate hierarchy, secrecy, self-sufficiency, and territoriality was maintained there.

3.9.3 Gains in job search

Role of social connections in job search and getting ahead in life

228. The role of social capital in assisting job search has already been referred to in relation to equality of access to networks. A number of economists including Granovetter (1973) has emphasised the role of "weak ties" over "strong ties" in helping to find employment openings. Casual acquaintances can be more effective in providing useful leads than close friends and families. In a similar vein, Burt (1992) emphasises the absence of close ties[97] as a factor in encouraging mobility of individuals and sharing of knowledge. In closed or dense networks, information becomes more readily redundant. He identifies *information* and *influence* (over one's own autonomy or that of others) as two types of benefits flowing from social networks. A third type of benefit may be identified in the form of *social solidarity* involving cooperation, a sense of social duty and reciprocity not founded on any immediate pay-back for those contributing to the welfare of others. Glenn Loury, one of several independent "inventors" of the concept of social capital, did so to capture the fact that even if the human and financial capital advantages of white Americans were cancelled out, their richer connections to mainstream American institutions would confer an advantage on them relative to middle-class members of minority communities.

97 What Burt refers to as structural holes.

3.9.4 Macro-economic growth benefits

What determines long-term differences in income ?

229. Much of the recent focus of theoretical and empirical work in the economics of growth literature has been on relatively short-term changes in output or income per capita. Some work has been undertaken by economists such as Hall and Jones (1999) on the determinants of levels of output per capita. They find that countries have higher levels of output per worker in the long run if they achieve high rates of investment in physical and human capital and if they combine these inputs with a high level of what they term "social infrastructure". This infrastructure is primarily related to the effectiveness of institutions and government policies that make up the economic environment within which individuals and firms make investments, create and transfer ideas, and produce goods and services. The concept of social infrastructure[98] is close to that of political, institutional and legal conditions (PIL) identified in Chapter 1, above. Their analysis across countries indicates that differences in capital accumulation, educational attainment, and productivity can be partly explained by the impact of "social infrastructure" on investment in physical and human capital. A key dimension of social infrastructure is social capital. Human and social capital can play a role in mediating and complementing the impact of institutions and political arrangements. Both La Porta Lopez-de-Silanes, Shleifer and Vishny (1997) and Knack and Keefer (1997) report evidence on associations between trust and indicators of government performance, including the effectiveness of the judiciary and the quality of the bureaucracy (their Table 2). Knack and Keefer (1997) present similar results (their Table V). La Porta et al (1997, p. 336) also show a positive correlation between levels of education and trust, other things equal[99].

Evidence at the regional level for one country supports the case for a positive role for civic engagement on economic growth…

230. If differences in long-term economic growth are related to the interaction between institutional, cultural and social factors, then analysis at the sub-national level may throw some light. Comparisons of northern and southern Italy have been undertaken by Putnam (1993) and by Helliwell and Putnam (1999). These studies found evidence of a relationship between inter-regional performance since the mid-1980s and increasing citizen satisfaction with regional governments in the north of the country following reforms in the 1970s. Their measure of social capital includes: incidence of newspaper reading, the number of sports and cultural organisations, turnout in referenda, the incidence of preference voting influences and regional government performance. A trend towards convergence in levels of real GDP per capita across Italian regions up to the early 1980s was reversed by increasing divergence since the mid-1980s. This was hypothesised to be the result of differences in levels of social capital between the regions which enabled the North to take advantage of regional reform to grow more rapidly than the south.

231. Northern Italy shows significantly improved rates of governance, institutional performance, and economic development when other orthodox factors were controlled for[100]. Putnam (1993) also found a connection between levels of civic engagement and economic development over a long period of time. He

98 Their measure of social infrastructure for a large number of developing countries is related to (i) institutions that favour production over diversion; (ii) openness to international trade; (iii) existence of rule of law and property rights; (iv) presence of an international language; and (v) distance from the equator.

99 Knack and Keefer report a strong correlation (r=0.83) between trust and an estimate of average years of schooling for 1980, and note that "education may strengthen trust and civic norms, for example, if ignorance breeds distrust, or if learning reduces uncertainty about the behaviour of others, or if students are taught to behave cooperatively" (p. 1270).

100 Putnam used aggregate time series data for 20 Italian regions covering the period 1860 to the mid-1980s.

argues that in daily interactions structured by civic associations, people learn trust, social norms, and effective networks for public action. A plethora of civic associations has the potential to create a dense horizontal network and many opportunities to acquire the social capital of trust. A dearth of civic associations can create a thin horizontal network and fewer opportunities to acquire trust or other forms of social capital.

Caution is needed in assessing the role of trust; it may be working through hidden channels

232. Analysis of the role of social capital in explaining cross-country differences in economic growth has been very limited to date. Some of the key work has been only initiated (e.g. Knack and Keefer, 1997). A general measure of inter-personal trust from the World Values Study has been the principal proxy measure used so far. As with any single proxy measure, care is needed in interpreting the role of trust in cross-country economic growth equations. Trust may well be determined by, or correlated with, other aspects of societies that are omitted from the growth regressions. For instance, it may be that corruption or weak legal enforcement lowers trust and, for quite independent reasons, the growth rate. As Knack and Keefer note, one could even tell a story in which trust is a product of optimism in societies that are performing well in economic terms. Poverty and low economic development may hinder the development of trust because people who are economically insecure, or who live in a society of economic under-development and insecurity, may have a lower incentive to trust others.

Recent evidence does not establish any clear relationship between measures of trust and economic growth in OECD countries…

233. Hjerppe (1998) found a positive and significant relationship between measures of trust and economic growth for a sample of 27 countries including a number of middle to low-income countries[101]. His regressions used physical capital, openness to trade, the proportion of the adult population with tertiary education, and the level of trust. Using data from the World Values Study, Knack and Keefer (1997) find that a measure of general inter-personal trust seems to have an impact on economic growth when controlling for initial income per head, a human capital variable, and the relative price of investment goods [102]. However, the selection of countries, exclusion of "outliers", the time period chosen and inclusion of different explanatory variables in the growth equations make a difference and the measure of trust does not always hold up. Also using *World Values Survey* data, Helliwell (1996) found a negative effect of trust on growth in total factor productivity in a sample of 17 OECD members[103].

Distinguishing between direct and indirect impacts...

234. As in the case of human capital proxies, results are typically less strong when attention is restricted to a sample of OECD countries. Samples limited to OECD countries only are small and capture much less variation in underlying variables – hence limiting the scope for statistical significance for underlying explanatory variables to all but a few. Hence, the evidence for a direct link from social capital to economic growth is more difficult to establish. Some of the impact on macro-economic performance

101 Non-OECD countries included were Argentina, Brazil, Chile, China and Russia.

102 Knack and Keefer find that a one standard deviation change in the trust index is associated with a change in the growth rate of 0.56 of one standard deviation. In alternative terms, a level of trust that is ten percentage points higher (slightly less than one standard deviation) is associated with an annual growth rate that is higher by 0.8 percentage points.

103 Knack (1999) suggests that trust could still operate in a positive way via factor accumulation.

may also be indirect through enhanced factor accumulation (higher rates of investment in physical and human capital) and enhanced performance of "social infrastructure" (or PIL according to Chapter 1). Two key transmission mechanisms may be education and investment in physical capital.

Trust encourages investment in physical capital…

235. Several studies suggest a link between levels of inter-personal trust and levels of saving and investment in physical and human capital. As in Keefer and Knack (1997), La Porta Lopez-de-Silanes, Shleifer and Vishny (1997) report a weak association between trust and economic growth (over 1970-1993) but stronger association between a wide variety of outcomes, such as level of education and investment in physical capital using a number of controls.

Trust can stimulate savings, risk-taking and investment…

236. Studies of the role of social capital in financial development in particular regions of Italy (Guiso, Sapienza and Zingales, 2000) find that in Italian regions with high levels of social trust, households invest less in cash and more in stock, use more cheques, have higher access to institutional credit, and make less use of informal credit. In these areas, firms also have more access to credit and are more likely to have multiple shareholders. The effect of trust is stronger where legal enforcement is weaker and among less-educated people. The behaviour of individuals who have moved from another region is mainly affected by the level of trust in the environment where they live, but a significant fraction of the effect is also due to the level of trust prevailing in the province where they grew up.

Group membership does not appear to be linked to recent trends in economic growth…

237. As an alternative measure of social capital, cross-country growth regressions have used indicators of group membership drawn from the World Values Study. The results are inconclusive. They suggest that the proxy data may not be capturing important dimensions of social capital, or that the link to economic growth is hidden in other factors or, by chance, that relatively strong, but opposing mechanisms cancel each other out. Knack and Keefer (1997) found that "Olson-type" associations, such as trades unions, political parties and professional associations, had little relation to growth or investment rates. This result may not be surprising. However, they find that "Putnam-type" associations, such as religious or church organisations, education, arts, music or cultural activities, showed no relation to economic growth but a significant *negative* relation with investment. As with measures of human capital, measures of social capital based on highly undifferentiated variables with no distinction in terms of quality of engagement and interaction with trust may not show up as significant drivers of economic performance. It is not obvious that changes in group membership or other forms of social interaction have impacted on recent differences in economic growth across OECD countries. The evidence for declining levels of group and civic participation in the United States stands alongside rapid increases in income per capita. One possibility which will be touched on in Chapter 4 is that some countries may be trading other forms of capital for social capital with no adverse effects on growth in measured economic output, at least in the short-term. The results for overall well-being may, however, be quite different, as already shown.

Summary of evidence on the role of trust and civic association…

238. Although the interpretation of results and direction of causality is open to question, there is a striking close correlation in reported levels of trust over time (comparing 1981 and 1991) suggesting that: (i) trust is likely to be related to long-term economic, social and cultural factors; (ii) the use of data on trust

for a recent year is probably a good proxy for likely levels of trust at the beginning of a given period of analysis of growth outcomes; and (iii) the close association between trust and levels of human and physical capital investment suggests the full impact of social capital may not be fully observed or accounted for. Temple (2000) suggests that the evidence for an effect of trust is important enough to be worthy of further investigation.

3.10 Conclusion

Summing up the evidence…

239. The evidence on the impact of social capital is fairly recent compared to that in respect of human capital where there have been three to four decades of debate and analysis. A key conclusion of this chapter is that there is a very close two-way relationship between social capital and human capital (between, for example, levels of civic engagement and trust on the one hand and levels of education on the other). Even at a very aggregate and cross-country level of analysis, this positive association holds up. Over time, however, it is not obvious that trends in human capital necessarily move in the same direction as social capital since many other factors separately influence trends in human and social capital[104]. It is more difficult to demonstrate a clear link from social capital to economic growth. As in the case of human capital, the evidence is affected by the quality and breadth of proxy measures, the complexity of inter-relationships between different conditioning factors and the difficulty in comparing across countries with widely differing cultural, institutional and historical traditions.

240. It may be too early to draw conclusions from studies which rely on what may be viewed as ambiguous and highly aggregate or undifferentiated proxy measures of social capital. The type and distribution of social capital is important and it is likely that different types of social capital will have different outcomes – labour market, macro-economic and social. Nevertheless, the power of the concept remains to be developed especially in relation to broader social and learning policy. Stocks of social capital may not be enough to sustain progress without more attention to (i) the quality of investment in social capital; (ii) the distribution of social capital; and (iii) the potential for market "under-investment" because of the "public good" or "externalities" characteristics of social capital. Ultimately, the question of whether social capital is adequate may rest on these three points. The distribution of social capital by different groups, the access by excluded groups to learning and social networks (including the growing "virtual" communities of electronic networks) and the tendency for private individuals and firms to "under-invest" in social capital pose challenges for policy-makers concerned with ensuring viable and sustainable growth and balanced development in the long-term.

241. This chapter suggests that returns to social capital are far broader than whatever positive effects they may have on productivity or income and that, furthermore, along with human capital its impact on well-being at both individual and societal levels may be as significant if not more, as the impact of economic productivity.

104 For example rising demand for education associated with changing labour market conditions may not be paralleled by increases in social capital.

REFERENCES

Abramovitz, M. and David, P. (1996) "Convergence and Deferred Catch-up: Productivity Leadership and the Waning of American Exceptionalism", in Ralph Landau, Timothy Taylor and Gavin Wright, eds. *The Mosaic of Economic Growth* (Standford, CA: Stanford University Press).

Adler, P., and Kwon, S., "Social capital: the good, the bad, and the ugly", University of Southern California.

Amato, P. (1998), "More than money? Men's contributions to their children's lives", Chapter 13 in A. Booth & A. Creuter (eds.*) Men in Families: When do they get involved? What difference does it make*?, Lawrence Erlbaum, New Jersey.

Arrow, K.J. (1972), "Gifts and Exchanges," *Philosophy and Public Affairs*, 1, Summer.

Barbieri, P. Russell, H. and Paugam, S (1999), "Social capital and exits from unemployment", unpublished paper.

Blanchflower, D.G. and Oswald, A.J. (2000) "Well-being over time in Britain and the USA", Working Paper no. 7487, National Bureau of Economic Research http://www.nber.org/papers/w7487

Bourdieu, P. (1985), "The Forms of Capital" in J.E. Richardson (ed.) Handbook of Theory of Research for the Sociology of Education, New York: Greenwood Press, pp. 241-58.

Bourdieu, P. (1980), "Le capital social: notes provisoires", *Actes de la recherche en sciences sociales I*, no 31, pp. 2-3.

Bourdieu, P. (1979), "Les trois états du capital culturel", *Actes de la recherche en sciences sociales*, no. 30 (Thema 'L'institution scolaire'), S. 3-6.

Bourdieu, P. and Passeron, J.C. (1970), *Reproduction in Education, Society and Culture*, London: Sage, 1990.

Brown G., and Harris, T. (1978) *Social origins of depression*, Tavisock, London.

Burt, R.S. (1992) *Structural Holes, The Social Structure of Competition*, Cambridge, MA., Harvard University Press.

Cohen, P., Struening, E., Muhlin, G., Genevie, E., Kaplan, S. and Peck, H. (1982) "Community Stressors, Mediating Conditions and Wellbeing in Urban Neighborhoods," *Journal of Community Psychology*, 10.

Coleman, J. (1988) "Social Capital in the Creation of Human Capital", *American Journal of Sociology*, Vol 94 Supplement S95-120.

Coleman, J.S. (1990), *The Foundations of Social Theory*. Cambridge: Harvard University Press.

Collier, P. (1998), "Social Capital and Poverty", Working Paper, The World Bank, Washington, DC.

Cox, E and Macdonald, D (2000) "Making social capital a discussion paper", New South Wales Council of Social Service.

Darling, N., and Steinberg, L, (????) "Community Influences on Adolescent Achievement and Deviance," in Brooks-Gunn, Duncan, and Aber, eds. *Neighborhood Poverty: Volume II*, 120-131

De Hart, J. and Dekker, P. (1999) "Civic Engagement and Volunteering in the Netherlands: A 'Putnamian' Analysis" in *Social capital and European democracy, eds.* Van Deth, J., Maraffi, M., Newton, K, Whiteley, P., London: Routledge, pp.75-107.

Durkheim, (1893), *The Division of Labor in Society*. New York: The Free Press, 1984.

Durkheim (1970) *Suicide: a study of sociology*, Routledge and Kegan Paul Ltd, London.

Easterly, W. and R. Levine, (1997), "Africa's Growth Tragedy: Policies and Ethnic Divisions", *Quarterly Journal of Economics*, 112(4), November 1997, 1203-50.

Garbarino, J. and Sherman, D. (1980) "High-Risk Neighborhoods and High-Risk Families: The Human Ecology of Child Maltreatment," *Child Development*, 51, 188-198.

Fratiglioni, L., Wang, H., Ericsson, K., Maytan, M., Winblad, B. (2000) "Influence of social network on occurrence of dementia: a community-based longitudinal study", *The Lancet*, Volume 355, Number 9212, 15 April.

Fukuyama, F. (1995), *Trust: The Social Virtues and the Creation of Prosperity*, New York, The Free Press.

Fukuyama, F. (1999) *The Great Disruption: Human Nature and the Reconstitution of Social Order*, New York: The Free Press.

Galland, O., (1999) "Les Relations de Confiance", *La Revue Tocqueville, The Tocqueville Review*, Vol. XX, no.1.

Gallie, D.; Gershuny, J.; Vogler, C. (1994), "Unemployment, the household and social networks", in Gallie et al. (eds.) *Social change and the experience of unemployment*, Oxford Univ. Press.

Gaskin, K., and Davis Smith, J. D., (1995) *A new civic Europe? A study of the extent and role of volunteering*, The Volunteer Center, London.

Glaeser, E.L. (2000), "The Formation of Social Capital", Paper presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 19-21.

Granovetter, M. (1973), "The strength of weak ties", *American Journal of Sociology* 78, pp. 1360-80.

Guiso, Sapienza and Zingales, (2000) "The Role of Social Capital in Financial Development" *NBER Working Paper* no. 7563 February.

Hall, P. (1999) Social Capital in Britain, *British Journal of Political Science*, 29, 417-461.

Hall, R. and Jones, C., (1999) "Why Do Some Countries Produce So Much More Output per Worker than Others?" *Quarterly Journal of Economics*, February, Vol. 114, pp. 83-116.

Halpern, D.S. (2000) (forthcoming) “Moral values, social trust and inequality: can values explain crime?”

Halpern, D.S. and Nazroo, J. (2000) (forthcoming) “Mental health and ethnic group concentration: a confirmation of the ethnic density factor

Hanifan, L., (1916) “The rural school community center,” *Annals of the American Academy of Political and Social Science* 67.

Helliwell, J. (1996) “Economic growth and social capital in Asia”. National Bureau of Economic Research working paper no. 5470.

Helliwell, J. and Putnam, R. (1999) “Economic Growth and Social Capital in Italy”, in Dasgupta, P. and Serageldin, I., eds, *Social Capital: a Multifaceted Perspective*, World Bank

Helliwell, J (2001) (forthcoming) “The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being”, Proceedings of a Symposium organised by OECD and Human Resources Development Canada, March, 2000, Québec City.

Hirschman (1984), “Against parsimony: three easy ways of complicating economic analysis,” *American Economic Review* 74, pp. 88-96.

Hjerrpe, R., (1998), “Social Capital and Economic Growth”, Discussion paper, no. 183 Government Institute for Economic Research (VATT), November.

Inglehart, R. (1997) *Modernization and Postmodernization*: *Cultural, Economic and Political Change in 43 Societies* Princeton: Princeton University Press.

Jacobs, J. (1961), *The Life and Death of Great American Cities*, New York: Random House.

Kawachi, I, Kennedy, B.P., Lochner, K. and Prothrow-Stith, D.. (1997) “Social Capital, Income Inequality, and Mortality”, American Journal of Public Health, 87 (9): 1491-1499.

Kennedy, I.B.P, Lochner, K. and Prothrow-Stith, D., (1997) “Social Capital, Income Inequality, and Mortality “, *American Journal f Public Health*, Vol. 87 No. 1.

Kern, H. (1998) “Lack of trust, surfeit of trust: Some causes of the innovation crisis in Germany industry” In C.Land and R. Bachmann (eds.) *Trust within and between organizations* (pp.203-213), New York: Oxford University Press.

Korbin, J. and Coulton, C. (1997) “Understanding the Neighborhood Context for Children and Families: Combining Epidemiological and Ethnographic Approaches.” in Jeanne Brooks-Gunn, Greg J. Duncan, and J. Lawrence Aber, eds. *Neighborhood Poverty, Volume II*. (New York: Russell Sage Foundation), pp. 65-79.

Knack, S. and Keefer. P. (1997), “Does Social Capital Have an Economic Payoff? A Cross-Country Investigation”. *Quarterly Journal of Economics*, 112(4), 1251-88.

Knack, S. (1999), “Social Capital, Growth and Poverty; A Survey of Cross-Country Evidence”, World Bank, *Social Capital Initiative*, Working Paper No. 7.

Knack, S. (2000), "Trust, Associational Life and Economic Performance", Proceedings of a Symposium organised by OECD and Human Resources Development Canada, March, 2000, Québec City.

McLanahan, S., and Sandefur, G.D., (1994), *Growing Up with a Single Parent*: *What Hurts, What Helps* Cambridge, MA: Harvard University Press.

La Porta, R. F. Lopez-de-Silanes, A. Shleifer and R.W. Vishny, (1997) "Trust in Large Organisations", *American Economic Review, Papers and Proceedings*, 87(2), 333-8.

Loury, G. (1987), "Why should we care about group inequality?" *Social Philosophy and Policy*, pp. 249-71.

Lynch, J., Due, P., Muntaner, C. and Davey Smith, G. forthcoming (1999) "Social Capital – Is it a Good Investment Strategy for Public Health", Journal of Epidemiology and Community Health, Vol. 53: 195-196 April issue.

Moore, G. (1990), "Structural Determinants of Men's and Women's Personal Networks", *American Sociological Review*, Vol. 55, October.

Myers, D., (1999) "Close Relationships and Quality of Life." In Kahneman, D, Diener, E. and Schwartz, E., eds. *Well-being: The Foundations of Hedonic Psychology* (New York: Russell Sage Foundation).

Narayan, Deepa and Lant Pritchett (1998) "Cents and Sociability: Household Income and Social Capital in Rural Tanzania", *Economic Development and Cultural Change*, Washington, World Bank.

Offe, C. and Fuchs, S. (1998) "A Decline of Social Capital? – the German Case" in Putnam, R. (2000b) forthcoming, *Society and Civic Spirit (Gesellschaft und Gemeinsinn)*, Bertelsmann Foundation

Olson, M. (1982), *The Rise and Decline of Nations*, New Haven, Yale University Press.

Omori, T., (2000), "Balancing economic growth with well-being: Implication of the Japanese experience" Paper presented at the OECD/HRDC Symposium on *the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being*, Quebec, 20-21 March.

Piciotto, R. (1998) "Gender and social capital", presentation at the Gender and Development Workshop, World Bank, April, 1998 http://www.worldbank.org/html/prmge/know/gendev/

Porter, M. (1990) The Competitive Advantage of Nations, The Free Press, New York.

Portes, A. (1998). "Social Capital: Its Origins and Applications in Modern Sociology." *Annual Review of Sociology* 24: 1-24.

Portes, A. and Landolt (1996). "The downside to social capital". The American Prospect 26 (May-June): 18-21, 94. http://epn.org/prospect/26/26-cnt2

Powell, W., and Smith-Doerr, L. 1994), "Networks and economic life" in N.J. Smelser and R. Swedberg (eds.), *The Handbook of Economic Sociology* (pp 368-402), Princeton: Princeton University Press.

Putnam, R. (1993). *Making democracy wor*k. Princeton University Press, Princeton

Putnam, R.D. (1995), "Bowling Alone: America's Declining Social Capital." Journal of Democracy. Volume 6, no.1, pp. 65 – 78. http://muse.jhu.edu/demo/journal_of_democracy/v006/putnam.html

Putnam, R. (2000a) *Bowling Alone: The Collapse and Revival of American Community*, Simon Schuster, New York

Putnam, R. (2000b) (forthcoming) *Society and civic spirit (Gesellschaft und Gemeinsinn)*, Bertelsmann Foundation

Putnam, R. (2000c) "Social Capital: Measurement and Consequences" – Keynote Address at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 19-21.

Rose, R. (2000) "How much does social capital add to individual health? A survey study of Russians", *Social Science and Medicine*, I-15 Pergamon.

Rothstein, B., (1998) "Social Capital in the Social Democratic State – The Swedish Model and Civil Society" Department of Political Science, Göteborg University, Sweden.

Runyan, D., Hunter, W. et al., (1998) "Children who prosper in unfavorable environments: The relationship to social capital," *Pediatrics* 101: 12-18.

Sampson, R., Raudenbush, S. and Earls, F. (1997), "Crime: A Multilevel Study of Collective Efficacy," *Science*, 277, 15 August.

Sampson, R., and Morenoff, J. (1997), "Ecological Perspectives on the Neighborhood Context of Urban Poverty: Past and Present." In Brooks-Gunn, J., Duncan, G. and Aber, J.L. eds. *Neighborhood Poverty: Volume II* (New York: Russell Sage Foundation, 1997), pp. 1-22.

Sampson, R., (1995), "The Community" in *Crime*, Wilson, J. and Petersilia, J. eds. (San Francisco: Institute For Contemporaty Studies Press,193-216.

Shimada, H. (1988) " Hyu-man Uea no Keizaigaku (Economics of Humanware)," Iwanami.

Teachman, J., Paasch, K., and Carver, K. (1999), "Social Capital and the Generation of Human Capital," *Social Forces* 75;

Temple, J. and Johnson, P. (1998) "Social Capability and Economic Growth" *Quarterly Journal of Economics*, August, pp. 965-988.

Temple, J. (1999). "The new growth evidence", *Journal of Economic Literature*, 37(1), 112-156.

Temple, J. (2000) "Growth effects of education and social capital in the OECD", paper prepared for the OECD Secretariat.

Uzzi, B. (1996), "The Sources and Consequences of Embeddedness for the Economic Performance of Organizations: The Network Effect", *American Sociological Review* 61(4): 674-98.

Uzzi, B. (1997), "Social structure and competition in inter-firm networks: The paradox of embeddedness", *Administrative Science Quarterly* 42(1): 35-67.

Wilkinson, R. (1996), *Unhealthy Societies: the afflictions of inequality* Routledge: London.

Willms, J. D. (2000) "Three Hypotheses about Community Effects Relevant to the Contribution of Human and Social Capital to Sustaining Economic Growth and Well-Being" Paper presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 20-21.

Woolcock, M. (1998) "Social Capital and Economic Development: Toward a Theoretical Synthesis and Policy Framework". Theory and Society 27(2): 151-208.

Woolcock, M. (1999), "Social Capital: The State of the Notion", paper presented at a multidisciplinary seminar on Social Capital: Global and Local Perspectives, Helsinki, April 15.

Woolcock, M. (2000), "The Place of Social Capital in Understanding Social and Economic Outcomes" Proceedings of a Symposium organised by OECD and Human Resources Development Canada, March, 2000, Québec City

Worms, J.P. (1998) "Old and new civic and social ties in France" in Putnam (2000c).

World Bank (1998) "The initiative on defining, monitoring and measuring Social capital text of proposals approved for funding", Environmentally and Socially Sustainable Development Network, Social Capital Initiative, Working Paper no. 2. June.

CHAPTER 4

SOME POLICY QUESTIONS AND FURTHER RESEARCH NEEDS

"Whatever the difficulties in the design and evaluation of education, there is a genuine policy instrument, or scores of them, right at hand. There are education ministers, and they have tasks and budgets. But make yourself the minister of social capital and who would you talk to when you came to work in the morning? Social capital is itself a bridging concept"

Helliwell, J (2001) forthcoming "The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being", Proceedings of a Symposium organised by OECD and Human Resources Development Canada, March, 2000, Québec City

"Most of economics can be summarized in four words: people respond to incentives"

Steven Landsburg (1993) *The Armchair Economist: Economics and Everyday Life*, The Free Press, New York (page 3)

4.1 Introduction

Finding the right balance in public policy is not easy…

242. The challenge for policy-makers is to find the most effective way to foster both human capital and social capital to meet current and future economic and social needs. Balancing today's needs with those of the future, as well as economic growth and a wider range of social objectives, will require participation and consensus by key players. The policy trade-offs are not obvious in each instance, and in some cases, simplistic or uninformed recipes may stand in the way of necessary economic and social change because considerations about "short-term pain" outweigh those about "long-term gain". Typically, policy-makers aim for "win-win" in the sense of the greatest possible improvements in well-being, which typically involve improvements in both economic and social conditions. However, some policy pathways to reach a given goal may require choices and tradeoffs along the way. Certain policy instruments may be in conflict, or alternatively, public policy may contribute to outcomes which are unfavourable for some groups, or for some levels of well-being.

Public policy does not hold the key to everything…

243. Frequently the role of public policy is to provide the enabling environment for action by other actors. Possible cases of under-investment relative to some socially desirable level or type in both human and social capital were discussed in Chapters 2 and 3 respectively. Cases of "market failures" associated with the nature of learning and social networks as public goods do not necessarily point to the need for strong public intervention in every case. Public institutions, private companies and various sectors of civil societies may "fail" to respond adequately to economic and social challenges. In some cases, aspects of the institutional and social environment may tend to block progress. This may occur because private or individual interests take precedence over broader societal goals or because there is an absence of co-ordination and dialogue based on trust and reciprocal exchange between key actors.

Social capital as a means of facilitating dialogue for change…

244. Potential conflicts and tensions can be addressed if the energies of various actors are mobilised and dialogue and consensus reached. Consensus-building is required for different groups to accept and be part of changing economies and societies, and to put in place the right conditions for sustainable progress in well-being. Empowerment, partnership and a mobilisation of social energy are needed to include all sectors of society in the process of consultation and decision-making. Individuals and communities may need to be equipped with particular forms of social capital to accept and cope with change that seems largely unpredictable and arbitrary. Not all forms of social capital are necessarily useful for promoting co-operation and dialogue across different groups.

There are different pathways and policy combinations to achieve any given goal…

245. Very specific policy recommendations in relation to either human or social capital do not seem appropriate at the international level given the huge variation in cultural traditions and social objectives across OECD countries. The appropriate national "policy mix" at any period in time is not the same everywhere and at the same time: different societies choose varying combinations and approaches to social policy in seeking to achieve any given objective. The political nature of conflicts and co-operation between individuals and groups influence and shape the institutional arrangements of a given society. Contributing to this is the fact that societies are the product of their social, cultural, political and economic history. Lundvall and Maskell (1999, p.2) observe:

> *"…not all combinations of institutions, structures and culture are equally prone to enhance a nation's economic growth … old and new growth theories alike still grossly underestimate the importance of specific institutions, structures and cultures for a nation's long term economic performance".*

Drawing clear and specific policy conclusions is difficult in the case of human capital and even more so in the case of social capital….

246. It seems easier to identify policy prescriptions in relation to investment in human capital than in the case of social capital. The latter concept, although not new, presents questions and challenges that do not necessarily have a clear policy response. How can public authorities promote social capital which results from the accumulation of civic traditions and behaviour as well as cultural norms and values? If social capital is heavily determined by accumulated cultural processes and is developed mainly in families, firms, communities and informal networks, how is it possible to view social capital as a public policy instrument or objective in the same way that schools or certification of knowledge and skills are? It is not

easy to influence the direction of long-term trends and processes that are tied up with fundamental and frequently welcome shifts in modern industrialised societies. Nevertheless, while the spheres of potential public policy influence seem more diffuse and difficult to pin-point, in the case of social capital, the results of empirical research on the impact of various types of human capital do not necessarily offer clear-cut policy insights or conclusions any more than those relating to social capital.

Education as one policy response to promote social capital….

247. Identification of key areas of public policy that might play a helpful role in regenerating civic norms and strengthening networks that contribute to society's welfare provides one way forward. Education is a candidate. Schools and other centres of learning can help promote values and norms of civic co-operation and engagement both with respect to the content of learning as well as the quality of relations established among learners, teachers and others.

Social capital can also help promote learning….

248. Social and cultural capital may be part of the clue to why school and individual student outcomes vary so much even for constant levels of material resources and similar socio-economic background. Likewise, adult education, community-based learning initiatives and workplace training and learning can be assisted by various types of community-based networks. If so, the question then turns to how public policy can leverage better learning results by helping to produce or mobilise effective social capital. In meeting higher standards of achievement and in addressing inequalities, it is not desirable to rely on schools alone to deliver results. Partnerships are needed to provide schools with the platform of readiness and support for learning, which are products of home and family environments[105]. But, formal education is only one area in which public policy might attempt to leverage more social capital. As section 4.3 will discuss, other areas relating to labour market policy, social protection, care of the young and elderly and urban and transport planning may well be connected to social capital.

249. However, social capital is not a panacea for all ills. Woolcock (2000) observes:

> *"Social capital is not a panacea, and more of it isn't necessarily better. But the broader message rippling through the social capital literature is that how we associate with each other, and on what terms, has enormous implications for our well-being, whether we live in rich or poor countries".*

4.2 How can public authorities promote more effective investment in human capital?

250. A policy to promote a learning society calls for co-ordination of different policy instruments involving not only education interests, but also social protection, labour markets, fiscal policy and the role of different private actors. The shift towards a more knowledge-based economy and a greater use of high-level skills and knowledge calls for continuous upgrading of skills and competence, as well as a more efficient allocation of, and demand for, competence within and across organisations. Underpaid competent labour and overpaid unskilled labour may be blocking the impact of knowledge and skills on economic performance.

105 Epstein (1995) presents a vision of how a partnership between schools, families and communities might work: he argues that schools would become more like families in accepting all children and their families, and families would be more like schools through their promotion of a learning climate.

251. A number of key questions and areas of concern emerge from the discussion of the role of human capital in earlier chapters:

1. Initial education cannot provide the complete answer to investment in human capital. The graduate through-put and the varying quality of learning outcomes of initial education imply that learning outside formal or initial education is essential to boost learning. More attention needs to be paid not only to adult learning, but also to early childhood development and care, as well as the orientation of initial education in preparing individuals for learning, working and co-operating with others in the course of their lives. A different distribution and organisation of learning would enable more learning about one's own values and those of others, more civic and social participation, and perhaps higher levels of communal trust and well-being.

2. Public authorities play a key role in investing in competence through their support for formal education and public training programmes. However, many other actors – families, parents, individuals, community groups, professional and voluntary associations and private firms – play a vital role. Strengthening and empowering these other actors to take greater responsibility for investing in, and maintaining human capital is vital. Public policies may need to explore ways in which to strengthen the role of families, communities and businesses in support of learning as well as participation in learning processes and school governance. Among other strategies, student motivation and fostering of learning habits outside the school call for effective home-school-community partnerships.

3. The evidence on what makes for effective learning outcomes in schools points to a range of relevant factors. Partnership between different actors, including students, parents, teachers and the wider community within an agreed regulatory environment is vital to ensure the best use of scarce resources. The quality of teaching and teachers along with school organisation are important considerations requiring investment and reform where needed. There may be a case for re-considering the organisation of learning opportunities and financial support for learning so that the learner is better served by suppliers of learning. Learners and suppliers of learning can respond to incentives to learn and improve performance.

4. There may be a need for better co-ordination of education, labour markets and social protection to ensure that incentives are provided for a better use of competence. Winners need to be rewarded and losers supported in a way that gives them incentives to re-learn. Greater flexibility in incentive structures, mobility of labour to overcome mismatches and continuous re-training may need to be agreed upon and developed. One of the key aims of education and training policy is to increase the skills of those who are vulnerable to exclusion from the labour market as well as stimulate demand for competence.

5. Inequalities in income have increased in many OECD countries in recent decades. This may be compounded in the future as some groups are likely to have access to new technologies and forms of learning linked to enhanced labour market opportunities. Continuing attention is needed to issues surrounding access, quality and impact of new forms of learning. The evidence points to unequal access by adults to learning and training opportunities – typically those with the greatest need are less likely to participate in training programmes.

4.3 How can public authorities promote more effective investment in social capital?

252. Harnessing a climate of trust, co-operation and openness to common goals and objectives is not an easy task for any society. Long-term projects such as social partnership involving business, unions and other social groups have been used in many OECD countries to facilitate negotiation, compromise and consensus. Governments have helped to provide framework conditions in which stable industrial relations, rule of law and secure property rights have underpinned strong economic performance with "buy-in" from various social groups. Historical examples exist where totalitarian regimes tended to destroy social capital through excessive regulation and state intervention. Such intervention usurped private and community initiative and led to a depletion in trust and engagement. On the other hand, excessive reliance on market forces without adequate social insurance, and growing economic insecurity, can also erode levels of trust and co-operation which are vital for sustained economic development.

253. Public policy may be able to influence long-term trends by attending to three main principles:

- do no harm in terms of public policies which may erode voluntary initiative and levels of general and political trust[106];
- invest in social networks by supporting local communities and voluntary effort; and
- promote social capital values and skills through education.

254. Many of the policy areas touched on in considering potential public contribution to social capital raise broad longer-term strategic choices and issues. Chapter 3 emphasised the multi-faceted nature of social capital and the varying sources, levels and impacts it can have – not all of which are necessarily positive or desirable. In some cases, approaches to strengthening social capital in one domain – such as enhanced social capital in families might be at the cost of reduced social capital in another domain, e.g. when men and women benefit from extensive social capital networks as a result of engagement in the labour market. There are also broad and cross-cutting issues to do with the way government carry out business and where a greater emphasis on co-ordination, dialogue and co-operation within and across various ministries and public agencies as well as between Government, research, corporate and civil society interests. Such dialogue and linkages can foster trust, open government and more inclusion of different actors. Even though there are no certain or short-term pay-backs to following any particular course of action, there are a number of more specific areas of policy where discussion around options can take place:

1. The values and norms imparted by education are critical. It is not clear that formal education provides sufficient support for strengthening civic and community norms. These norms involve a developing capacity to work in teams, to communicate effectively with others, to identify, seek and pursue the common good with others. Education policy cannot necessarily arrest a decline in social capital, if such exists, but there are areas in which public policy can act so as not to exacerbate the situation. Education has an important role in creating a climate for consensus, tolerance and inclusion – all of which are important for well-being and economic development. The potential role of schools in strengthening social capital may be receiving additional emphasis against a background of weakening family structures and threats to civic values and tolerance.

106 Under the rubric of "do no harm", consideration might be given to the idea raised in Putnam (2000) of developing "social capital impact statements": "How about a "social capital impact statement "for new programs, less bureaucratic and legalistic than environmental impact statements have become, but equally effective at calling attention to unanticipated consequences?" (page 497).

2. Skills for teamwork, communication, mutual understanding and civic responsibility can to be fostered inside and outside formal education. Curriculum, teaching methods and assessment strategies need to reflect the need for a broader set of skills and competencies. Formal education can play its role in generating entrepreneurship for the newly emerging economy based on knowledge, as well as in providing the skills for greater social inclusion and cohesion. Inter-personal skills are becoming increasingly important along with more traditional cognitive ones. In terms of curriculum content and teaching practice, greater emphasis on problem-solving and group-centered studies might help prepare students for more co-operative behaviour. Likewise, a more broad based and multi-disciplinary approach in higher education is worth considering.

3. There is a potential role for schools and other educational institutions as creators of social capital, not only in terms of the skills they impart, but the networks they can create involving educators, teachers, parents, students and local community. Well over half the total population of any OECD country is directly involved in education and training either as student, parent or trainee. Allied to this, schools and educational institutions are potentially important places of civic engagement for democratic action. Schools can be, and are, places where individuals can learn to be informed, to debate, to listen and to take responsibility for acting with others for common goals. Civics education and active participation in a wide range of school activities is an important dimension of this preparation. Extra-curricular activities including sports and community volunteering allied to the school can be useful ways of developing positive civic habits. In many countries, schools tend to lie unused or closed for large amounts of the day and year. However, they have the potential to act as centres of learning and community action involving a wider range of actors in the local neighbourhood[107].

4. Healthy and stable families can provide important role models and contexts for personal growth and continuous learning and integration in society. The physical presence of adults and parents in the household, together with quality and intensity of attention to children, is important. The scope for public support may be limited. But, some policy options exist including fiscal support, flexibility in working hours and arrangements to encourage or facilitate more parental involvement in the lives of children[108]. Stronger local community ties can also help in promoting child welfare as suggested by the evidence in Chapter 3, above.

5. Working and residential arrangements as well as transport infrastructure may influence social capital. Urban sprawl, traffic congestion, long commuting times and inflexible working hours may undermine social capital. Flexibility to allow for more time off for parents, better planning and scheduling of working hours and transport arrangements and residential and urban planning are potential areas for policy action. There may be a case for directing public subsidies and tax relief to favour social capital-friendly policies through, for example, tax relief on time spent on community projects and voluntary care (including family care).

6. Inclusion of diverse racial groups and other minorities is an important social challenge in many OECD countries. The importance of “bridging social capital” is apparent in policies to

107 A key insight of Coleman and others who discussed the role of social capital networks in the school environment, was that schools were potentially hubs with spokes for various activities and inter-relationships with stakeholders (parents, students and wider community) – not only linking others with schools but linking one another in joint activity.

108 "When two-parent families form and stay together in a supportive relationship, many of the economic and emotional stresses of balancing work and family are eased" ("Families and the Labor Market, 1969-1999: Analyzing the 'time crunch'", May 1999, A Report by the Council of Economic Advisers, Washington, DC.).

encourage inclusion of various groups, while preserving cultural or other group identities, in educational programmes, employment and more mixed residential arrangements to avoid social fragmentation

7. Use of public space and promotion of local community events are potential means for encouraging informal social contact. Urban planning involving greater use of "multi-use" neighbourhoods (mixed residential and other use), more pedestrian-friendly streets and more open spaces may be helpful.

8. Use of electronic and other media to promote civic engagement and stronger community ties is worth exploring. TV and the internet, for example, can be used to help connect people to their local neighbourhoods as well as more distant communities. Possibilities for using these media to combine learning, community engagement and leisure are worth examining. Electronic networks can also serve to communicate information and ease market transactions especially where matching information is lacking[109]. Greater opportunities for informal learning, including distance learning, are opened up by new media. It is important that disadvantaged groups have greater access to new media so that they can take fuller advantage of new information highways and networks.

9. Planning of health care and provision at the local community level, where the elderly and other groups at risk can stay closer to their families and communities, may offer another way of sustaining social ties and reaping positive health benefits[110].

4.4 Knowledge gaps and possible future areas of research

255. Building on the very preliminary research and analysis which has taken place to date in the area of social capital, further efforts could be directed to identifying what works and why. There are limits to the extent to which existing empirical and case-study research, especially at the international level, can answer specific and policy-relevant questions. A better understanding of the inter-relationship between human and social capital, and their links to wider social and economic outcomes, is possible and potentially useful to informing strategic policy thinking. For example, in the area of education policy, it is far from clear that increased spending or increased teacher resources will necessarily enhance learning outcomes. However, a combination of policies involving a possible increase in resources might help improve outcomes and contribute to economic and social progress. Understanding how human capital can be developed most effectively, and the potential role of social capital in generating human capital is needed.

256. Contextualisation in a particular national setting is useful. However, cross-country comparative work is also desirable in identifying common themes and issues, as well as in benchmarking the experience of different countries. A major handicap in undertaking any rigorous analytical work – quantitative or qualitative – is the absence of reliable, comparable and comprehensive measures of human, and especially, social capital at the local, enterprise and national levels. Clearly there is a limit to the extent to which various dimensions of human and social capital can, and ought to, be measured. However, some modest improvements can be made at both the national and international levels by developing from existing or new surveys better proxy measures of skills, competencies and other human attributes, as well as better measures of attitudes, norms, behaviour and social relationships relevant to the analysis of social capital.

109 Examples of such electronic networks might include area-based bulletin boards providing information exchanges on job openings, offers of voluntary care etc.

110 The evidence on the impact of social ties and quality of personal relations reviewed in section 3.7 above is relevant.

One elementary, but important step forward, would be to develop better international measures of social capital, building on the experience of national statistical offices and agencies which have already begun work in this area.

257. This report identified just one survey carried out in one country which suggested a clear link between the extent and quality of an individual's ties and subsequent health, including prevalence of Alzheimer's disease among the elderly (section 3.7). The research effort will continue. However, international organisations and national governments can co-operate to support joint initiatives, as well as on-going work, to improve measures of human and social capital and relate these to current public and societal concerns.

258. At least two key missing dimensions in much of the research work surrounding human and social capital are:

- the linkages between individual experience and "organisational" level experience; and
- the absence of time series data which can permit separation of life-cycle, age-cohort and period effects.

259. Surveys and research methods tend to be constrained by the availability of data which are confined to the individual or the household as the unit of analysis. There is a need to broaden this gradually to include more complex and sophisticated models which address the various levels at which competence is formed and relationships are exercised: (i) school level, (ii) community level and (iii) organisation/firm level analysis. While purely micro-based evidence tends to miss out on "spill-over" and organisational effects, aggregate measures tend to hide interesting details and meso-level effects, such as organisational and entrepreneurial dynamics.

4.5 Some key conclusions

260. Three key questions were posed in Chapter 1 of this Report with a particular view to their policy implication[111]. Tentative answers can be given in the light of the evidence reviewed in this report.

1. The evidence reviewed in Chapters 2 and 3 suggests that human and social capital are of key importance in contributing to a wide range of positive outcomes, including higher income, life satisfaction and social cohesion. The impact may be particularly strong in areas such as health and personal well-being, where, compared to the impacts of human and social capital, increased income or economic productivity appears to have diminishing returns. However, the links from human and social capital to well-being, especially economic, are frequently indirect more than direct, and involve long time horizons to observe the full impact.

2. There is no evidence for systematic "under-investment" in either human or social capital. However, concerns were indicated about the distribution and quality of each form of capital and how this might impact on future well-being.

111 1 How have human and social capital influenced growth in economic and well-being in recent decades?

2 What are the future economic and social implications for future generations of the bequest of human and social capital from current generations?

3 How great are the risks of growing inequalities or exclusion in access to learning and social networks for different groups?

3. There is no clear evidence that civic engagement or trust is declining in most OECD countries in recent decades. However, some countries have experienced declines in levels of organisational membership including informal socialising and these seem to be concentrated in particular social groups and age-cohorts. Whether these patterns represent exceptions or suggest that other countries have not caught up, is not clear.

4. There is limited scope for public policy to change the quality, stock and distribution of human capital in the short-term. A number of specific suggestions and issues are raised in this chapter which may stimulate debate among policy-makers. There is a need to nurture learning and social connections and networks in the places where these are most frequently generated: families, schools, local communities and workplaces. The voluntary sector has a key role in partnership with markets and public sector organisations in supporting learning and social contact and, through these, more sustainable well-being for current and future generations.

261. In terms of meeting any given social objective, a combination or mix of policies, including a favourable and facilitating environment, is needed. Markets, voluntary association and public institutions need to work together because social and economic problems are cross-cutting and require co-ordination of action and partnership to find solutions. This report argues for more attention to the potential of policies to enhance human and social capital as a way of balancing the needs of new economies and societies and leaving future generations as many opportunities as we ourselves have had, if not more.

REFERENCES

Council of Economic Advisers (1999) “Families and the Labor Market, 1969-1999: Analyzing the 'time crunch'“, A Report by the CEA, Washington, DC. May, 1999

Epstein, J.L. (1995) “School/Family/Community Partnerships: caring for the children we share”, Phi Delta Kappan 76:701-12.

Helliwell, J (2001) FORTHCOMING “The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being”, Proceedings of a Symposium organised by OECD and Human Resources Development Canada, March, 2000, Québec City

Landsburg, S. (1993) *The Armchair Economist: Economics and Everyday Life*, The Free Press, New York.

Lundvall, B.-A. and Maskell, P. (1999), “Nation states and economic development: From national systems of production to national systems of knowledge creation and learning”, in Clark, G.L. et al. Handbook of Economic Geography, Chapter 10, London: Oxford University Press.

Putnam, R.D. (2000), *Bowling Alone: Collapse and Revival of American Community*, NewYork: Simon Schuster.

Woolcock, M. (2000), “The Place of Social Capital in Understanding Social and Economic Outcomes” Proceedings of a Symposium organised by OECD and Human Resources Development Canada, March, 2000, Québec City

APPENDIX A – SOME MEASURES OF ECONOMIC AND HUMAN WELL-BEING

Different types of investment needs to be accounted for measures of well-being…

262. Albert Einstein once remarked that "not everything that counts can be counted, and not everything that can be counted counts." Many of the benefits deriving from economic activity may be non-economic in nature such as greater personal satisfaction, more cohesive communities and families and the positive spillover effects of growth on the environment, political stability and the moral and physical well-being of peoples. As the bulk of GDP is accounted for by personal consumption, less weight is given to forms of investment like those providing long-term social benefits (either through omission, or by treating them, e.g. education, as current consumption expenditures). Measurement of economic activities need to be driven not only by what can be measured in terms of market activities but by a consideration of human and social values which meet different ends than those based on a purely measurable, market framework.

Adjustments to GDP per capita have been considered by economists over the decades…

263. While many of the approaches to measuring well-being are relatively new, the underlying rationale is not. William Nordhaus and James Tobin (1972) proposed a composite measure of net economic welfare by incorporating additional components of human well-being into the GDP measure itself. They made adjustments to GDP to include, for example, estimates of the value of non-economic work (household production of childcare and other services as well as leisure[112]) and to exclude output regarded as "regrettables and intermediate", that is, "instrumental expenditures" for "activities that are evidently not directly sources of utility themselves but are regrettably necessary inputs for activities that may yield utility[113]" (Nordhaus and Tobin, 1972). Examples of "regrettables" include the costs of commuting to work and public spending on police, sanitation, road maintenance, and national defence. The focus of Nordhaus and Tobin was on sustainable consumption and well-being both in the future and in the current period. Hence, they excluded the value of capital depreciation as well as capital spending necessary to satisfy growth requirements[114]. They also made imputations for the value of tangible capital investment by households and government (e.g. consumer durables in the case of households). The services of education and health were excluded from measures of economic well-being on the grounds that they were intermediate goods whose fruits already show up in enhanced income. Nor did Nordhaus and Tobin make adjustments for environmental degradation due to lack of data. However, they did subtract for "the disamenities of urban life"[115]

112 The value of leisure was estimated by multiplying the estimated number of hours of leisure in the population aged 14 and over by wage rates (reflecting the opportunity cost of leisure).

113 Page 7.

114 That portion of capital investment required to maintain a constant capital-output ratio with consumption increasing at a rate consistent with population growth and technological progress is excluded from the measure of economic well-being.

115 Including the cost of pollution, litter, congestion and noise (page 49-50).

Education has been included as an investment in some estimates…

264. A similar approach was taken by Jorgenson and Fraumeni (1987) who – in addition to adjustments for subsidies, household capital and consumption services as well as household production of leisure – include investments in education. The latter is calculated as the sum of the present values of lifetime incomes for all individuals plus the imputed value of forgone income for those in study[116]. No deductions were made by Jorgenson and Fraumeni for the cost of education or child-rearing. By contrast, Kendrick (1976) includes estimates of cost of human capital. He also includes the value of spending on research and development as well as employee training costs borne by employers and informal learning (from libraries, museums and print media). Kendrick's estimates are all cost-based rather than in terms of the present value of expected returns. Some sense of the likely magnitudes in these adjustments to GDP can be given by the U.S. data. In the data for 1965 used by Nordhaus and Tobin, leisure and non-economic activity an equivalent to roughly 100 and 50 percent, respectively of GDP. In Jorgenson and Fraumeni, the data for 1982 yield estimates for human capital investment at over 50% of full gross private domestic product.

Well-being relates to social capabilities…

265. The work of Amartya Sen (1987), who introduced the notion of "social capability" to evaluate economic progress, is also worth mentioning. In his approach, emphasis is placed on the capacity of individuals to choose freely to be and to do things that are valuable. Realised achievements or outcomes ("functionings" according to Sen) are less significant than "opportunities" enabling people to achieve the life that suits them and which they have chosen. Economic growth plays an instrumental role in promoting development because it increases the range of human choice, it is not the end-product itself. The main message behind these concerns is that formation of human capabilities, such as improved health or knowledge are key to progress. It also concerns the use of these capabilities, be it for work, leisure or political and cultural activities. Individual and collective well-being are intertwined, and human development may require strong social cohesion and equitable distribution of the benefits of progress to avoid tension between the two.

Threshold effects are important in the relationship between economic growth and human well-being

266. Evidence from surveys of public attitudes and expectations in various OECD countries, as well as from quality of life indicators showing income inequality, child poverty, pollution as well as other indicators, suggest that social well-being may not necessarily be increasing in tandem with economic growth. Successive waves of the World Values Study and other sources indicate that the developed world has passed a threshold (Inglehart, 2000; Eckersley, 1998). In other words, diminishing returns to economic growth in the form of "well-being" tend to set in at high levels of income and further improvements in subjective measures of quality of life are difficult to achieve through higher GDP alone.

Towards measures of well-being…

267. There has been renewed focus in the area of economic growth, sustainability of economic and social development and the measures which policy-makers can put in place to sustain productivity increases while, at the same time, ensuring social cohesion. In parallel to the GDP- based approached, some analysts have developed composite measures of human well-being in an attempt to account for non-

116 The imputed value of forgone income for those in study is the difference between projected earnings of those with schooling and those without.

economic factors related to human welfare. Experimental approaches to broader measures of economic well-being do indeed suggest that the trends in GDP and national well-being, which once moved together, may now be diverging. Whereas most of them are composite, non-monetary measure of well-being, some do focus on monetising social outcomes and integrating these into national accounts (genuine savings) either directly or through satellite accounts, or seek to show non-aggregate measures of social progress. Some of these alternative measures include: *Genuine Progress Indicator* (GPI); The United Nations' *Human Development Index* (UNHDI); *Index of Social Health* (ISH); *Index of Sustainable Economic Welfare* (ISEW*)* and *the Index of Economic Well-being* (IEW). All of these composite measures are briefly discussed below:

268. The *Genuine Progress Indicator* (GPI) pushes the envelope of full-cost accounting. The GPI measures aspects of economic well-being from 1950 to the present[117]. It broadens the conventional accounting framework to include the economic contributions of families and communities, and of the natural habitat, along with conventionally measured economic production. However, some trends in GPI can only be negative (e.g. loss of wetlands).

269. The United Nations' *Human Development Index* (UNHDI) measures the overall achievements in a country in three basic dimensions of human development—longevity, knowledge and economic resources. It is measured by life expectancy, educational attainment (adult literacy and combined primary, secondary and tertiary enrolment) and adjusted per capita income in constant purchasing power parity.

117 The Genuine Progress Index includes the following:

Personal consumption;

Personal consumption adjusted for income inequality;

Value of housework and parenting;

Net foreign lending or borrowing;

Services of household capital;

Services of highways and streets;

Cost of underemployment;

Value of volunteer work;

Net capital investment;

Depletion of non-renewable resources;

Cost of family breakdown;

Long-term environmental damage;

Cost of air pollution;

Cost of consumer durables;

Cost of water pollution;

Cost of commuting;

Cost of crime;

Loss of wetlands;

Cost of noise and ozone pollution;

Cost of household pollution abatement;

Loss of leisure time.

The rationale for this index human development *is about more than GNP growth, more than income and wealth and more than producing commodities and accumulating capital. A person's access to income maybe one of the choices, but it is not the sum total of human endeavour. Human development thus concerns more than the formation of human capabilities, such as improved health or knowledge. It also concerns the use of these capabilities, be it for work, leisure or political and cultural activities* (UNDR, 1990). Accordingly, the index is more comprehensive since it goes beyond the yardstick of income alone. At the same time, it represents an approximation for capturing the many dimensions of human choices.

270. The Index of Social Health (ISH), also known as the Fordham index of social health[118], is an index created from a set of socio-economic indicators, which measures progress against past performance for a specific country[119]. It was first developed in the U.S. by the researchers at the Fordham Institute.

271. The Index of Sustainable Economic Welfare (ISEW) is an attempt to measure that portion of economic activity, which delivers increases in the quality of life[120]. For example, it subtracts for air

118 Also see: Index of Social Health (1995). Monitoring the Social Well-Being of the Nation. Fordham Institute for Innovation in Social Policy, Tarrytown, N.Y.

119 The Index of Social Health (Brinks and Zeesman, 1997) includes the following components:

Infant mortality;

Child abuse;

Child poverty;

Teen suicide;

Drug abuse;

High school drop-outs;

Unemployment;

Average weekly earnings;

Poverty among those 65 and over;

Out-of-pocket health expenditures for persons 65 and over;

Highway deaths related to alcohol;

Homicides;

Persons receiving social assistance;

Gap between rich and poor;

Access to affordable housing.

120 Some of the components of the ISEW include:

Consumer expenditure;

Income inequality;

Services from domestic labour and consumer durables;

Services from streets and highways;

Public expenditure on health and education;

Costs of commuting;

Costs of personal pollution control;

Costs of automobile accidents;

pollution caused by economic activity, and add to count unpaid household labour – such as cleaning or child-minding. It also covers areas such as income inequality, other environmental damage, and depletion of environmental assets. The ISEW has now been calculated for the UK, Germany, Austria, Sweden, the Netherlands and Italy, as well as the United States.

272. The *Index of Economic Well-being* was developed by Osberg (1985) and further explained and illustrated in Osberg and Sharpe (2000) with data for the United States, United Kingdom, Canada, Australia, Norway and Sweden for 1980-1996[121]. Osberg and Sharpe (2000) believe that elements omitted from consideration in GDP accounting may be especially relevant to social capital. They argue that "even if "Social Capital" (however defined) had zero impact on per capita GDP, and instead only served to decrease the extent of economic inequality, poverty and insecurity, it would be valuable for economic well-being". Of course, human and social capital can also contribute to personal well-being and happiness in the absence of any changes in GDP. Their measure is based on four components:

- effective per capita consumption flows, which includes consumption of marketed goods and services, of unmarketed goods and services, changes in life span and in leisure (market consumption per capita; government spending per capita; variation in work hours)

- net societal accumulation of stocks of productive resources, including net accumulation of tangible capital and housing stocks per capita and net accumulation of human capital (expenditure per year on education applied to the total adult population) and R&D per capita, less net change in level of foreign indebtedness and social cost of environmental degradation;

- income distribution, as indicated by the Gini index of inequality (income inequality after taxes), and depth and incidence of poverty;

- economic security from unemployment, ill health, single parent poverty and poverty in old age.

273. The above four main components of the Index used by Osberg and Sharpe (2000) focus on the three main objectives of growth in economic welfare stated at the beginning of this section (see figure 1). The objective of allocating resources and income to different persons is captured in the third and fourth components of the Index. The components of the index are presented separately in order to allow for the use of different weights in combining the four main components reflecting the values and judgements of the user. A key assumption in their approach is to give weight to distributive issues both with respect to allocations to current and to future aggregate consumption and to the allocation of income and economic opportunities across different sub-groups in the current period.

Costs of water, air and noise pollution;

Loss of natural habitats;

Loss of farmlands;

Depletion of non-renewable resources;

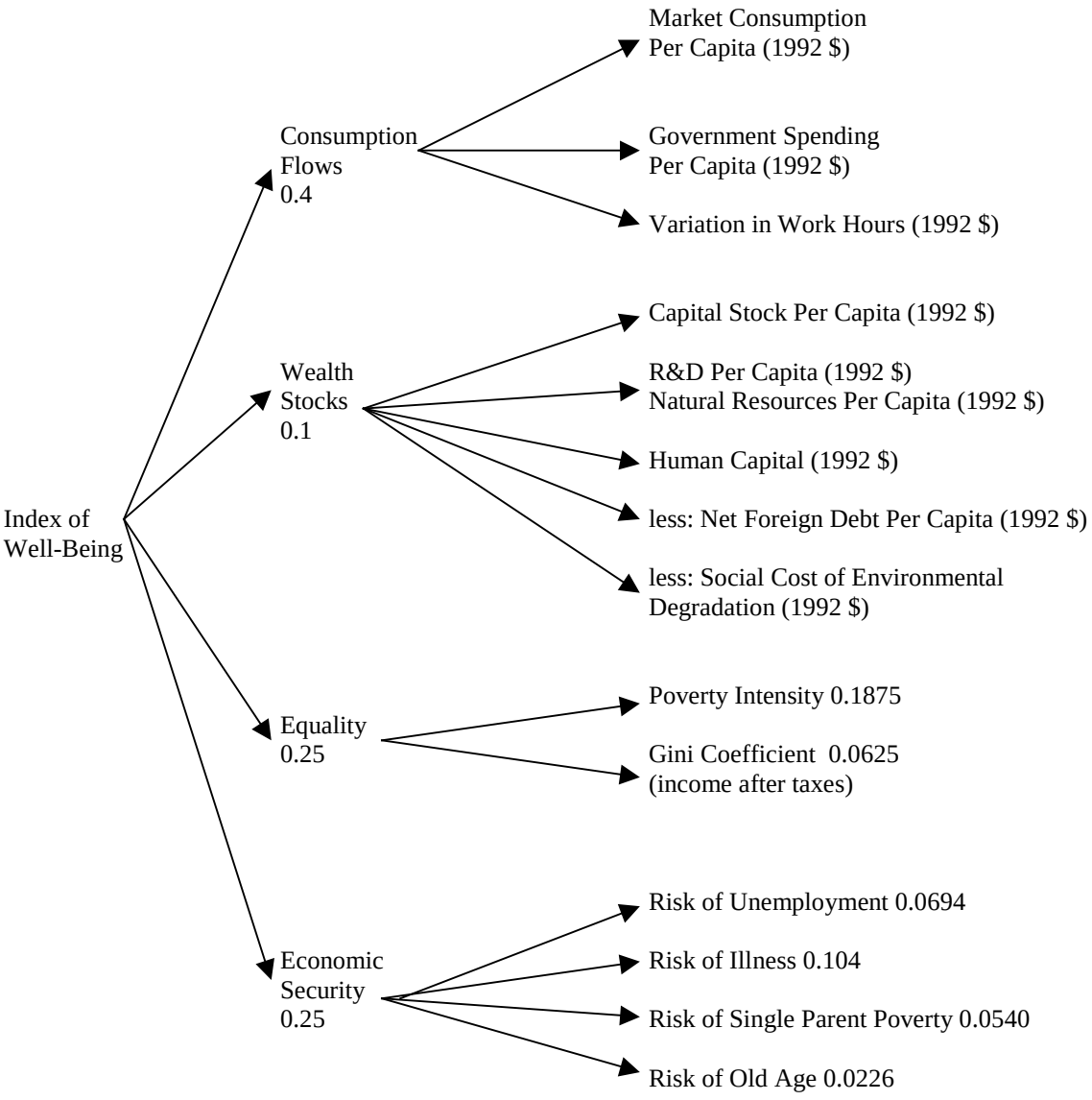
Costs of climate change and ozone depletion;

Gross domestic product;

(See: Friends of the Earth website: http://www.foe.org.uk/campaigns/sustainable_development/progress).

121 Osberg and Sharpe also provide data for 8 other OECD member countries although in some cases the underlying data are less complete (refer to Osberg and Sharpe, 2000)

Figure 1: An illustration of the Osberg index (Osberg and Sharpe, 2000)



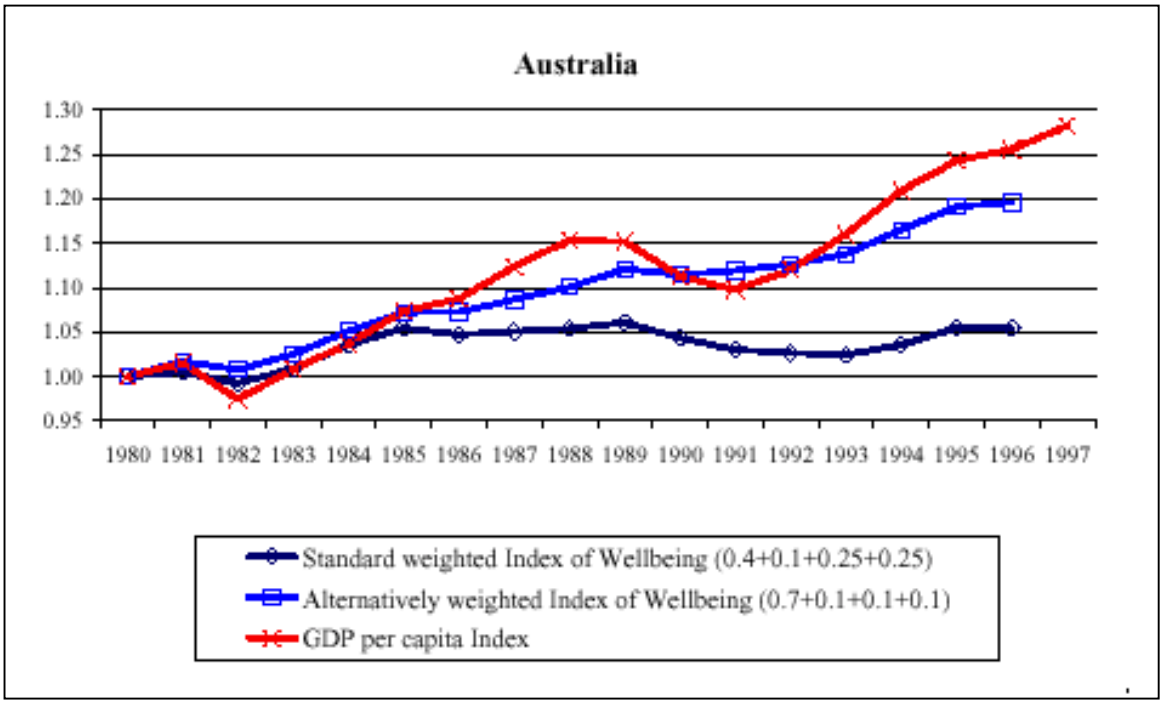
Weightings for individual components reflect preferences for different economic outcomes…

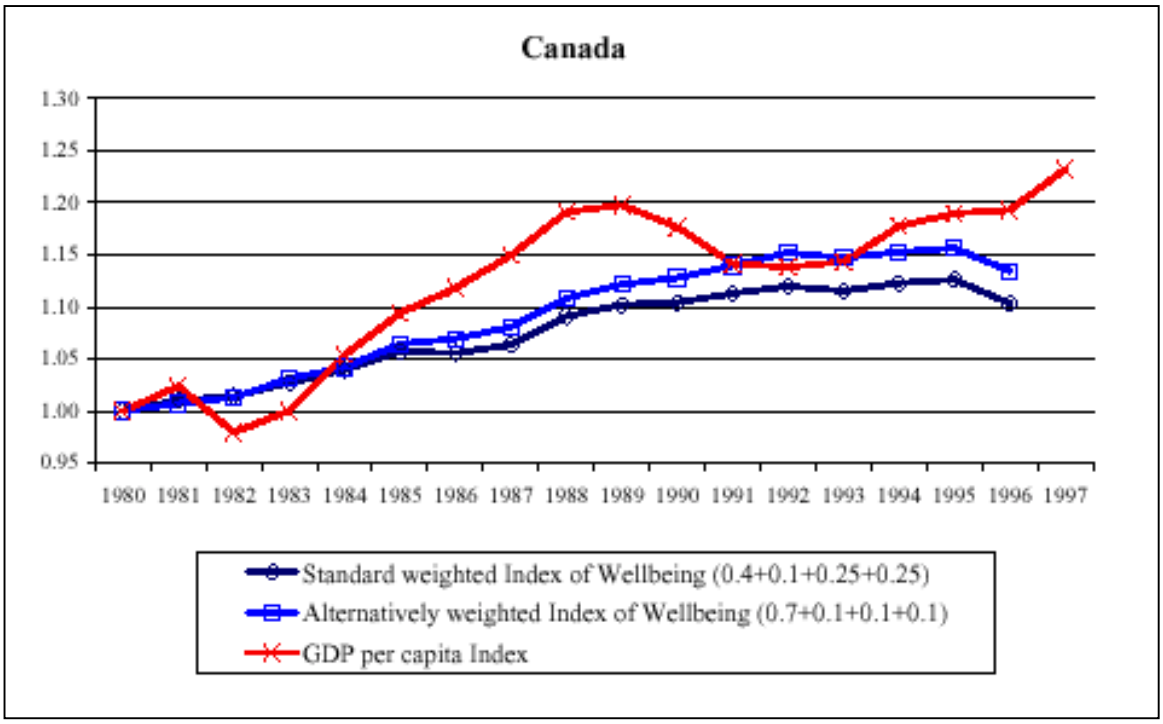
274. Specifically, the "standard" weighting measure gives consumption flows a weight of 0.4, wealth stocks a weight of 0.1, and equality and economic security have each been given weights of 0.25. The "alternative" is much more heavily weighted to average consumption (0.7), has the same weighting on accumulation (0.1) and less heavily emphasises income distribution (0.1) and insecurity (0.1). The authors explain that, since the four main dimensions of average consumption, intergenerational bequest, inequality/poverty and insecurity are separately identified, it is easy to conduct sensitivity analyses of the impact on perceived overall trends of different weighting of these dimensions.

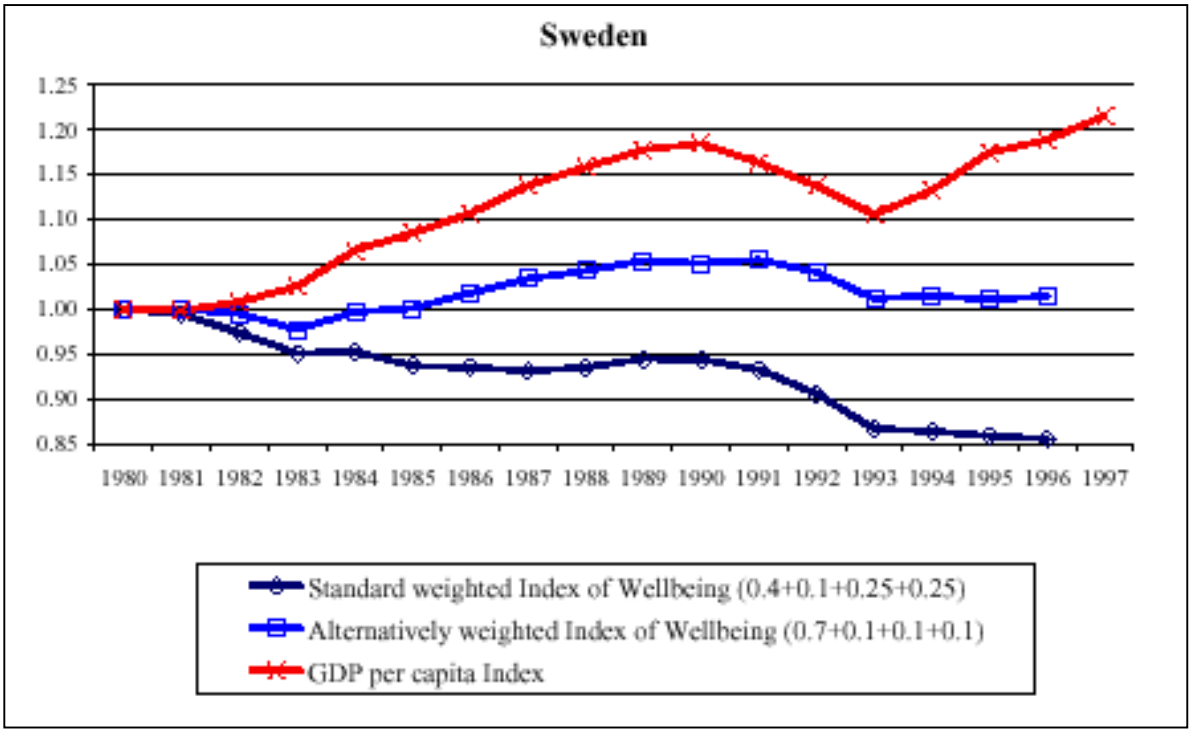
Sensitivity analysis does not alter the main picture…

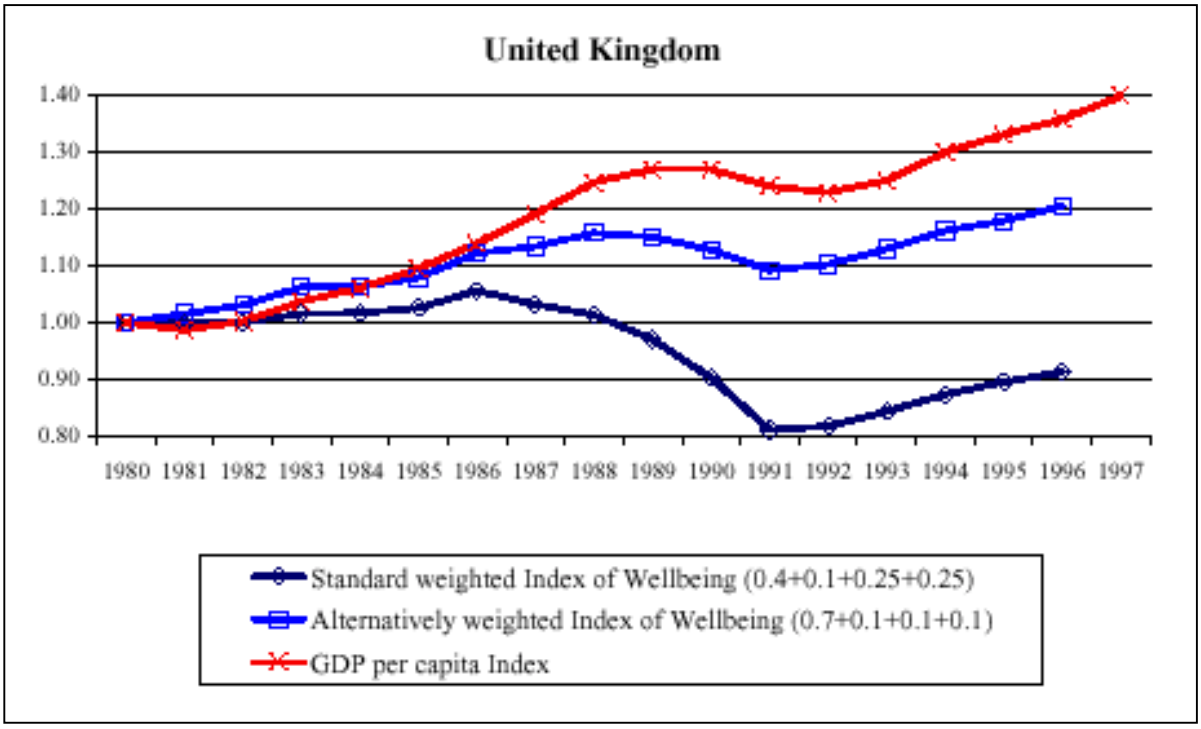
275. In order to examine the sensitivity of a measure of economic well being to alternative possible weightings of accumulation, income distribution and insecurity, the charts below present results based on both the "standard" and "alternative" weighting for five countries: Australia, Canada, Sweden, the United Kingdom and the United States.

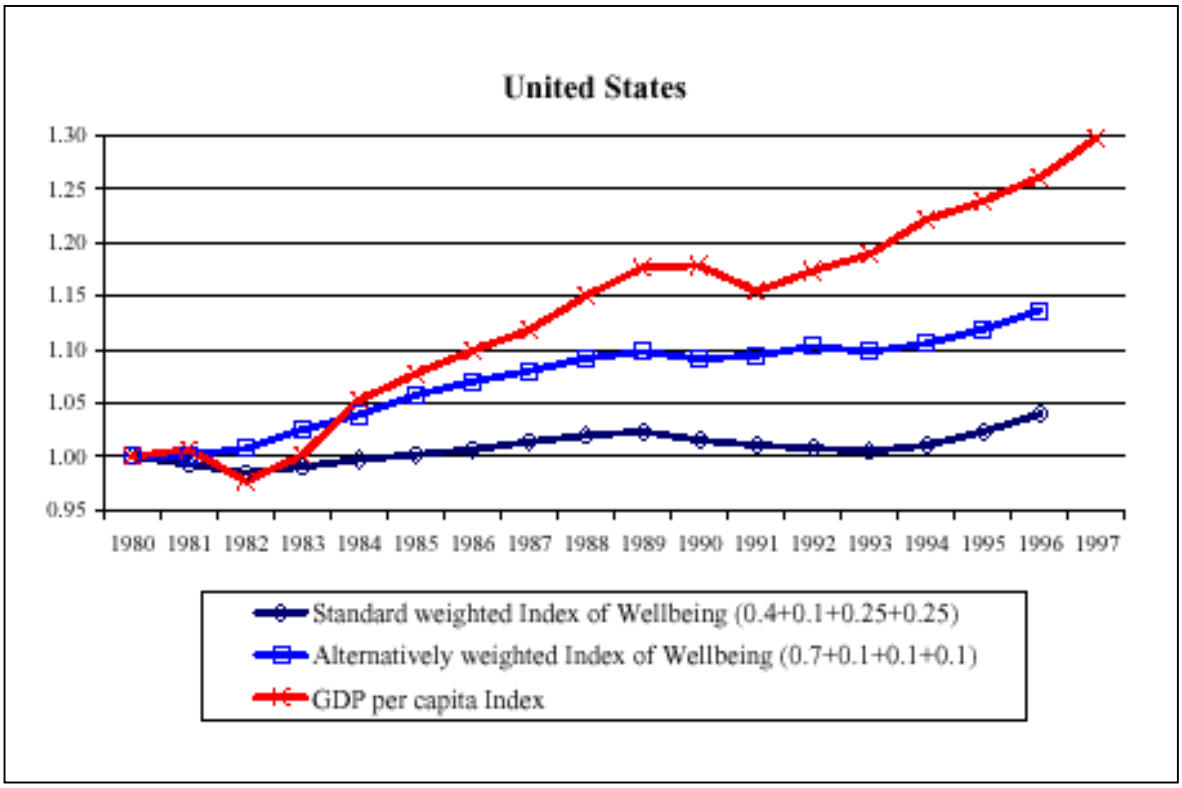
Figure 2: International Comparisons of Trends in Economic Well-being (from Osberg and Sharpe (2000)






Sweden
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997
Standard weighted Index of Wellbeing (0.4+0.1+0.25+0.25)
Alternatively weighted Index of Wellbeing (0.7+0.1+0.1+0.1)
GDP per capita Index


United Kingdom
1.40
1.30
1.20
1.10
1.00
0.90
0.80
1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997
Standard weighted Index of Wellbeing (0.4+0.1+0.25+0.25)
Alternatively weighted Index of Wellbeing (0.7+0.1+0.1+0.1)
GDP per capita Index



276. The results produced by this approach shows that in every country considered, growth in GDP per capita exceeds growth in economic well-being, although to different degrees in different countries. For all countries, the consideration of inequality/poverty and insecurity measures reduces the growth of economic well being, compared to use of the GDP per capita index. In the United States, GDP per capita increased by approximately 30% over the 1980 to 1997 period, but the Index of Economic Well-being was almost constant, with an increase of only 4% over the period. In the United Kingdom, increases in per capita GDP were even larger (40%), but the IEW declined by almost 10%. Osberg and Sharpe note that these results reflect the marked increases in economic inequality over this period. An additional factor in the case of the United States is the substantial increases in working hours. They report that the decline in the IEW for the United Kingdom and Sweden is sensitive to the relative weighting of current consumption compared to distribution and insecurity.

277. In the case of Australia and Canada where dependence on raw materials production is greater, there is greater fluctuation in GDP per capita than in the value of the IEW. Alternative weightings for economic insecurity and inequality do not make any major difference to the value of IEW for Canada[122]. However, the "standard/alternative" weights choice matters more in the case of Australia as one can see from the plot of the time trend. It may be possible that the arbitrariness of the Osberg and Sharpe weights mean that to report the specific values and growth rates gives the specific numbers more weight than they deserve.

122 One must also note that: (1) using the Luxembourg Income Survey data (LIS) implies inequality and poverty numbers are only available intermittently, and must be interpolated for trend, which imparts a degree of artificial smoothing; (2) we know that the Canadian case in this paper is driven by the poorer "lowest common denominator" data – Canada shows much greater declines in economic security when the actual Unemployment/Employment Recipiency data is used – see the Canada/US comparison in Osberg and Sharpe (2000).

Drawbacks with summary measures of well-being are acknowledged…

278. Any attempt to summarise well-being of complex and increasingly diverse societies "inevitably requires a series of ethical and statistical judgements" (Osberg, 2000). The various approaches discussed above represent important initiatives to arrive at better measures but each is limited to a greater or lesser extent by:

- the selection of relevant indicators or components from the wider list of issues that need to enter into a full index of welfare;
- the weighting of the various components and indicators;
- the interpretation of quantitative trends in these components vis-à-vis trends in GDP which are unbounded in either direction.

279. Adding together a variety of indicators with arbitrary weighting and scaling can lead to endless disagreement over the weighting of the distinct components of well-being. Readers will draw their own conclusions as to whether any of these approaches represents an imperfect, but preferable alternative to GDP. A key challenge is to decide whether no summary measure at all of other aspects of well-being is better than a partial measure.

280. Whatever the imperfections of these measures, there is also an intuitive sense that many of the benefits deriving from economic activity may be non-economic in nature. Among these non-economic benefits are: higher personal satisfaction, more cohesive communities and families, a healthy environment, political stability and the moral and physical well-being of nations. Importantly, the "non-economic" outcomes relate to improvements in the quality of life, the health and psychological well-being of individuals as well as the inclusion of various groups in the mainstream of society. All of these "non-economic" outcomes may feedback into the economy in the long run as positive contributions to improving economic efficiency and increasing economic output.

281. The difficulty remains – how to measure well-being in a way that is objective, relevant to public policy and comparable across cultures and over time? GDP and other national accounting based measures (including "green" GDP and "genuine savings" measures) are based on monetary estimates of income flows and adjustments to measurable stocks. The values of changes to stocks or the price of a given activity are determined by what consumers and societies are willing to pay. Yet, not all costs and benefits can be included in this framework since some goods fall outside the market and are "under-produced" in the absence of pricing signals or appropriated benefits (the tragedy of the commons). Civic norms and culture may provide some of the support to ensure that essential social goods like interpersonal care and co-operation are possible.

REFERENCES

Eckersley, R. (1998) *Measuring Progress, Is Life Getting Better?* Victoria, Australia: Commonwealth Scientific and Industrial Research Organisation Publishing.

Inglehart, (2000) "Globalization and Postmodern Values" *The Washington Quarterly*, Winter.

Jorgenson, D., and Fraumeni, B. (1987), "The accumulation of human and non-human wealth, 1948-1984", Unpublished manuscript, Harvard University

Kendrick, J. (1976) *The Formation and Stocks of Total Capital*, New York, Columbia University Press for NBER.

Nordhaus, W., and Tobin, J. (1972), "Is growth obsolete?" *In Economic Growth, Fiftieth Anniversary Colloquium*, Vol. 5, New York, NBER.

Osberg, L. and Sharpe, A., (2000), *Comparisons of Trends in GDP and Economic Well-being – the impact of Social Capital*. Paper presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 20, 2000.

Osberg, L. (1985) "The Measurement of Economic Welfare," in David Laidler (coordinator) *Approaches to Economic Well-Being*, volume 26 of the research program of the Royal Commission of the Economic Union and Development Prospects for Canada (MacDonald Commission) (Toronto: University of Toronto Press).

Sen, A. (1987), The Standard of Living, Cambridge University Press, Cambridge.

APPENDIX B – THE MACRO-ECONOMIC IMPACT OF EDUCATION: A BRIEF OVERVIEW

282. The concept of human capital has a long history. The idea that human beings may be regarded as analogous to physical capital (where capital may be defined as a produced means of production) can be traced back to Adam Smith's Wealth of Nations (1776):

> *"When any expensive machine is erected, the extraordinary work to be performed by it before it is worn out, it must be expected, will replace the capital laid out upon it, with at least the ordinary profits. A man educated at the expense of much labour and time to any of those employments which require extraordinary dexterity and skill, may be compared to one of those expensive machines. The work which he learns to perform, it must be expected, over and above the usual wages of common labour, will replace to him the whole expense of his education, with at least the ordinary profits of an equally valuable capital" [p.101]*

283. Smith was the first to suggest that an educated worker could be likened to an expensive machine. The skills embodied in a person can be "rented out" to employers. The higher the level of skills a person has the higher this "rent" is likely to be. Thus, the expected returns on investment in human capital are a higher level of earnings and greater job satisfaction over one's working lifetime. Despite this early acknowledgement, the importance of education and training as factors in promoting economic growth was ignored in much of the writings on macro-economic development.

284. Measures of education have been strongly guided by what it is possible to measure, rather than by what it is desirable to measure. Nevertheless, researchers have begun looking more closely at the macro-economic impact of education. As seen in Chapter 2, there is now a reasonably large body of evidence on the relationship between human capital and economic growth, and more limited evidence for specific levels of education. This appendix reviews different empirical approaches adopted by researchers in their attempts at measuring the macro-economic impact of education.

Taking education into account…

285. Conceptually and empirically, human capital has been the subject of research over the past 30 years. While labour economics literature provided a wealth of evidence on the private returns to schooling which infer some type of productivity characteristics, growth economists in the 1960s, seeking to explain more about cross national income differentials, started to focus on human capital investment as an overlooked contributor to growth.

286. The starting point of many economists was that output had grown faster than would be implied by the rate of expansion of the two main economic inputs, capital and labour. This unaccounted-for growth was attributed to a "residual" factor, assumed to represent either technical progress or the "quality of labour" or both. Early models of growth accounting found this factor to be large, but were unable to say precisely what it consisted of, as it was simply calculated as the difference between observed output growth and the growth in measurable inputs.

Cross-country growth regression analysis…

287. The bulk of growth regressions use cross-section data for a large number of countries where the dependent variable is the average growth rate over a fairly long period (usually 20 or more years), and the explanatory variables relate to the beginning of the period (e.g. initial level of output per capita, educational enrolment, etc). One of the main advantages of this approach is that many different specifications can be tested and robustness of coefficients to changes in the specifications can be tested using either Leamer's extreme bound approach (e.g. Levine and Renelt, 1992) or the distribution of coefficients (Doppelhofer, Miller, and Sala-i-Martin, 2000; Sala-i-Martin, 1997a; 1997b).

288. In cross-country growth regressions, human capital is often based on indicators of formal education. Given the wide range of countries that researchers include in their data, these indicators are often unsophisticated. For example it is common to use primary or secondary school enrolment rates. Life expectancy is also sometimes included as an indicator of human capital[123]. More advanced measures, such as the average number of years schooling in the working-age population can be developed if data are available.

Studies arrive at contradictory or inconclusive results…

289. One of the best known and most influential contributions to the empirical growth literature is that of Mankiw, Romer and Weil (1992) or MRW. Their estimates imply that if human capital investment (as a share of GDP) is increased by a tenth, output per worker will rise by 6%; if investment in human capital is doubled, output per worker will eventually rise by about 50%. However, Benhabib and Spiegel[124] (1994), Englander and Gurney[125] (1994), Barro and Sala-i-Martin[126] (1995) found no, or very limited, effects of human capital on growth. Pritchett (1999) also claims that increases in educational enrolment or attainment have had *no* significant positive impact on the rate of growth of productivity or economic growth[127] – the

123 Note that life expectancy may be used to capture a whole set of factors (including nutrition, health care, social security, literacy rates) that are associated with high growth.

124 Benhabib and Spiegel (1994) find a statistically significant correlation between the level of educational attainment and growth for the wealthiest third of their sample but no connection between the change in attainment and growth in a larger sample.

125 Restricting the sample to OECD countries, Englander and Gurney (1994) re-estimate growth regressions based on four influential papers, including Barro (1991). Three of the four sets of regressions include human capital variables, typically primary and secondary school enrolment rates. Looking simultaneously at the effect on productivity of growth in the capital to labour ratio, the size of the labour force and the enrolment rate in secondary education, they found that the latter had contributed 0.6 per cent to annual productivity growth in OECD countries between 1960 and 1985. Although these variables turn out to perform relatively well, they are still far from robust.

126 They find, for male educational attainment, that higher initial secondary and tertiary education have significant, positive growth effects, and these are more strongly evident than when years of education are aggregated. Across a wide ranging sample of countries they find that higher education has especially large effects – increasing average male secondary schooling by 0.68 years raises annual growth by 1.1 percentage points per year while a mere 0.09 year increase in average tertiary education raises annual growth by as much as 0.5 percentage points.

127 Pritchett also uses the growth rate of total factor productivity in a non-regression growth accounting framework to arrive at essentially the same conclusion. Pritchett explores three possible reasons for these negative results: (i) that schooling does not create skills; (ii) that rates of return to schooling are falling due to over-supply of educated labour and (iii) that skills are poorly used or remunerated due to perverse policy and market environments. Pritchett discounts the first proposition by pointing to the incontrovertible evidence that more schooling leads to higher wages and cognitive skills and that the evidence tends to contradict "screening" hypotheses. On the second hypothesis, he concludes that while there may be some basis to this, the evidence on declining rates of return over time are not large enough to explain the lack of impact on economic growth. He then places more emphasis on the third possibility by pointing to the increase in returns to schooling in many former socialist countries in Eastern Europe where historically high accumulations of human capital are beginning to pay off in terms of higher wages (although not necessarily higher macro-economic growth except in a few cases). The overall point Pritchett seeks to make is that a plan of growth cannot rely on human capital investment alone. Indeed, he concludes that the impact of human capital on economic growth depends on other variables such as the right policy environment and a host of social and political enabling factors, which make better use of skills and knowledge, all of which are interrelated in complex ways.

coefficient on education capital per worker (a stock measure of accumulated schooling) being negative[128]. The results of these various studies are summarised in Table B1.

Some important limitations on cross-country regression analysis…

290. As in the case of microeconomic studies, precisely what this means in terms of growth mechanisms is not entirely clear, not least because the implied rates of return to education seem implausibly large[129]. Researchers have pointed out numerous problems with several studies based on cross-country regression analysis, which suggest that caution is required in interpreting results.

291. The approach of cross-country regression analysis is useful in so far as it uses summary or proxy data on key inputs to the growth process and models growth in income on these. However, all growth regressions share a number of important statistical problems. In the case of MRW (1992), even quite simple extensions, such as the inclusion of equipment investment in the regressions, mean that it can be difficult to get precise estimates of the relevant parameters. Sometimes the hypothesis that education has no effect cannot be rejected (as in Temple 1998, Tables 2-4).

292. Furthermore, the argument for not restricting analysis to OECD or high-income countries is precisely to capture the variation in experience and underlying values for key variables across countries at different stages of development. However, these approaches implicitly assume a common structure across countries, or at least that specific features of each country can be controlled for, or accounted for in a comprehensive cross-country model.

293. In analysing the relationship between levels of completed education in the adult population and economic growth, there are additional pitfalls and challenges. First, completed education is only a crude proxy for the role of knowledge and skills. It is a static and incomplete picture of how skills are used, allocated and developed in organisations and enterprises. Secondly, the combined effect of many factors is such that the role of education and learning may be lost in the data. A major role of learning and schooling may be indirect in equipping individuals to be flexible, to continue learning throughout life and adopt new methods, approaches and technologies. These impacts may show up through other variables including enhanced productivity of physical capital.

294. A variation on this theme is that human capital may be a necessary but insufficient factor in economic growth and its impact is highly contingent and unstable depending on how other factors enter in. Of course, this implies some form of interaction, which should thus be allowed for. Third, some countries with low initial stocks of human capital at the beginning of the 1960s, which is the point at which most growth period analysis begins (such as Korea and Ireland), had greater opportunities and incentives to

128 The education capital per worker variable is constructed out of two data sets: Barro and Lee (1993) data on estimated educational attainment of the population aged 25+ (covering 1960 – 1985) and Nehru, Swanson and Dubey (1994) data (covering 1960 – 1987) on the estimated stock of schooling of the labour force aged population. As non-education independent variables, Pritchett uses initial level of GDP per worker as well as physical capital per worker. For physical capital data, Pritchett uses two alternate capital stock series: one derived from the Summers and Heston investment data (King and Levine, 1994) and one derived from World Bank investment data (Nehru and Dhareshewar, 1993).

129 Krueger and Lindahl (1999) list no less than six possible ways of interpreting the coefficient on the initial level of schooling in cross-country growth regressions: i) Schooling may be a proxy for steady-state income; ii) schooling could change the steady-state growth rate by enabling the workforce to develop and implement new technologies; iii) countries with low initial stocks of human capital could have greater opportunities to grow by implementing technology developed abroad; iv) a positive (or negative) coefficient in the return to schooling may simply reflect an exogenous worldwide increase (or decrease) in the return to schooling; v) an anticipated increase in future economic growth could cause schooling to rise; and iv) schooling may pick up the effect of the change in schooling which is omitted from the equation.

grow by importing and implementing technology developed abroad. Finally, the direction of causation is not clear in so far as economic growth generates higher demand for education.

Quality of data and measurement error may be important considerations…

295. The inconclusiveness or even negative outcomes of many of the studies reviewed below may be linked in part to poor data quality. However, there is also the likelihood that significant measurement error is present in indicators of attainment of the adult population. Krueger and Lindahl (1999) believe that measurement error in the main international data source used for human capital in growth equations – the Barro-Lee data set[130] – may be at the source of these results especially in relation to the negative results for attainment of females[131]. Krueger and Lindhal (1999)[132] and Steedman (1996) also point to inconsistencies in the way data on attainment were reported and classified under the *International Standard Classification of Education* (ISCED).

296. A further drawback of most cross-country work is the likelihood of important differences in the nature and quality of schooling across countries, which could undermine the usefulness of international comparisons. Even such things as the length of the school year can show a surprising degree of variation across countries. An alternative data set, which may overcome these problems to some extent, has been introduced by Hanushek and Kim (1995). They propose measuring educational attainment using scores in international tests of cognitive skills in maths and science. Their results support the idea that education has an important effect on growth.

297. Another negative aspect of most regression studies is their focus on a large sample that includes less developed countries as well as OECD countries. One should clearly be rather wary about drawing conclusions for OECD policy based on samples that are often dominated by developing countries. It may be a better option to concentrate on the few studies that include separate estimates of regressions for OECD countries (or alternatively, samples of rich countries). Accordingly, Temple (1999) has raised the possibility that a number of atypical or "outlier" countries may have biased the results in many of these studies. In fact, Temple notes that a strong relation can be discerned when some influential outliers are eliminated.

298. Finally, critics point out that measuring the stock and the value of human capital is problematic. Accordingly, as Barro and Sala-I-Martin (1995) observe, use of growth accounting does not provide any guide to the relevant counterfactual evidence. Temple (2000) agrees:

> *"As an example, consider a claim that X percentage points of growth in a given country is due to a change in the quality of the labour force. This does not imply that, in the absence of the change in labour force quality, the growth rate of output would have been precisely X percentage points*

130 The well-known Barro-Lee data (1993) set gives a historical series of educational attainment data for the population 25+. The data set was compiled largely from Census results collected by the UN Statistics Division with missing years estimated using a perpetual inventory method and enrolment data by education attainment, which are readily available on an annual basis. The Barro-Lee data, from Barro and Lee (2000). refer to the overall population aged 25 and over in 1995. The OECD figures, from OECD (1997, 1998a, 1998b), are for persons aged 25-64 in 1997 or 1998 (and for 1996 for the developing countries). In the Barro-Lee data, the average years of schooling come from multiplying the percentages at the various levels by the country's typical duration of school at that level and then summing over the categories (This computation also considers the breakdown between partial and complete primary schooling).

131 Barro and Sala-i-Martin (1995), Barro (1997) find that initial levels of female education (both secondary and tertiary) appear to be inversely related to growth. The latter result is difficult to reconcile with the view that education of girls and women can make an important contribution to economic welfare in developing countries.

132 To support their argument, Krueger and Lindahl examine the correlation between two different measures of the change in average years of schooling that have been used in the literature. The correlation is low enough to suggest that a substantial component of the measured change in educational attainment is uninformative noise.

lower. The problem is that educational attainment may have other, indirect effects on output through labour force participation, investment, and even R&D and the growth of total factor productivity. Growth accounting does not capture these indirect effects, and so it is necessarily silent on the overall importance to growth of variables like education."

A possible breakthrough in accounting for education…

299. Nevertheless, some studies have attempted to solve some of these problems. Recent work by de la Fuente and Domenech (2000) and Bassanini et al. (2000) strengthens the case for seeing measurement error as an important part of the story. This supports the idea that, where previous researchers have failed to detect an effect, this may be due to measurement error within the Barro-Lee data set. De la Fuente and Domenech re-examine the panel data sets on years of schooling provided by Barro and Lee (1996) and Nehru, Swanson and Dubey (1995) and find considerable measurement problems, in particular in the time series. They argue that these problems could be, at least in part, responsible for the lack of clear evidence of the impact of education on growth in panel and first difference specifications – a point also made by Topel (1997) and Harberger (1998)[133].

300. By constructing a revised version of the Barro and Lee (1996) data set for a sample of OECD countries using previously unexploited sources[134], de la Fuente and Domenech find that changes in output and educational attainment are positively correlated, even in panel estimates that include country and time fixed effects. Using the same data set for a recent study, the OECD (2000) concludes that the more significant results found in their study are likely to be due to the use of better quality data on human capital than was used in previous studies. These results are also important in so far as they relate to a limited sample of countries (mainly OECD). They therefore differ from many previous studies based on larger country samples which found inconclusive results (e.g. Barro, 2000).

A different approach to measuring the impact of education: endogenous growth theory…

301. Recent advances in growth theory have brought into focus both the role of education in the creation of human capital and the possibilities of education-related externalities. In contrast with the MRW/Barro versions of the Solow model[135] used in many earlier studies, "new growth" theories have tried to build a more complex model, accounting for human capital formation by giving prime importance to not just education itself, but to its by-products such as research and innovation[136]. As well, they look at

133 Topel (1997) and Harberger (1998) also suggest that equations used in cross-country regression analysis may be mis-specified. An example is the relation between years of schooling and output. The specification adopted by Benhabib and Spiegel (1994) and Pritchett (1999), for instance, implicitly assumes that the returns to an extra year of schooling are much higher at low levels of schooling than high levels. As Topel (1999) points out, this runs contrary to the standard semi-logarithmic formulation for earnings functions, which in its simplest form assumes that the returns to an extra year of schooling are independent of the level of schooling. When growth regressions are specified in a way more compatible with this idea, the evidence for a growth effect of changes in human capital is rather stronger.

134 The indicator of human capital is based on education attainment amongst the population of working age and average years of schooling at each level of education. They are derived from matched OECD data (OECD Education at a Glance, various issues) and an historical database from De la Fuente and Domenech (2000).

135 Essentially, a standard Solow model assumes a production function of the type $Y=AK^{\alpha}L^{1-\alpha}$, where Y is output, K is physical capital, L is labour. Conversely, an augmented model assumes a production function of the type $Y=AK^{\alpha}H^{\beta}L^{1-\alpha-\beta}$, where H is human capital.

136 An early example of this type of model was by Uzawa (1965), later examples by Lucas (1988), Romer (1990) , Grossman and Helpman (1991) and Aghion and Howitt (1998).

internally generated technical change, increasing returns to scale, the know-how acquired in the course of technology-intensive production and the spillover effect of a growing, "leading-edge" export sector on knowledge throughout the economy.

302. Education and R&D are important ingredients in the formation of new ideas and their translation into new production processes, and technological progress itself may be embodied in new capital equipment, thus creating a link between capital accumulation and long-term growth rates. Thus, education may not only make a contribution to 'embodied' improvements *via* increases in the skills of the workforce but also a contribution via innovation.

303. Some evidence is beginning to suggest that higher education may be important for the development of innovative research and the ability to acquire and adopt it[137]. The results of these various studies are summarised in Table B1.

304. In more recent work, Acemoglu (1996) has explored the presence of knowledge externalities. In his model, firms and workers make investments in physical capital and human capital respectively, before production begins. Production requires a partnership between a firm and a worker, but when firms or workers make their respective investments, they do not know the identity of their future partner. A key assumption of the model is that firms and workers are then brought together via a matching process that is imperfect, perhaps because searching for partners is costly.

305. Acemoglu[138] shows how the structure of the model yields an important result: an increase in the average level of human capital can have a positive effect on the private return to human capital, at least over some regions. As a result, some of the other workers will gain from the increase in average human capital, since they are matched with firms using more physical capital than before and in this sense the average level of human capital has an external benefit.

306. Consequently, evidence for a growth effect of education appears to be strongest for an effect via productivity rather than as an input into production (e.g. as human capital) suggesting that it may be in the accumulation of knowledge that education is most important. This, in turn, suggests that it is the inter-temporal externalities of education which might be most important – yet these are among the most difficult to identify and quantify.

137 Nehru and Dhareshwar (1994); Young (1992, 1995).

138 Acemoglu's intuition is as follows: say that a subset of workers decides to acquire more human capital. This will raise average human capital, and anticipation of this encourages firms to make greater investments in physical capital. Since the matching process is inefficient, the firms who have invested more are not necessarily matched with the workers who have invested more in human capital.

Table B1. The impact of education in cross-country regression analysis: selected work

Author(s)	*Sample(s)*	*Data*	*Education variable(s)*	*Impact of education variable(s)*
Barro (1991)	Developed and developing countries	Barro-Lee	Differences in real school resources as a crude measure of quality differences across countries.	While he found that the student-teacher ratio in primary schools in 1960 had a negative relationship to economic growth, the student-teacher ratio in secondary schools was statistically insignificant with a positive sign.
Barro (1997)	Developed and developing countries	Barro-Lee	Educational attainment	Stresses that male, secondary and higher education as determinant of economic growth. On impact, an extra year of male upper-level schooling is estimated to raise the growth rate by 1.2 percentage points per year.
Barro (2000)	Developed and developing countries	Barro-Lee	Educational attainment Test scores—for science, mathematics, and reading	Developing countries only and then only for men. When high-income countries were identified separately, there seemed to be little or no significant impact of education in these countries compared to the larger sample comprising developing countries.
Barro and Sala-i-Martin (1995).	Developed and developing countries	Barro-Lee	Educational attainment	Positive impact (but small). Find significant effects of education on fertility but it seems that while primary education has the expected effects (positive for males, negative for females) the reverse holds for secondary and higher education.
Benhabib and Spiegel (1994)	Developed and developing countries	Summer and Heston; Human capital stock estimates by Kyriacou (1991)	Educational attainment	Positive impact (for the wealthiest third of the sample) No impact (in the large sample)
De la Fuente and Domenech (2000)	21 OECD countries	Revised data on educational attainment	Educational attainment	The results are based on a revised version of the 'Barro-Lee' data on human capital and show that this adjusted data set appears to produce significant results not only where the level of human capital is used but also changes in human capital.
Englander and Gurney (1994)	19 OECD countries over 4 time periods between 1960s and 1990s.	To complete…	Primary and secondary school enrolment rates	Inconclusive. Looking simultaneously at the effect on productivity of growth in the capital to labour ratio, the size of the labour force and the enrolment rate in secondary education, they found that the latter had contributed 0.6 per cent to annual productivity growth in OECD countries between 1960 and 1985. Although these variables turn out to perform relatively well, they are still far from robust.

Author(s)	*Sample(s)*	*Data*	*Education variable(s)*	*Impact of education variable(s)*
Gemmell (1996)	Developed and developing countries	To complete…	Constructs alternative measures of human capital based on attainment at the primary, secondary and tertiary levels.	Positive impact. While primary and secondary education are important for growth in developing countries, skills are important for growth in OECD countries.
Hanushek and Kimko (2000).	Developed and developing countries	Barro-Lee (1997) complemented by series of international tests in math and science	The first method measures educational attainment using scores in international tests of cognitive skills in maths and science.	Positive impact. Find that more of cross-country growth could be explained by using measures based on quality of education than simply years of schooling.
Hanushek and Kim (1995)	Developed and developing countries	Barro-Lee (1993) complemented by series of international tests in math and science	Measures educational attainment using scores in in-ternational tests of cognitive skills in maths and science.	Positive impact. Results support the idea that education has an important effect for economic growth.
Jenkins (1995a)	United Kingdom	U.K. General Household Survey	Higher education	Positive impact. Comparing these with results from micro studies for the UK, she argues that her estimated gross social returns to a higher education qualification are generally greater than the micro estimates of private rates of return, which are typically around the lower end of her 26-86% range. However, compared to Blanchflower and Oswald's findings, Jenkins's results are very similar.
Jenkins (1995b)	United Kingdom, United States and Sweden	General household Surveys	Higher education	For the UK, US and Sweden, Jenkins (1995b) also compares her estimated social rates of return to higher education from macro data to (a) micro-based private rates of return; and (b) market wage premia for educated labour. For case (a), in all three countries it appears that social returns exceed private returns, while for (b) the estimated social return was greater than the apparent wage premium associated with higher education in the US and Sweden. The two were similar in the UK.
Jones (1996)	Developed and developing countries	Summer and Heston (1991); Barro-Lee (1993)	Educational attainment	Future workers benefit (in terms of their productivity) from the education of current workers via the resulting (current) production of new ideas. Assumes that the productivity of skilled labour depends on the existing stock of ideas so that there is an inter-temporal knowledge spillover.

Author(s)	*Sample(s)*	*Data*	*Education variable(s)*	*Impact of education variable(s)*
Krueger and Lindahl (1998)	Developed and developing countries	Summer and Heston	Educational attainment	Examine the correlation between two different measures of the change in average years of schooling that have been used in the literature. The correlation is low enough to suggest that a substantial component of the measured change in educational attainment is uninformative noise.
Mankiw et al. (1992)	22 OECD countries	Summer and Heston	Secondary school enrolment rates	No impact. More education will raise an economy's short-run growth rate (or permanent income level) but not its long-run growth.
Nehru and Dhareshwar (1994)	Developed and developing countries	World Bank investment data	Using indices of educational attainment (derived from enrolment rates)	Positive impact. TFP growth between 1960 and 1987 is strongly associated with the initial level of human capital – particularly for East Asian economies.
OECD (2000)	21 OECD countries	Revised data on educational attainment (de la Fuente and Domenech, 2000)	Educational attainment	Positive impact. The result on human capital suggests relatively high returns to education.
Pritchett (1999)	Developed and developing countries	Barro-Lee (1993) and Nehru, Swanson and Dubey (1994)	Enrolment rates and Educational attainment	No impact. Notes that the coefficient on education capital per worker (a stock measure of accumulated schooling) is negative.
Romer (1990)	Developed and developing countries	Summer and Heston and UNESCO (human capital)	Literacy	Finds a positive effect on economic growth. Hypothesises that the creation of these new designs/goods is a function of the stock, as well as the growth, of human capital in the form of 'basic' and 'applied' scientific knowledge acquired via higher education.
Temple (1998)	Developed and developing countries	Benhabib and Spiegel (1994)	Educational attainment	Positive impact. Notes that a strong relation can be discerned when some influential outliers are eliminated.
Wolff and Gittleman, (1993)	19 industrial market economies.	Summer-Heston (1988) with World Bank data on education	Enrolment rates and educational attainment;	Inconclusive. For OECD countries only tertiary enrolment rates are significant, whilst attainment is always more significant for primary education. It is noted that inclusion of investment strongly affects the significance of the attainment variables.
Wolff and Gittleman, (1995)	Developed and developing countries	Summer-Heston (1988) with World Bank data on education	Number of scientists and engineers per capita	Positive impact
Sources: References				

Conclusion

307. Cross-country regression analysis and growth accounting have a relatively short history, and the strengths and weaknesses of the available evidence are increasingly better understood. After a recent wave of scepticism and questioning of the data for developed or OECD countries, recent studies have established that human capital, after all, does seem to explain some part of economic growth. Overall, this literature is beginning to suggest that there is a correlation between changes in education and growth, of the kind that most labour economists would expect to observe. This is reassuring, but there remain a number of interesting open questions.

308. One obvious question mark surrounds the interpretation of the earlier results that related growth to the initial level of attainment, rather than the change in attainment. Cross-country regressions show a positive link between growth and the initial level of education but have been less successful at finding a link with changes in education. The estimates linking initial levels of education with growth imply very high rates of return, which remains something of a puzzle and some suggest that education is acting as a proxy for other variables. Failure to find links between changes in education and growth has been blamed on the grounds of mis-specification, measurement error and outlier problems. This may be an important omission, especially when one recalls the possible role for human capital in the creation of new ideas, and thereby the possible connection between the level of education and subsequent growth.

309. The evidence also suggests that the effect of human capital investment is not uniform. Strategies for investing in education, training and know-how need to be highly discerning if the desired impact on growth is to be realised. Understanding the national, regional and institutional context in which human capital investment takes place is vital. That way, it may be possible to examine how specific features of any given country, and the way in which various components mix and interact, have had an impact. Consequently, it remains important to explore a number of important institutional, cultural and market characteristics specific to a country, and which favour economic growth.

REFERENCES

Acemoglu (1996), "A microfoundation for social increasing returns in human capital accumulation" *Quarterly Journal of Economics*, 111, 779-804.

Aghion, P. and P. Howitt (1998), *Endogenous Growth Theory*, The MIT Press, Cambridge, Mass.

Barro, R. (2000), "Education and Economic Growth", Paper presented at Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, March 19-21, 2000.

Barro, R.J. and J.W. Lee (1997), "Schooling quality in a cross-section of countries", *NBER Working Paper* 6198.

Barro, R.J. and J.W. Lee (1996), "International Measures of Schooling Years and Schooling Quality," American Economic Review Papers and Proceedings, 86(2), pp. 218-23.

Barro, R.J. and J.W. Lee (1993b) 'Losers and winners in economic growth', *Proceedings of the World Bank Annual Conference on Development Economics*, 1993, 267-97.

Barro, R.J. (1991), "Economic growth in a cross-section of countries", *Quarterly Journal of Economics*, CVI, May.

Barro R.J. and X. Sala-i-Martin (1995), *Economic Growth*, New York: McGraw-Hill.

Bassanini, A., S. Scarpetta and P. Hemmings (2000), "Links between policy and growth: evidence from OECD countries", OECD *Economics Department Working Papers*, forthcoming.

Benhabib, J. and M.M. Spiegel (1994) 'The role of human capital in economic development. Evidence from aggregate cross-country data', *Journal of Monetary Economics*, 34, 143-173.

De La Fuente, A. and R. Domenech (2000), "Human capital in growth regressions, how much difference does data quality make?", CSIC, Campus de la Universidad Autonome de Barcelona.

Doppelhofer, G., R.I. Miller, and X. Sala-i-Martin (2000), "Determinants of Long-Term Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach", *Economics Department Working Papers* No. 266. OECD, Paris.

Dougherty, C. and Jorgensen, D.W. (1996), "International comparisons of the sources of growth, *American Economic Review*, May, pp. 25-29.

Englander, A.S. and Gurney, A. (1994), 'Medium-term Determinants of OECD Productivity', OECD Economic Studies, No. 22, OECD Publications, Paris.

Gemmell, N. (1997), "Externalities to higher education: a review of the new growth literature," Report 8 in The National Committee of Inquiry into Higher Education, Higher Education in the Learning Society, Reports 5-9, pp. 109-149.

Gemmell, N. (1996), "Evaluating the impacts of human capital stocks and accumulation on economic growth: some new evidence," *Oxford Bulletin of Economics and Statistics*, 58, 9-28.

Gemmell, N. (1995), "Endogenous growth, the Solow model and human capital," *Economics of Planning*, 28, 169-183.

Griliches, Z. (1996), "Education, Human Capital, and Growth: A Personal Perspective," *NBER Working Paper 5426*, January.

Grossman, G.M. and E. Helpman (1991), *Innovation and Growth in the Global Economy*, Cambridge, Massachusetts: MIT Press.

Hanushek, E. A. and Kim, D. (1995). Schooling, labor force quality, and economic growth. *NBER working paper no. 5399*.

Hanushek, E.A. and Kimko, D.D. (2000), "Schooling, Labor Force Quality, and the Growth of Nations," *American Economic Review* (forthcoming).

Harberger, A.C. (1998), "A Vision of the Growth Process", *American-Economic-Review*; 88 (1), March, pp. 1-32.

Hers, J. (1998), "Human capital and economic growth," GPB Report, 98(2).

Heston, A and R. Summers (1991) The Penn World Table (Mark 5): An Expanded Set of International Comparisons, 1950-1988 Quarterly Journal of Economics, May, pp.327–368.

–-. (1988) "A New Set of International Comparisons of Real Product and Price Levels Estimates for 130 Countries, 1950 – 1985." *Review of Income and Wealth, XXXIV*, pp. 1-26.

Jenkins, H. (1995a) *Education and Production in the United Kingdom*. Nuffield College, Oxford, Economics Discussion Paper No. 101.

Jenkins, H. (1995b) *Infrastructure, Education and Productivity: A Multi-Country Study*. DPhil thesis, Nuffield College, Oxford University.

Jones, C.I. (1996), "Human Capital, Ideas and Economic Growth," Paper presented to the VIII Villa Mondragone International Economic Seminar on Finance, Research, Education and Growth. Rome, Italy, June.

King, R. and Levine, R. (1994), "Capital fundamentalism, economic development and economic growth," Carnegie-Rochester Series on Public Policy, 40.

Krueger, A. B. and Lindahl, M. (1999). "Education for growth in Sweden and the world." *NBER* working paper no. 7190.

Kyriacou, G. (1991), *Level and Growth Effects of Human Capital: A Cross-Country Study of the Convergence Hypothesis*. New York: C.V. Starr Centre, Working Paper 91-26.

LEVINE, R. and D. RENELT (1992), "A Sensitivity Analysis of Cross-Country Growth Regressions," *American Economic Review*, 82, 4 (September), 942-963. The data for this paper was taken from the World Bank's Research Department Web Page.

Lucas, R.E. (1988), "On the Mechanics of Economic Development", *Journal of Monetary Economics*, 22.

Maddison, A. (1987). Growth and slowdown in advanced capitalist economies: techniques of quantitative assessment. *Journal of Economic Literature*, 25, 649-698.

Maddison, A. (1991). *Dynamic forces in capitalist development*. Oxford University Press, Oxford.

Mankiw, N.G, D. Romer and D.N. Weil (1992) 'A contribution to the empirics of economic growth', *Quarterly Journal of Economics*, 107, 407-37.

Nehru V and Dhareshwar A (1994) *New Estimates of Total Factor Productivity Growth for Developing and Industrial Countries*. Policy Research Working Paper 1313, Washington D.C.: The World Bank.

Nehru V, Swanson E and Dubey A. (1995) 'A new database on human capital stock in developing and industrial countries: sources, methodology and results', *Journal of Development Economics*, 46, 379-401.

Nonneman, W. and Vanhoudt, P. (1996), "A further augmentation of the Solow model and the empirics of economic growth for OECD countries," *Quarterly Journal of Economics*, 111, pp. 943-953

Pritchett, L. (1999), *Where Has All the Education Gone?*, Washington D.C.: The World Bank.

Romer, P.M. (1990), "Endogenous technological change", *Journal of Political Economy* 98(5) Part 2, pp. 71-102.

Sala-i-Martin, X. (1997a), "I Just Ran 2 Million Regressions", *American Economic Review*, May.

Sala-i-Martin, X. (1997b), "I Just Ran Four Million Regressions", *NBER Working Paper* No. 6252.

Scarpetta, S., A. Bassanini, D. Pilat and P. Schreyer (2000), "Economic growth in the OECD area: recent trends at the aggregate and sectoral level", *OECD Economics Department Working Papers* No. 248.

Smith, A. (1776), *The Wealth of Nations.* Book I

Solow R.M. (1956) 'A contribution to the theory of economic growth', *Quarterly Journal of Economics*, 70, 65-94.

Steedman, H. (1996), "Measuring the quality of educational outputs: a note." Center for Economic Performance, Discussion paper no. 302, LSE.

Temple, J. (2000), "Growth effects of education and social capital in the OECD", background paper for Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well Being, Quebec, 20-21 March.

Temple, J. (1999a), "The new growth evidence", *Journal of Economic Literature*, Vol. XXXVII, March, pp. 112-156.

Temple, J. (1999b), "A positive effect of human capital on growth", *Economics Letters* 66 (1999), pp. 131-134.

Topel, R. (1997). Factor proportions and relative wages: the supply-side determinants of wage inequality. *Journal of Economic Perspective*s, 11(2), 55-74.

Uzawa, H. (1965), "Optimum technical change in an aggregative model of economic growth", *International Economic Review* 6, pp. 18-31.

Van Ark, B. and de Jong, H. (1996), Accounting for economic growth in the Netherlands since 1913, University of Groningen Research Memorandum, GD-26.

Wolff, E.N. (1994) 'Human capital investment and economic growth: macro-economic perspectives and evidence from industrialized countries'. *In International Conference on Human Capital Investments and Economic Performance*, Santa Barbara, Calif.

Wolff, E.N. and M. Gittleman (1993), "The Role of Education in Productivity Convergence: Does Higher Education Matter?", in *Explaining Economic Growth*, A Szimai, B. Van Ark and D. Pilat (eds), Elsevier Science Publishers.

Young A (1995) 'The tyranny of numbers: confronting the statistical realities of the East Asian growth experience', *Quarterly Journal of Economics*, 110, 641-80.

Young A (1992) 'A tale of two cities: factor accumulation and technical change in Hong Kong and Singapore' in *NBER Macroeconomics Annual 1992*, 13-54.

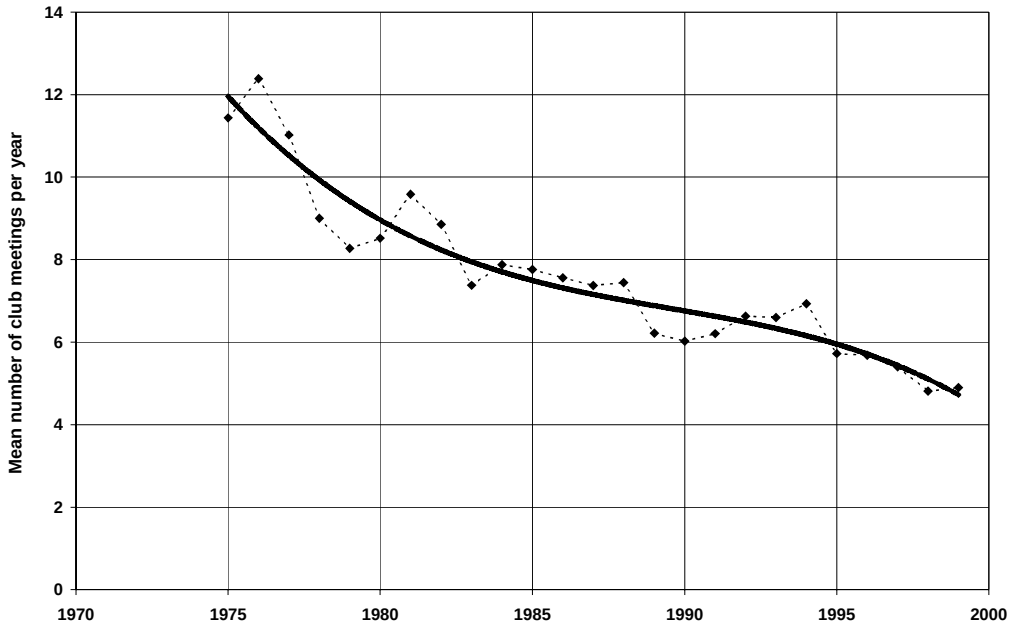
APPENDIX C – ARE TRUST AND CIVIC ENGAGEMENT DECLINING IN OECD COUNTRIES?

310. Is there a relative decline of social capital in OECD countries? Although there is substantial evidence of decline since 1960 of social capital in the United States (Putnam, 2000a), we hear less about the situation in other countries. This appendix attempts to fill this gap by offering a broad overview of the situation in eight countries: United States, United Kingdom, Netherlands, Sweden, Australia, Japan, France, and Germany. Because of data limitations, most of the findings focus on some measures of social capital, particularly trust and civic engagement.

United States

311. Putnam (2000a) finds significant declines in group membership and informal socialising in the United States. He uses data from various sources (including the US *General Social Survey*, the Roper Social and Political Trends and the DDB Needham Life Style survey which provide a rich range of data over a number of decades). Declines in rates of membership of formal organisations have been accompanied by an even sharper fall in intensity of participation (number of meetings, willingness to assume leadership roles etc.). This occurred in spite of rising education levels, which tend to be associated with higher civic engagement. In the mid-1970s, nearly two-thirds of Americans reported attendance at club meetings in the previous twelve months. In the late-1990s, nearly two thirds never attend.[139] Political, civic, religious and professional engagement have declined in the last 25 years in the United States, whether measured in terms of absolute number of members or in terms of "market share" (the proportion of a target population eligible to be members of a given organisation).

Club meeting attendance dwindles, 1975-1999



139 Moreover, measured in terms of hours per month, the average American's investment in organisational life (apart from religious groups) fell from 3.7 hours per month in 1965 to 2.9 in 1975 to 2.3 in 1985 and 1995. Putnam (2000), pp. 61-62.

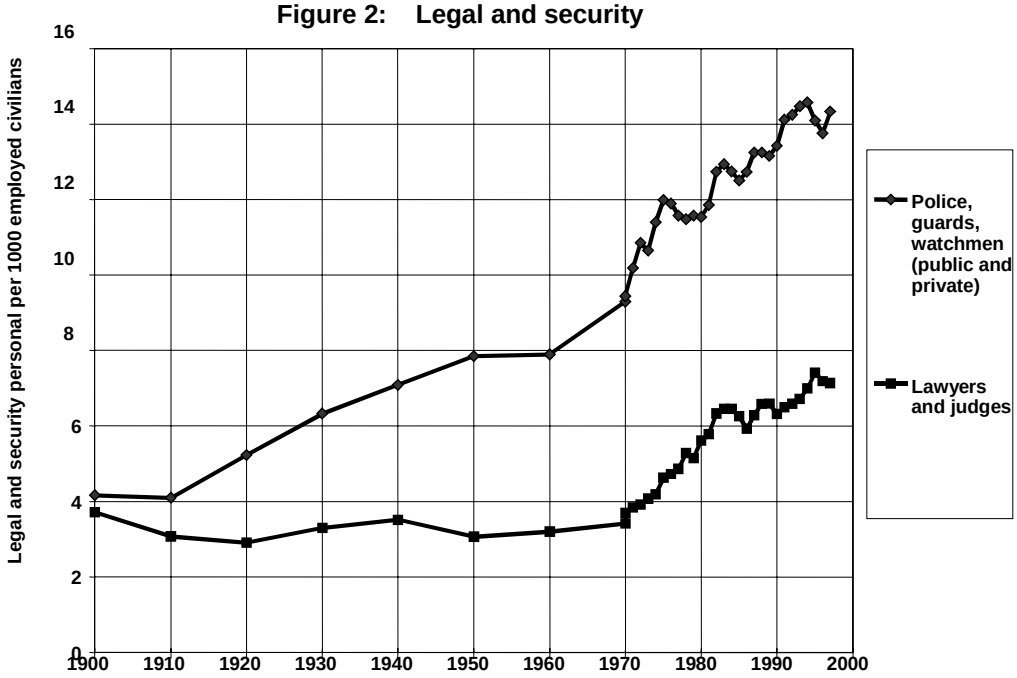
312. To what extent does this evidence focus on changes that may be temporary, or else unavoidable for reasons of changing social norms and patterns? To what extent are others forms of social and civic engagement missed out by reliance on data for participation only in certain types of civic organisations? For example, people may be joining less traditional types of organisations or engaging in more informal social contact in a way that is not picked up by data on organisational membership. The "new social movements" such as those associated with gender, environmental, civil rights issues or "single-issue" organisations may be increasing in strength.

313. The evidence reviewed by Putnam in respect of these movements is mixed but indicates that "involvement" tends to be less intense and less sustained than in the more traditional sectors of civic association. Membership in some of these organisations rises and falls quickly and in many cases is based on "mailing lists". Informal self-help and support groups have certainly grown, but engagement appears to be more transient, short-lived and less likely to be associated with general public interests. Various forms of informal social connectedness (such as incidence of eating dinner together regularly with family, picnics, card-playing, having friends for dinner, visiting and eating out, etc.) have also waned over a long period of time. Time-use by individuals appears to have shifted towards themselves and immediate family and away from the wider community. In the case of sporting events, spectator attendance is up (as for visits to museums, cinemas etc) but active involvement in sport (or musical activity) is down.

314. As for "trust", the apparent declines in levels of trust in the United States are highly age-specific. The baby boomers (those born in the period 1945-1965) and Generation-X (those born after 1965) are less trusting than previous generations, while over time, levels of trust are fairly stable within cohorts. The decline in social trust therefore appears to be mainly inter-generational.

315. Putnam notes that the increase in the number of lawyers in the US from 1970 onwards seems to be linked to what he terms "preventive lawyering" more than increases in criminal law cases. The stability in lawyer numbers up to 1970 in spite of profound social and economic change is indicative of specific shifts that have occurred since the late 1960s.

Figure 2: Legal and security



316. The picture in respect of volunteering is mixed. Rates of participation in voluntary community, social and charitable activity have increased among those under the age of 25, while they declined or stagnated for those in the 25-60 age-group. Within the prime age population (25-44 age group), only among those over 60 have rates of participation gone up (compared to the same age-group in the 1970s. Altruism, volunteering and philanthropy are highly correlated with each other. Giving time and money is related to communal involvement more than education, wealth, size of community, family status and employment. In spite of decreasing civic engagement in other areas, there has been an increase in volunteering in the United States concentrated in older age-cohorts (what Putnam calls the "long civic generation" born between 1910 and 1940). The nature of volunteering has shifted towards more individual-to-individual care rather than group activity at the community level.

317. In terms of trust, Putnam notices some important intergenerational differences. The grandparents are more than twice as likely to trust other people as the grandchildren are (50 percent vs. 20 percent). They vote at nearly double the rate of the most recent cohorts (80-85 percent vs. 45-50 percent). The grandparents are nearly twice as interested in politics (55 percent vs. 30-35 percent)

United Kingdom

318. The evidence for declining social capital in the United States does not appear to be reflected in the United Kingdom. Hall (1999) finds that associational membership has tended to increase since the 1950s for most types of organisations. The United Kingdom shares with the United States a long tradition of civic culture with high levels of social trust, and political and civic participation (Almond and Verba,1982). Unlike the case of the United States Hall finds no evidence of declining engagement over time even among the younger age-cohort (thus countering the hypothesis that inter-generational shifts are occurring which are not yet showing up in the aggregate population data). There has been some fall-off in membership of traditional women's or religious organisations. However, he does not have data to review the intensity of engagement or the quality of such engagement over time. It is possible that membership has tended to shift towards less publicly-engaged or public-interest type organisations towards self-help or single-issue organisations. Also, face-to-face participation may have declined to be replaced by less formal and less sustained forms of commitment. The data do not permit an analysis of these possibilities.

319. Hall does, however, find evidence of an increasing gap in membership rates and in reported levels of trust between various social groups including by level of educational attainment. Trust and engagement are positively correlated with level of education and tend to be higher for the middle class than for the working class.

320. Hall finds that the relative importance of various groups has changed with declines in the population share of the less educated and of the working class relative to the 1950s. He suggests that educational reform and expansion coupled with changing social class structure may have bolstered levels of trust and civic engagement in the United Kingdom so that overall levels of social capital do not appear to have declined. The role of Government support for voluntary activity (social support, care of the elderly, community projects, etc) is also discussed. This role has a long tradition in the United Kingdom which he claims may have helped sustain a decline in overall volunteering activity. Rates of participation in community life increased for women. Three factors underlying this are identified: the increased participation by women in higher education, the growing participation of women in the labour force, and general changes in the social situation of women. In particular, the level of participation for those with higher education (whether men or women) has increased more than for other levels of educational attainment (although participation is up for all levels). This may imply a higher marginal impact on social capital from higher education compared to the past.

321. For Hall, time-use survey data covering 1961 to 1984 do not highlight any clear evidence for increased privatisation of leisure or decreased levels of socialising with others (although time spent visiting friends is down especially among full-time male workers).

322. One negative trend observed by Hall is that levels of inter-personal trust have declined. In 1959, 56 per cent of all respondents to the UK Civic Culture Survey said they generally trust others, while the corresponding figure for 1995 was only 31 per cent (UK World Values Study).

323. Hall also points to the possibility of important shifts in values and attitudes over time which impinge on the quality of civic engagement and trust. This seems to be part of a more general trend towards more materialistic and individualist values noted by Inglehart (1997). Putnam (2000a) also notes significant shifts in values and attitudes of young people compared to the same age-group 20-30 years ago. Declining levels of trust seem to affect the young more than other age-groups. The data for the UK show declining levels of trust:

- between persons (described here as generalised inter-personal trust)
- towards institutions and public authorities

324. Overall, the UK seems to be characterised by increased associational life and informal socialising coupled with declining levels of trust. Behind increasing levels of assocational life, the gap between "well-connected and highly-active groups of citizens" and others whose associational life and civic engagement are very limited, has grown since the 1950s. The two groups most affected are the young and the working class. It is also notable that those having experienced divorce, unemployment or relocation to a larger city are less inclined to participate or to trust, other things constant.

Netherlands

325. The available evidence for the Netherlands does not indicate any overall decline in social capital. It does, however, suggest possible changes in types of engagement. De Hart and Dekker (1999) review data on membership of various types of organisations and rates of volunteering. Membership as well as intensity of engagement is increasing for most types of organisations (except for traditional women's organisations and political parties). Between 1980 and 1985, voluntary work was stable or increased although it declines among the 18-34 age-group (Dutch time budget survey). Political activism has tended to increase and voter turnout at key elections has remained stable. However, as in other European countries, engagement seems to have shifted towards less intensive, less committed forms. Rapidly growing interest groups include the "single-issue" social movements established around environmental, international solidarity and moral issues. While it is difficult to assess the extent of active involvement in these types of organisations, involvement is likely to be more transient, less activist and less orientated to broader public interests than other types of civic organisations. Finally, time budget data do not point to declining levels of informal socialising or engagement.

Sweden

326. The evidence reviewed by Bo Rothstein (Rothstein, 1999) focuses on a deterioration in what he terms "organised social capital," that is, trust within and among the major labour and business organisations during a period of sustained consensus and participation of the social partners in economic and social planning. As in Britain, declining levels of trust in political institutions are found, parallel to declining levels of co-operation, consensus and trust from the late 1980s onwards. Political engagement

also appears to be changing from active involvement to passive spectatorship and interest. Whereas the data show that levels of political interest are rising, fewer people are actively involved: professionalisation and media handling of political issueshas increased and party volunteers are older. Professional campaigns and media activity have tended to supplant popular mobilisation, debate and study circles. As in other European countries, membership of single-issue organisations has grown in importance relative to stable, mass organisations.

327. Traditionally, Sweden along with other Scandinavian countries has occupied one of the top positions in international rankings of organisational engagement, volunteering and self-reported levels of general trust. Evidence from national as well as international surveys such as the World Values Study suggests that both formal and informal social organisations have, if anything, displayed increasing vitality in recent decades. Rothstein does find evidence of increasing individualism, as younger generations have turned away from traditional hierarchically organised forms of social activity. So, for example religious temperance movements and women's organisations have given way to leisure, sports, cultural, and environmental organisations. As in the case of the United Kingdom, rates of organisational membership differ among groups and are highest among the young. Membership of organisations over time is up across all age-groups and social classes, and the gap between men and women has narrowed (as in the UK). World Values Study data also point to higher levels between 1981 and 1996. The Swedish Level of Living surveys from 1968, 1981 and 1991 also supports these results.

328. However, other studies point to lower levels of "affinity" to certain mass organisations. This may be connected in the view of Rothstein to rising discernment and lower collective or group identity. Other studies again show increasing levels of individualism and personal autonomy. Rothstein argues that this may be compatible with a more "solidaristic" individualism (by contrast with an egoistic individualism).

Australia

329. The evidence for Australia is more akin to that for the United States. Declining membership has been noted by Eva Cox (in Putnam, 2000b) for many long-term established voluntary groups in recent decades. For example, trade union membership and church attendance both fell significantly from the 1960s to the 1990s. Volunteering appears also to have declined, while the evidence for political involvement is not as clear-cut. Generalised social trust and trust in political institutions has clearly declined in the last 15 years. Declines in trust may be linked to increased anxiety about the future as well as rising inequalities. Television-watching has increased and informal socialising has decreased. Though sports participation is up, as it appears to be elsewhere, this trend is likely to reflect individual fitness activities, rather than team sports. Some social movements such as feminist and environmentalist groups appear to have lost ground.

Japan

330. Takashi Inoguchi (in Putnam, 2000b) finds some evidence of rising levels of civic engagement and membership of non-governmental organisations in Japan. Membership of neighbourhood groups has not changed significantly since the mid-1980s. Membership of voluntary caring organisations serving children, the aged, and the disadvantaged have substantially increased.

331. The "radius" of social trust is perhaps narrower in Japan than in Northern Europe and the United States. Inoguchi argues that trust and co-operation are stronger in smaller and more intimate circles of families, close friends and professional or work associates. Fukuyama (1995) also sees trust in Japanese society as being characterised by the development of large-scale corporations out of family firms through

the medium of a 'rich and complex civil society' (p. 130). Lean manufacturing in Japan is presented as the model of the 'high trust workplace' where the role of the workers is to contribute their judgement to help run the production line as a whole' (pp. 258-259).

332. There seems to be evidence of a gradual increase in generalised trust, suggesting that Japan may be gradually converging toward patterns prevailing elsewhere. There is a lack of data on levels of informal socialising to test if Japan is undergoing change in this respect.

France

333. Evidence considered by Jean-Pierre Worms in Putnam (2000b) indicates little evidence of a decline in assocational life. While some of the principal social and political organisations, especially trade unions, political parties, and the church, have experienced declining membership, membership in other types of associations has been stable. The possibility is raised that social policies and provision have sustained non-profit social service organisations. Two trends in recent decades have been noted. First, an increase in organisations pursuing sectoral or particular group interests followed by an increase in membership of more broad-interest organisations. Second, there has been an increase in personal development associations in the form of cultural and leisure activities. Education is seen to partly account for these changes.

334. As in other countries, civic participation seems to have shifted towards more informal and transient affiliations. Worms argues that the shifting nature of engagement evokes a "missing link" between private sociability and the wider public interest especially in terms of linkage to public institutions.

335. However, the difference in level of civic engagement between France and other countries remains notable. France lags behind the United States and Scandinavian countries but also behind Germany, Belgium, United Kingdom, Ireland in terms of membership, number of volunteers and donors[140]. The influence of the Church and State are cited among the explanations. These two institutions have competed for control of civil society for centuries leaving little room for citizen initiative.

Germany

336. From depressed levels in 1945, formal participation as well as informal sociability have increased in Germany (Offe and Fuchs, 1998). This is particularly evident among the younger generation. The main exceptions were: (1) falling membership in trade unions, political parties, and churches; and (2) an apparent disengagement of younger Germans from political and social organisations during the 1990s. As in Sweden, there is evidence of a trend away from formal membership organisations toward more transient and personalistic involvement.

337. Patterns in the distribution of social involvement among groups are quite similar to those in the United States — more associational involvement (especially of a formal sort) among the more educated and more affluent, but also among those in the labour force, among the middle-aged, in smaller towns, and among men (especially in more "public" forms of activity, though with the gender gap closing over time).

338. Summary

140 For example, Worms (2000) notes that the average contribution of a Frenchman is nine times less than that of an American.

339. Beneath the apparent stability of organisational membership in most of the countries reviewed above, there may have been an erosion in the quality of collective engagement and especially in the degree of inter-personal trust and trust towards political institutions. Not all forms of civic engagement are equally suited to the pursuit of collective interests. Two points in particular are worthy of concern:

- the evidence is suggestive that individuals may be participating more on their own terms to pursue their own interests compared to the past;

- there appears to an increasing gap in levels of engagement and trust between the "connected" and "unconnected" for some countries.

340. The last point suggests that as with human capital, the distribution of social capital may be as important as the overall level. Like human capital, social capital tends to be accumulated more by those who already have the most and less by those in greatest need. Moreover, the quality and diversity of engagement in various social circles and networks is different for different ethnic and social groups. In some cases, low access to human and financial capital may be partly compensated by recourse to social capital networks (for example within tightly bonded ethnic communities). However, it is more likely that social and economic disadvantage go hand in hand with poorer access to social capital, whatever the direction and extent of causality. It is not clear that the changing composition of associational engagement has favoured the more privileged and well off. A possibility discussed in Putnam (2000b) is that declining membership in more traditional organisations such as unions, political parties, churches and women's organisations has been offset by more engagement in sports and environmental groups and has tended to favour the young and more highly educated. There is, as yet, insufficient data to test this claim.

REFERENCES

Almond, G. and S. Verba (1963) *The Civic Culture: Political Attitudes and Democracy in Five Nations*, Princeton: Princeton University Press.

Cox, E. (2000) in Putnam, R. (2000b) *Society and civic spirit (Gesellschaft und Gemeinsinn),* Bertelsmann Foundation. Forthcoming.

De Hart, J. and Dekker, P. (1999) "Civic Engagement and Volunteering in the Netherlands: A 'Putnamian' Analysis" in *Social capital and European democracy, eds.* Van Deth, J., Maraffi, M., Newton, K, Whiteley, P., London: Routledge, pp. 75-107.

Hall, P. (1999) "Social Capital in Britain" *British Journal of Political Science*, 29, 417-461.

Inglehart, R. (1997) *Modernization and Postmodernization*: *Cultural, Economic and Political Change in 43 Societies* Princeton: Princeton University Press.

Inoguchi, T. (2000) in Putnam, R. (2000b) *Society and civic spirit (Gesellschaft und Gemeinsinn),* Bertelsmann Foundation. Forthcoming.

Offe, C. and Fuchs, S. (1998) "A Decline of Social Capital? – the German Case" in Putnam, R. (2000b) *Society and Civic Spirit (Gesellschaft und Gemeinsinn),* Bertelsmann Foundation

Putnam, R. (2000a) *Bowling Alone: The Collapse and Revival of American Community*, Simon Schuster, New York.

Putnam, R. (2000b) *Society and civic spirit (Gesellschaft und Gemeinsinn),* Bertelsmann Foundation. Forthcoming.

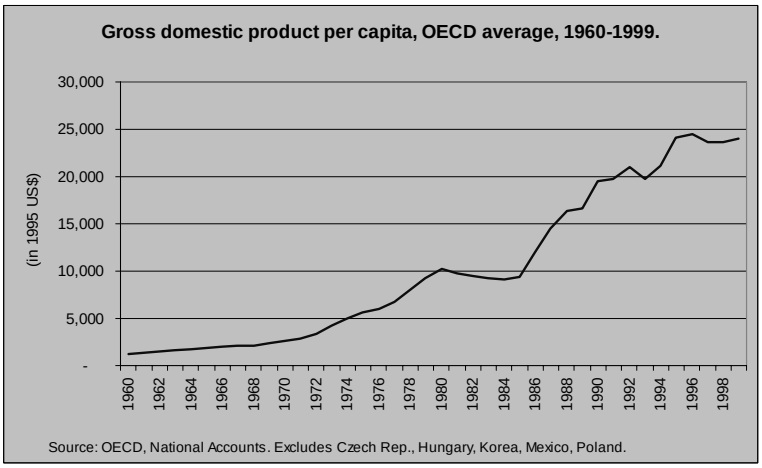
Rothstein, B., (1998) "Social Capital in the Social Democratic State – The Swedish Model and Civil Society" Department of Political Science, Göteborg University. Sweden

Worms, J.P. (2000), "Old and New Civic and Social Ties in France", in Putnam, R. (2000b) *Society and civic spirit (Gesellschaft und Gemeinsinn),* Bertelsmann Foundation. Forthcoming.

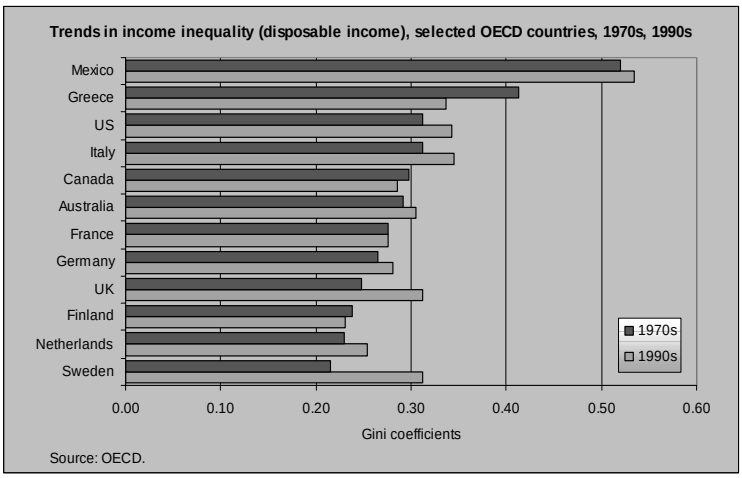
Worms, J.P. (1998), "La crise du lien social, le problème du chaînon manquant", *Empan*, no. 32, December 1998, pp. 94-104.

Economic growth, labour market change and rates of poverty

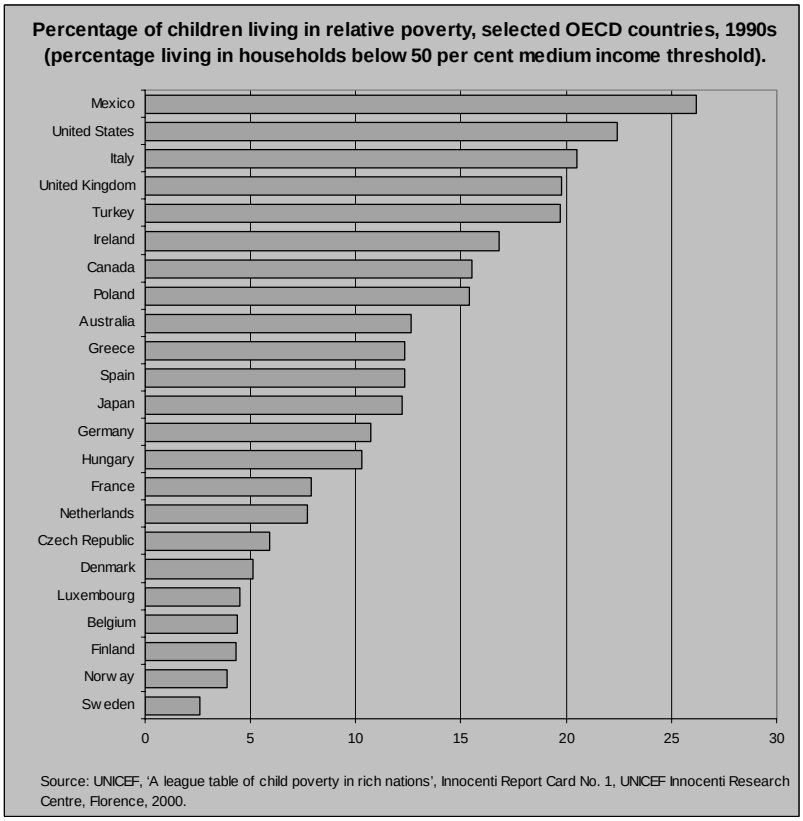
1. Trends in GDP per capita in constant prices



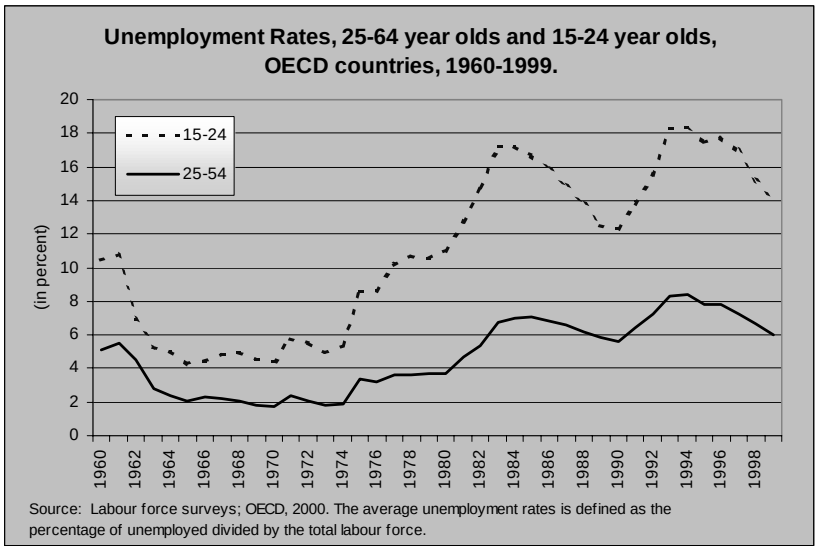
2. Income inequality (Gini coefficient) [based on final income] – mid-70s compared to mid-90s



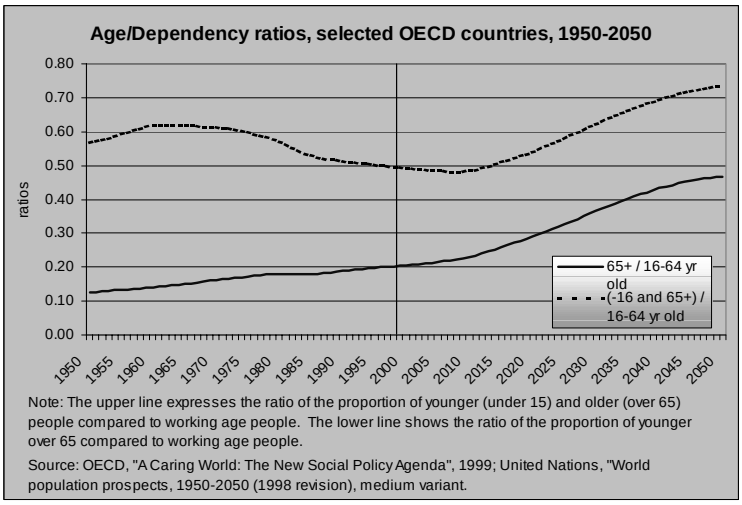
3. Poverty of specific groups – children (e.g. % living in households 50% median income threshold)



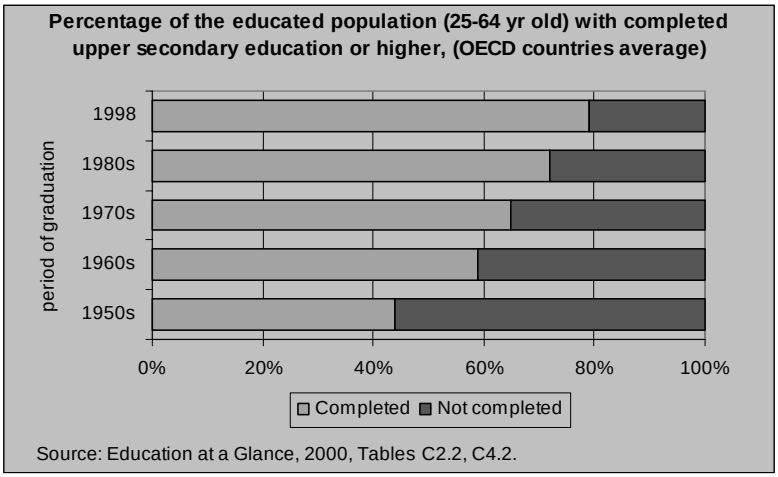
4. Unemployment rates



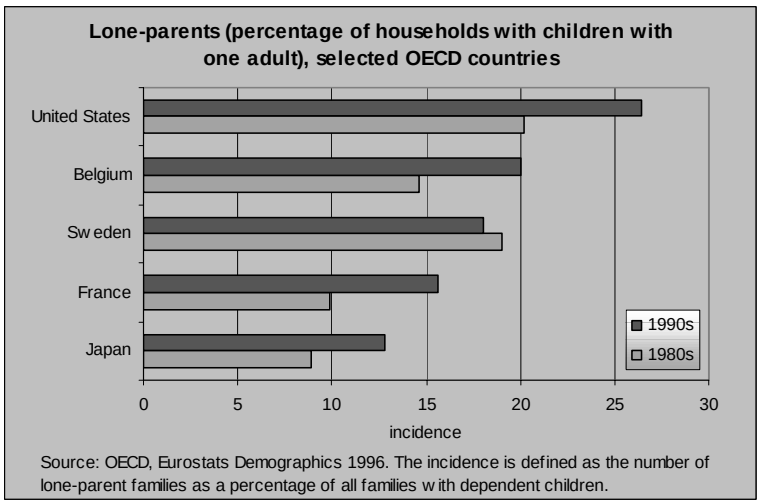
5. Past, current and projected trends in the age-dependency ratio (1950-1995- 2050) – (ratio of <16 + >65 as well as >65 only to working age population @16-64)



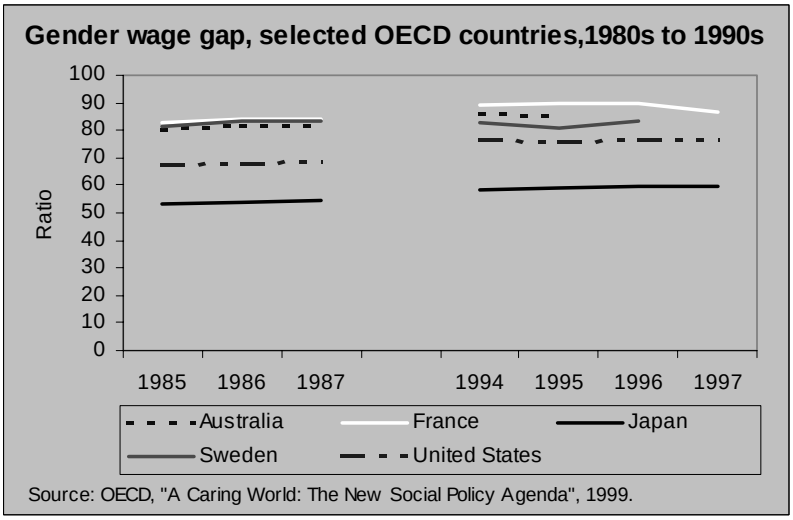
6. Percentage of adult population (25-64 year olds) with completed upper secondary level education or higher



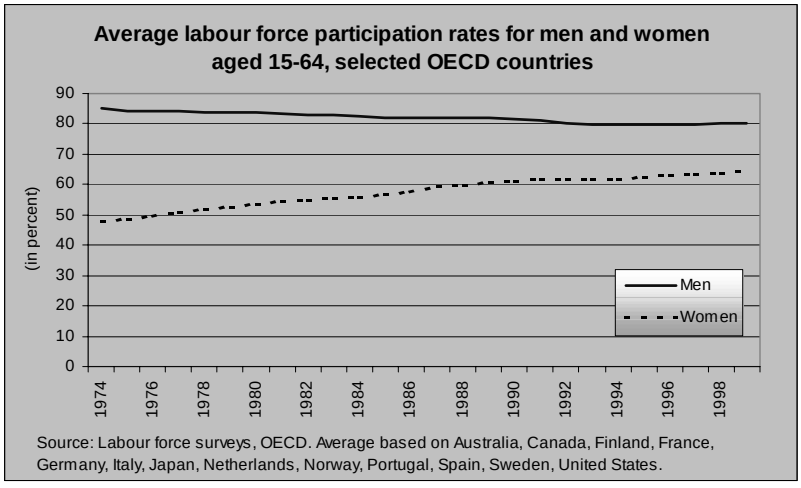
7. Lone parents (e.g. % of households with children with one adult)



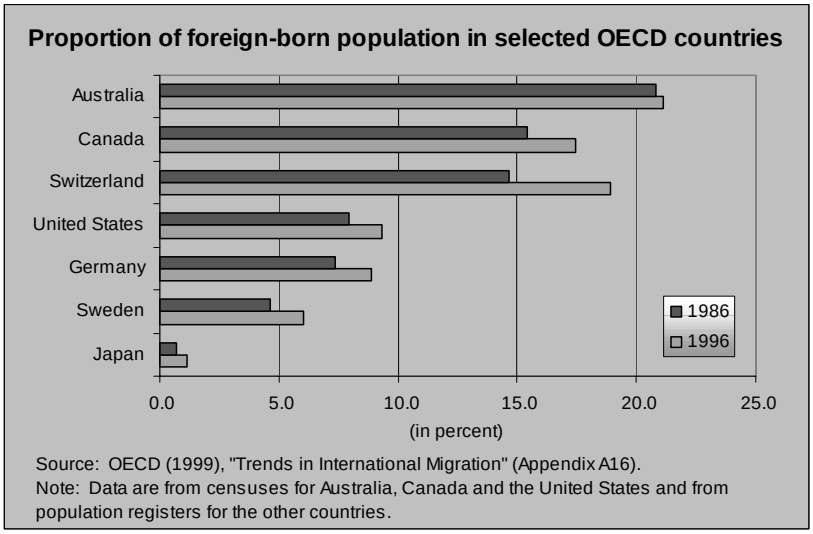
8. Differences in earnings between men and women, 25-64 year olds (for full-time workers), 1980s and 1990s



9. Differences in rates of labour force participation by gender for 25-64 year olds



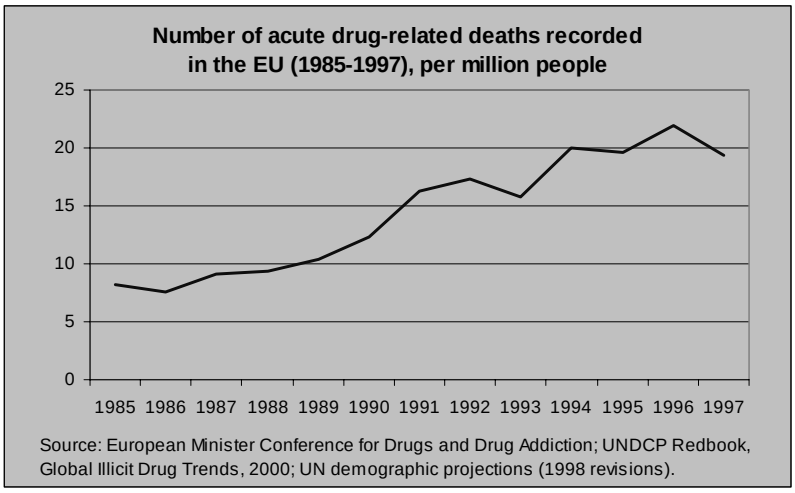
10. Proportion of foreign-born population in selected OECD countries



Source: OECD (1999), "Trends in International Migration" (Appendix A16).
Note: Data are from censuses for Australia, Canada and the United States and from population registers for the other countries.

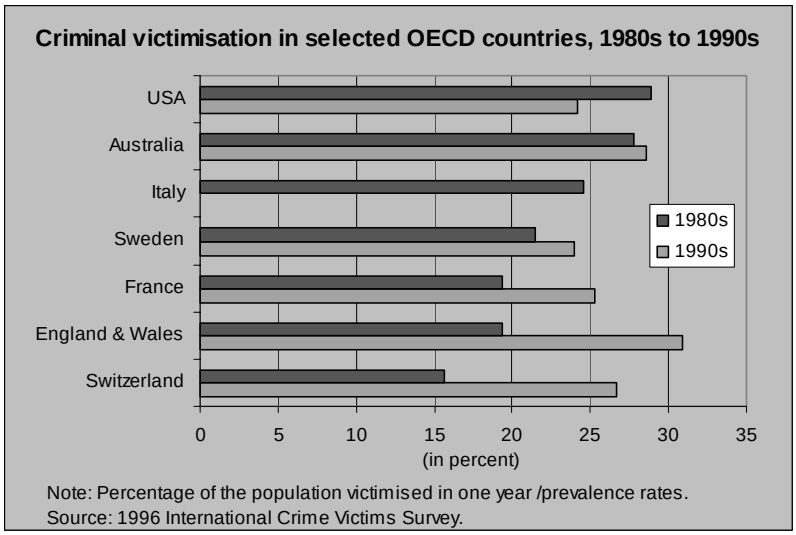
Personal well-being and health

11. Drug abuse

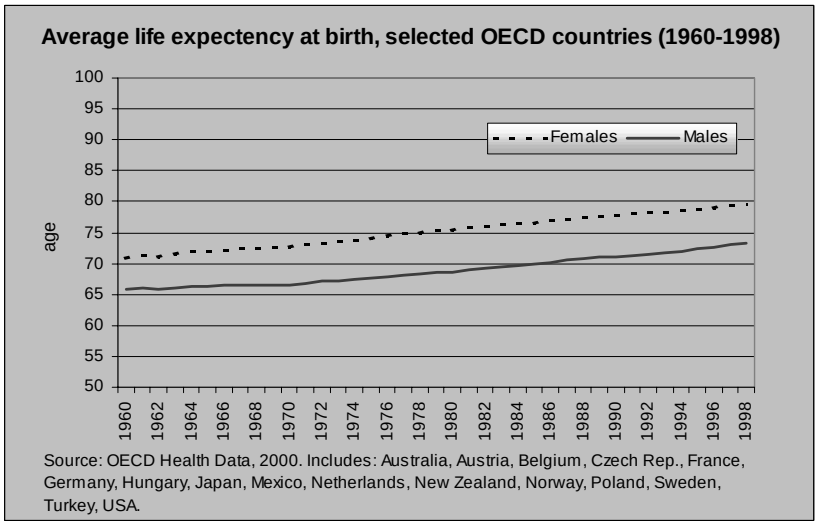


Source: European Minister Conference for Drugs and Drug Addiction; UNDCP Redbook, Global Illicit Drug Trends, 2000; UN demographic projections (1998 revisions).

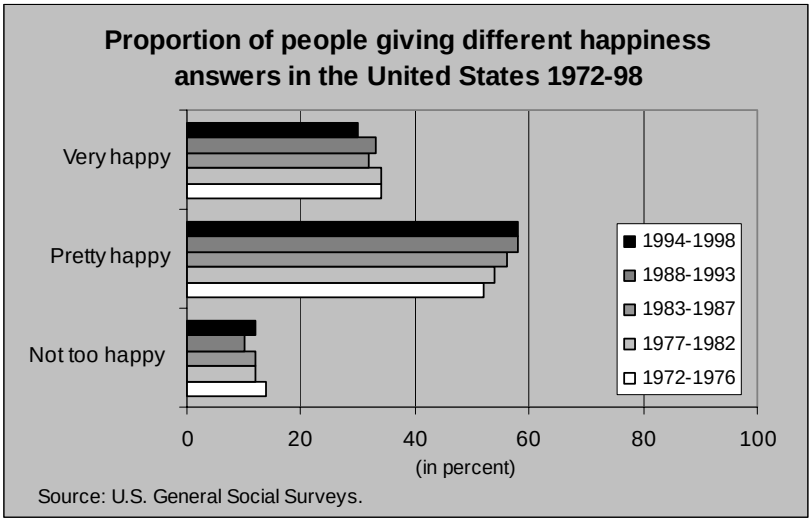
12. Criminal Victimisation (Percentage of the population victimised in one year /prevalence rates)

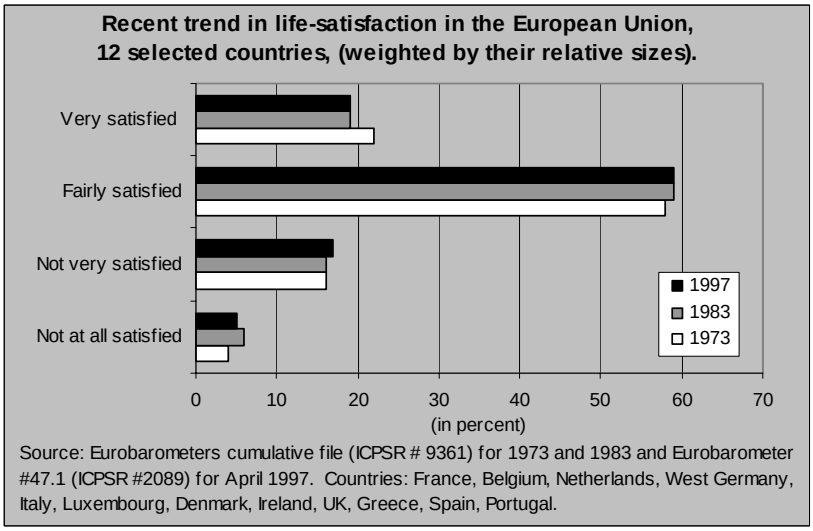


13. Average life expectancy

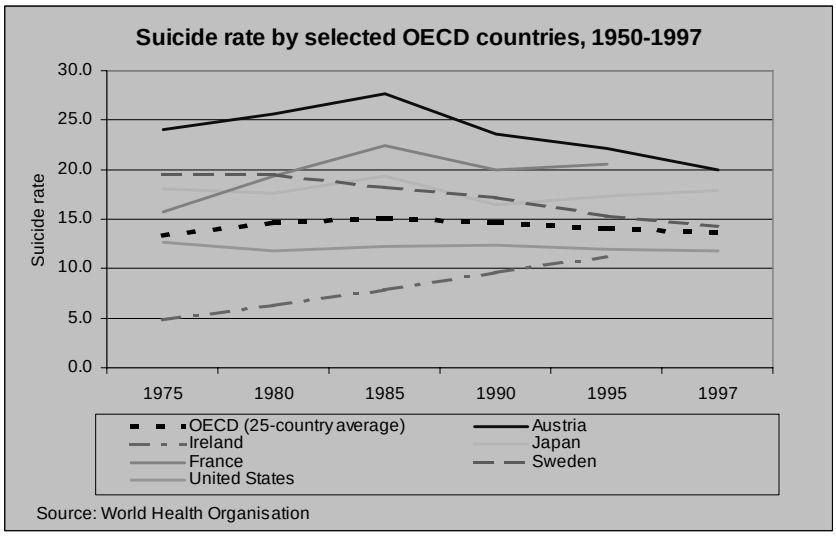


14. Reported levels of subjective well-being or life satisfaction (source: Blanchflower and Oswald, 2000; Eurobarometer)





15. Trends in suicide rates (especially by gender and age)



Environmental change

16. Emission of greenhouse gases (business as usual scenario)