



MASSEY UNIVERSITY
COLLEGE OF BUSINESS
KAUPAPA WHAI PAKIHI



DEPARTMENT OF ECONOMICS AND FINANCE
DISCUSSION PAPER: 10.01
JANUARY 2010

SOME ECONOMIC DIMENSIONS OF HIGHER EDUCATION WITHIN AND BEYOND NATIONAL FRONTIERS

Srikanta Chatterjee

This series contains work in progress at the **Department of Economics and Finance, Massey University**. Comments and criticism are invited. Quotations may be made on explicit permission of the author(s).

Further copies may be obtained from:

The Secretary
Department of Economics and Finance
Massey University
Private Bag 11222
Palmerston North 4442
NEW ZEALAND
Phone: 06 356 9099 Extn 7744
Fax: 06 350 5660

Discussion Paper 10.01
ISSN 1179-0466 (Print)
ISSN 1179-0474 (Online)
Price: \$10

SOME ECONOMIC DIMENSIONS OF HIGHER EDUCATION WITHIN AND BEYOND NATIONAL FRONTIERS

Srikanta Chatterjee
Professor Emeritus
Department of Economics and Finance
Massey University
Palmerston North
New Zealand

ABSTRACT

This paper addresses, from a mainly economic perspective, some issues of contemporary relevance in the area of higher or tertiary education, including some of its international ramifications. An analysis of some general aspects of education at different levels is followed by an elaboration of the notion of higher education as private investment and a source of human capital formation. This sheds useful light on the observed increase in tertiary enrolment, worldwide, in recent decades. Various international dimensions of higher education are explored next, and the experience of New Zealand as a higher education destination of choice of many international students is examined in this context. Some general concluding observations complete the discourse.

1. INTRODUCTION AND OBJECTIVES

1a. *Education at different levels: a first look at the benefits and costs*

It is almost a cliché to say ‘knowledge is power’. While it is undeniable that life itself is ‘educational’, formal education is an accepted path to acquiring useful knowledge. So, education, too, is empowering. Access to universal primary education is regarded as almost a ‘fundamental human right’, next only to such bare necessities of life perhaps as food, shelter and security. Once the basic skills of literacy and numeracy are acquired, learning can proceed to extend to specific knowledge and skills – at the post-primary level. The importance of secondary education as a path to developing a society’s essential skill and knowledge base is widely acknowledged, as evidenced by the practice of making secondary education up to a certain age compulsory - and usually free at the point of use - in countries that can afford the costs.

However, education beyond the secondary stage, i.e. tertiary or higher education, is voluntary, and it involves an individual making an informed choice as to whether and what to study, and over how long a period. Higher education confers certain benefits on those who undertake it; it also involves certain costs, not all of these benefits and costs are pecuniary. From a purely financial point of view, the decision to undertake higher education therefore is in many ways akin to an investment decision for the student: it involves incurring an expenditure in the expectation of obtaining a return in the future. The financial aspects of these cost-benefit calculations are readily, if sometimes only intuitively, understood, and they provide the information and the incentive which guides the investor’s choice in respect of higher education.

1b. *The broad objectives*

This paper addresses some issues of contemporary relevance in the area of higher or tertiary education, including some of its international ramifications. It starts with an analysis of some general aspects of education at different levels. An elaboration of the notion of higher education as private investment follows next to shed light on the observed increase in tertiary enrolment, worldwide, in recent decades. The discussion is then extended to capture the various benefits, both pecuniary and non-pecuniary, that higher education bestows on those who receive it and, also, on others who are associated with them in family, social and professional capacities. Economists consider education and skill as attributes of human capital, the use of which improves labour productivity and generates some ‘spillovers’ that confer wider benefits. These characteristics, detailed in the paper next, constitute what is referred to as the social returns to education which, in turn, are made up of private and external returns. The paper proceeds, then, to examine the factors behind the contemporary growth in international tertiary education, and to investigate how the international higher education sector has been responding to this growth. As part of this international dimension, the New Zealand higher education scene is explored with the objective of finding out how the sector has aligned itself with the developments in the international higher education market. This helps to identify some policy issues confronting the policy-makers in these two countries. Some general concluding observations complete the discourse.

2. HIGHER EDUCATION AS PRIVATE INVESTMENT AND ITS PECUNIARY AND NON-PECUNIARY RETURNS

2a. Education and lifetime earnings

Just as the societal benefits of education, including higher education, extend beyond the narrow, financial, returns and costs, the benefits and costs to an individual also extend further, and they include and involve others in society (country/nation) who are not directly involved in the activity.

So, what gains might a prospective participant in higher education expect? The most obvious one would probably be the expectation that it would, on average, enhance lifetime earnings. There is ample international evidence that there is a positive correlation between higher education and higher lifetime earnings (see for example Psacharopoulos 1985 and 1994; Becker 1962 and 1964; Carnoy 1995. For example, the United States (U.S.) Census Bureau reports that, on average, the lifetime earnings of an adult high school graduate are \$1.2 million; that of an associate's degree holder \$1.6 million, and a bachelor's degree holder about \$2.1 million (Day and Newburger 2002). Statistics New Zealand's figures (New Zealand Income Survey, reported in the BaselineMonitoringReport Outcomes of Tertiary Education, <http://wiki.tertiary.govt.nz>) show that, over the period 1997 – 2002, employees with tertiary degrees enjoyed an average weekly income more than double those with school qualifications only. More detailed research of Maani and Maloney's (Maani and Maloney 2004) confirms these general findings on the returns to higher education in the New Zealand context.

There has been a general increase, worldwide, in tertiary enrolment over the last several decades. One reason for this must be the expectation of improved lifetime earnings of tertiary educated or trained people. Indeed, evidence from the U.S. suggests that, in countries with per capita incomes in the top half of the income table, "the average percent of 30 – 34 year olds with a higher education increased between 1970 and 2000 from about 12 percent to over 20 percent" (The Becker-Posner Blog, June 08, 2008: <http://www.becker-posner-blog.com/archives>). Countries with lower per capita incomes also experienced similar increase in the number of tertiary-educated persons in the comparable age-groups, although they generally have fewer persons, or smaller population-proportions, with such education.

2b. Education, human capital and earnings in skill-rich and skill-scarce countries

Economists treat educated labour force as 'human capital', analogously with physical capital, such as plant and machinery. This approach explains the observed private motivation for spending time, effort and money in acquiring marketable skills and formal educational qualifications that enhance the returns on the human capital that education helps to form. It also provides an economic justification for public sector involvement and investment in the provision of higher education and training, the benefits of which extend to society at large, beyond those who are directly participating in it.

There are many reasons why the more educated receive an earnings premium in the richer, skill-abundant, countries; an obvious one being their higher productivity. In the poorer, skill-scarce, countries however, that explanation is not quite so straightforward. Standard international trade theory predicts that, with increased trade flows, poorer countries, with relative abundance of (unskilled) labour, would produce and export more low-skill intensive goods, and import from the developed countries goods that use more skilled labour. This would raise the wages of unskilled labour in the poorer countries, and skilled labour in the richer countries. This latter is among the incentives for the skilled and the educated labour to migrate to more affluent and technologically more advanced countries – the phenomenon often termed ‘brain-drain’. Interestingly enough, the so-called revolution in information technology in recent times has made it possible to export some jobs to low-wage countries, rather than import labour (‘brain’) from them. This is the phenomenon of ‘outsourcing’ of services. The skill-premium is thus transferred to the countries where skilled labour is located, but wages are more competitive because of the (lower) general level of economic development of the countries.

However, increased flows of foreign direct investment to the poorer countries and improved opportunities for students to study in the technologically advanced countries tend to induce technology transfers which, in turn, create demand for skilled labour needed to use the new technologies. This helps to raise the returns accruing to labour with more skill. International education is, thus, an avenue to improve the earnings of those who participate in it even though it tends to generate increased income inequality, especially in the poorer countries. Extending educational opportunities to larger proportions of a country’s population would help to mitigate the inequality-generating influence of selectively-available higher education. This line of argument, viz. the prospect of higher returns earned by the well-educated, provides an explanation for the observed increase in the demand for higher education globally, and the willingness of many individual students to choose to self-finance such education, both in their home countries and abroad. Such choices often involve foregoing one’s earnings over a period of time in order to undertake a course of study – an opportunity cost that would also need to be recovered through enhanced lifetime earnings beyond the study period.

2c. *Some non-pecuniary private benefits of higher education*

When offering higher rewards to graduates and other highly educated or trained workers, employers are, in effect, indicating their acceptance that the qualifications reflect intelligence and specific knowledge which are of value to their businesses. But successful completion of formal schooling indicates more than just intelligence; it also demonstrates to a potential employer such useful personal attributes as a degree of self-discipline, motivation to succeed and time management skills of those with a record of educational success. The employers are, in effect, shifting a part of the private cost of screening their potential employees to the universities and other educational or training institutions whose graduates they employ. This is a benefit the employers enjoy without having to pay for it directly.

Other private benefits of higher education include improved personal, social and occupational mobility, improved consumption choices, generally better quality of life for the educated persons and their offspring, and enhanced ability to enjoy more hobbies and leisure activities (Institute for Higher Education Policy 1998). People with higher education generally tend to be more open-minded, more reasonable and more tolerant of diversities. Research also shows positive links between higher education and better health, lower mortality and morbidity rates for the educated and their offspring – an intergenerational benefit (Cohn and Geske 1992). The higher social status that higher education also brings is a readily understood private benefit. However, its often-observed links with greater social and environmental consciousness, decreased prejudice and greater readiness to resist oppressive rules and rulers on the part of those with higher education, are also conducive to greater societal harmony. So, these non-pecuniary benefits, which accrue at the level of the individual with education, clearly extend to others with whom the individual interacts, professionally and socially.

3. SOCIAL BENEFITS OF HIGHER EDUCATION

3a. *Spillovers and external returns*

The observations made above on the direct and indirect benefits that result from higher education are implied in the oft-used phrase “spillover” from education. The increased individual earnings from higher education are the private returns to formal schooling. The higher earnings are the result partly of improved productivity that acquired-education bestows. However, such knowledge can spread to co-workers whose productivity could then also improve. This is termed the ‘spillover effect’, and the increase in income resulting from it called the ‘external return’. Social return to education is the aggregate of private and external returns.

The external benefits of education that the spillover effect engenders provide an economic justification for encouraging education and supporting it through public sector investment. If the social benefits exceed the private, external benefits are present. They come about because education raises the level of economic activity by more than its private return. An educated labour force produces ideas which, in turn, help the economic growth process positively through direct participation of the educated labour force and through their networking with co-workers who benefit from being associated with their more educated colleagues (Lange and Topel 2004).

3b. *The measurement issues: a brief look at the empirical methods*

Empirical studies attempting to estimate the private and social returns to education at the microeconomic level typically use earnings as the dependent variable, and such explanatory variables as years of schooling and labour force experience. The resulting relationship between years of schooling and earnings, expected to be positive, is interpreted as the private return to schooling. At the aggregate or macroeconomic level, the explanatory variables include physical capital stock used in the production

processes. By comparing the aggregated micro-level estimates with those at the macro-level, estimates of social return to education are obtained.

Recent estimates of social return at the state-level of the U.S. vary between 9% and 15%, and they are not significantly higher than the relevant private returns, indicating little or no external returns to education (Yamarik 2008). Earlier work by Rauch (1993) however had found an external return of 3% to 5%.

3c. *Some more pecuniary and non-pecuniary social benefits: a summary*

Education has a consumption dimension that is often not emphasized in the same way as its production dimension. The ability to enjoy creative literature or a quality work of art for example is a benefit most educated people experience. Their provision and availability therefore improve the general quality of life in society. This explains why such objects and facilities are often made available at public expense for non-exclusive, collective, consumption - an idea captured in the notion of the 'merit good'. Dissemination of useful information is more effective in societies with educated and interested citizens. Effective societal communication is a prerequisite for success in participatory political arrangements, at local, national and, indeed, international levels. Friedman (1962) has drawn attention to this role of education, among others.

Other pecuniary-cum-non pecuniary social benefits of education include such observed outcomes as increased tax revenue, resulting from increased earnings, and lower reliance on financial support from the government. Education improves the capacity to adapt better to changing economic, social and professional circumstances, and thereby to minimize the effects of major disruptions that life often throws up. Some researchers (Lochner and Moretti 1994) have found evidence of reduced criminal activity resulting from schooling – perhaps an arguable finding, at best, in light of the many white-colour crimes involving highly educated business executives in evidence in recent times! Arguments such as the ones cited here testify to a general qualitative improvement in society with education.

4. INTERNATIONAL EDUCATION SOME ISSUES AND POLICIES

4a. *Internationalisation of knowledge: issues in give-and-take*

Education, it is said, broadens the mind. It makes the learner aware of the existence and the value of different products, services, technologies, business opportunities and practices, as well as cultural, ethical and moral standards, both within the learner's own domain and habitat and internationally too. It provides incentive for the learner to experience further formal learning in the same or in another discipline, at another institution and, perhaps, in another country.

It is, therefore, little wonder that in the contemporary world of ever-expanding global contacts and easing of long distance travel and communication, the demand for international education has also been growing rapidly. For example, the number of international students studying in the OECD countries has doubled over the two

decades since the early 1980s (The OECD Observer, No. 235, December 2002). Globally, this number had grown to reach 2.5 million in 2004, and is expected to grow to 7.2 million by 2025 (Marklein 2007). The U.S.A. and the U.K. are the top two destinations for students travelling to another country to study, while Australia hosts the third largest number (Mai 2005). New Zealand, too, has experienced a surge in international student numbers in the last decade, and, although the trend in that number has been downwards since peaking in 2003, the contribution of the export education sector to New Zealand's GDP is estimated at over \$2.1 billion in 2007/08 (Ministry of Education 2008). This theme is taken up later in the paper.

Naturally enough, these developments give rise to many issues, including those of institutional accountability; academic standards and their international transportability; student expectations, satisfaction and socio-cultural adaptation in new environments. International education impacts not just the students and the institutions they choose to study at, but also the education sectors generally of the countries from which these students depart, and the countries to which they go. The economies and societies, too, of both sets of countries are affected in both the immediate and the longer terms, as are the students and their families.

4b. *Is a social compact needed?*

The host countries often display a tendency to treat international students mainly as a source of income at a time when public funding of education around the world has generally been modest, at best. While there is nothing unusual for an institution to respond more strongly to a financial incentive than to any other, non-pecuniary, ones, some experts consider it appropriate to offer a *quid pro quo* to the (usually-higher) fee-paying foreign students to ensure that the arrangements they encounter are fair and transparent. Some observers believe that a 'social-cum-moral compact', offered by the institutions and the public authorities and governments of the countries accepting foreign students, could achieve such an objective.

The framework of such a compact, for example, might include in the mission statement of an academic institution its goals and obligations in respect of students from another country and another social, cultural and linguistic background. This is a theme that Moskow, for example, has addressed in the general context of higher education (Chicago Fed Letter, January 2006), recommending that institutions make explicit how money is spent, and publish graduation rates as an indicator of success in achieving their educational goals.

A recent U.S. report (Council of Graduate Schools 2008) also concludes with a call for a "social contract", but of a different nature from the one Moskow was proposing above. This contract is to be between universities and the public recognizing the special contribution graduate education makes to the quality of life of a nation and others connected with it through higher-education links. This is more of a public awareness effort whereby informed public support for higher education is secured and strengthened, nationally and possibly also internationally. Whereas the publicly funded tertiary institutions can accept the idea of a social compact, and can be held

accountable by the public, private providers of tertiary education – of whom there are many – may not feel the same ‘moral compunction’ to accept such an arrangement. They might well regard the market forces as the arbiter of accountability. Obviously, a consensual process would be needed to ensure that the needs and expectations of all the parties are attended to.

4c. *Can cross-border educational services be treated as just another traded service?*

As international educational links have grown in recent times, commercial avenues of resolving some of the emerging issues and problems have also come to evolve. Essentially, these avenues seek to treat cross-nation educational services as just another marketed service. The main aim of such an approach is to raise a country’s market share of international students by making its higher education facilities attractive and student-friendly. And, as in other areas of service trade, innovative ideas have come to evolve to help improve an institution’s or a country’s competitive advantage in the international education market. Some of these ideas are discussed in section 4d below.

Although students seeking exposure to higher education in different countries is a world-wide phenomenon, the massive growth in the demand for international education has largely been driven by the developing countries where tertiary education participation rates have exceeded the growth rate of domestically available places. This trend is strongly expected to continue well into the future (Bell and Mahler 2008, Khanna 2007, Institute of International Education 2007). China and India, between them, are predicted to account for more than a half of the total global demand for higher education by 2025 (Bohm, et al 2002). Tertiary participation rate in the developing countries, currently less than 10%, is expected to rise steadily, and ahead of the supply of such places within these countries (Daniel et al 2006). All these trends point toward the need to coordinate tertiary education policies internationally so that the interests of all parties are safeguarded.

Attempts to include educational services within the General Agreement for Trade in Services (GATS) have however been opposed by many developing countries. For example, Porto Alegre Declaration of 2002, signed by Iberian and Latin American associations and public universities, maintained that “promoting international trade [in educational services] would lead to deregulation in the educational sector with the removal of legal, political and fiscal quality controls; that national governments would abandon their social responsibilities, and their outcomes would include an increase in social inequalities, the weakening of ethical values, and a standardisation of education.....” (cited in Larsen and Vincent-Lancrin 2002, p. 2). Clearly, there are many uncertainties that make countries which are not just at different levels of economic development, but also with different cultural values and attitudes to higher education, opposed to any GATS-sponsored liberalization of international educational services. They fear that such liberalization would engender an ‘unequal partnership’ of nations that will prove costly to the weaker partners, i.e. the developing nations.

4d. *Some recent innovations to promote international educational activities*

Interestingly enough, some of the issues involving ownership and control of the methods of instruction and freer international movement of students ('natural persons' in the jargon of the GATS) are being circumvented through the use of some innovative arrangements, including the use of information technology. Such innovations have taken the form of delivering higher education in the student's home country, and/or making the service available internationally through the use of the technology of e-learning. Another innovative evolution has seen the development of collaborative arrangements between tertiary educational institutions in different countries whereby the students spend less time offshore, but combine academic credits and credentials obtained from more than one institution to complete a qualification that is recognized in both countries. This helps to ease the financial burden of the students, and benefit all parties involved in the collaboration arrangements. Many a reputable university from a sought-after country has come to set up (small) offshore campuses to facilitate such collaboration. Regular visit by academics and related administrators either to offer intensive teaching, and/or to perform other related tasks are features of such cross national, multi-campus, operations.

There are of course important quality issues involved in such methods too. The students studying "offshore" in their own countries lack the linguistic and cultural experience that they would have gained as part of their study if they travelled offshore to attend an institution. Also, the disciplines that require equipped laboratories access to information technology resources and other ancillary services as part of the overall training may in many cases need to adapt and accept a degree of compromise on the standards of these services in a student's home country.

5. *INTERNATIONAL EDUCATION: A NEW ZEALAND PERSPECTIVE*

5a. *A broad overview of New Zealand's international education sector*

New Zealand has been involved in international education since the 1950s when as part of its development assistance was delivered through the training of students from developing countries within the (British) Commonwealth under the Colombo Plan. The aim of this involvement however was not commercial. In more recent years, education has come to be treated as a service industry which contributes, financially, to export earnings and, more generally, to the country's social, cultural and educational environment. The contribution of this sector, referred to as 'export education', has grown from less than \$0.5 million in 1999 to over \$2 billion in 2007/08, a significant increase that puts the sector as one of New Zealand's significant foreign exchange earners (Ministry of Education Report 30 June 2008). These figures include such direct payments as the tuition and other fees to the institutions the students attend in NZ, and also the living and other expenses incurred by them in NZ, sourced from offshore.

The government has been working in close collaboration with the different providers of education and training to coordinate the efforts and enterprise needed to advance and promote New Zealand education. The umbrella body, Education New Zealand, ENZ, (for more information visit the ENZ website: www.educationnz.org.nz), created in 1998, to oversee policies and their implementation in the area of international education (Smith and Rae 2006).

Provision of international education by New Zealand is defined to include students traveling to an institution in New Zealand as well as NZ institutions offering services in an offshore destination.

5b. *Where they come from and what they study*

There are several providers of education accepting international students in NZ. The total number of students enrolled across all sectors rose sharply from just over 79,000 in 2001 to just under 127,000 in 2002, and increase of around 61% in one year. By 2006, however this number had declined to around 91,000. The number has stayed above the total recorded for 2001.

The single largest group of students comes from the People's Republic of China (PRC), followed by South Korea and Japan. At its height, in 2004, the number of students from China was nearly 47,000; this has since declined to less than 25,000 by 2007. The number from South Korea has continued to grow steadily, as has those from Europe and North America (Education Counts, Ministry of Education, June 2008). A significant increase in students coming from India – from around 1,700 in 2001 to over 5,000 in 2007 – has also occurred.

A breakdown by provider groups shows that largest number, some 49% of all international students coming to NZ in 2007, attended a private tertiary institution followed by those who attended a public tertiary institution, some 34%. International students attending schools has also steadily increased from around 10,000 in 2001 to over 15,000 in 2007. Despite the overall decline in numbers, the ENZ is clearly a significant contributor to the NZ education sector and the NZ economy generally. Policy-makers both at the government level and at the level of the providers of education have been seeking to work together to improve New Zealand's position in the international market for students. The benefits of opening up the education sector to international students from different linguistic and cultural backgrounds are confined not just to these students, but also to New Zealand students, whose exposure to and interactions with, these students make them more conscious of the diversities around the increasingly integrating world.

6. CONCLUDING OBSERVATIONS

The article has sought to highlight a number of aspects of education, especially higher education, in an effort to understand the reasons behind the significant increase in the demand for higher education in recent times. The discourse establishes the need to treat education as an economic, social and cultural asset the promotion of which can contribute to a better world. It has demonstrated that international cooperation, rather than competition, is capable of resolving some of the issues and problems that have affected adversely the developed and the developing world alike in recent times.

REFERENCES

- Becker, G. S. (1962), "Investment in Human Capital: A Theoretical Analysis", *Journal of Political Economy* Vol. LXX, Part II.
- _____ (1964), *Human Capital*, National Bureau of Economic Research: New York.
- Becker-Posner-blog (2007), "Is Higher Education a Good Investment?" Retrieved 20 April 2008 from www.becker-posner-blog.com/archives/2007/04, April 22, 2007.
- _____ (2008), "The Boom in College Education", Retrieved June 09, 2008 from www.becker-posner-blog.com/archives/2008/06
- Bell, N. E. and Mahler, J. D. (2008), *Findings from the 2008 CGS International Graduate Admissions Survey*. Retrieved 31 March 2009 from www.cgsnet.org/portals/0/pdf/R_IntlEnrl08_III.pdf
- Carnoy, M. (1995), "Rates of Return to Education", *The International Encyclopedia of Education*, Oxford: Penguin.
- Cohn, E. and Geske, T. G. (1992), "Private Non-monetary Returns to Investment in Higher Education", in Becker, W. and Lewis D. (eds.), *The Economics of American Higher Education*, Boston, MA: Kluwer Academic Publishers.
- Daniel J., Kanwar, A. and Uvalic-Trumbic, S. (2006), "A Tectonic Shift in Global Higher Education", *Change: The Magazine for Higher Learning*, 38(4), 17-23.
- Day, J. C. and Newburger, E. C. (2002), "The Big Pay-off: Educational Attainment and Synthetic Estimates of Work-Life Earnings", *Current Population Reports, Special Studies*, Washington DC: Commerce Department, Economics and Statistics Administration, Census Bureau. Retrieved October 28, 2008 from www.gov/prod/2002pubs/p23-210.pdf
- Friedman, M. (1962), *Capitalism and Freedom*, Chicago: University of Chicago Press.
- Institute of Higher Education Policy (1998), "Reaping the Benefits: Defining the Public and Private Value of Going to College", in *The New Millennium Project on Higher Education Costs, Pricing and Productivity*. Washington DC.
- Institute of International Education (2007), *Open Door Report 2007*. Retrieved 31 March 2008 from <http://opendoors.iienetwork.org/>

- Khanna, T. (2007), "China + India: The Power of Two", *Harvard Business Review*, 81(12), 60- 69.
- Lange, F. and Topel, R. (2006), The Private and Social Benefits of Education, in F. Welch and E. Hanushek (eds.), *The Handbook of Education Economics*. Amsterdam: North-Holland.
- Larsen, K. and Vincent-Lancrin, S. (2002), International Trade in Educational Services: Good or Bad?" *Higher Education Management and Policy*, 14(3), 9-45.
- Lochner, L. and Moretti, E. (1994), "The Effect of Education on Criminal Activity: Evidence from Prison Inmates, Arrests and Self-reports", *American Economic Review*, 155-189.
- Maani, M. A. and Maloney, T. (2004), "Returns to Post-school Education: Evidence based on the HLFS Income Supplement (1997 -2002)", *Report to the Labour Market Policy Group, Department of Labour*, New Zealand.
- Mai, L. W. (2005), "A Comparative Study between UK and US: The Student Satisfaction in Higher Education and Its Influential Factors", *Journal of Marketing and Management*, vol. 21, 859- 879.
- Marklein, M. B. (2007), "USA Sees First Increase in Foreign Student since 9/11": *USA Today*. Retrieved 12 November 2007 from (<http://www.usatoday.com/news/education/>) 2007-11-11-study-abroad N.htm)
- Mattoon, R. H. (2006), "Higher Education and Economic Growth", *Chicago Fed Letter*, No. 222a, January.
- Ministry of Education (2008a), *The Economic Impact of Export Education, A Report Jointly Commissioned by Education New Zealand and the Ministry of Education*. Wellington.
- Ministry of Education (2008b), *International Student Enrolments in New Zealand 2001-200*. Wellington. Retrieved on 9 June 2008 from (www.educationcounts.govt.nz/publications/international).
- The OECD Observer (2002), "The Learning Business: Can Trade in International Education Work?" Retrieved 20 February 2008 from (www.oecdobserver/news/fullstory.php).
- Psacharopoulos, G. (1985), "Returns to Education: A Further International Update and Implications", *The Journal of Human Resources*, 20, No. 4, 583-97.

- Psacharopoulos, G. (1994), *Returns to Investment in Education: A Global Update*, *World Development*, 22(9), 1325–1343.
- Porto Alegre Declaration (2002), Retrieved 23 March 2009, from www.gatswatch.org/educationoutofgats/portoalegredoc
- Rauch, J. E. (1993), “Productivity Gains from Geographic Concentrations of Human Capital: Evidence from the Cities”, *Journal of Urban Economics*, 34, 380-400.
- Smith, L. M. and Rae, A. N. (2006), “Coping with Demand: Managing International Student Numbers at New Zealand Universities”, *Journal of Studies in International Education* 10:27.
- Statistics New Zealand (2002), *Baseline Monitoring Report Outcomes of Tertiary Education*. Retrieved 20 March 2009 from [http://wiki.tertiary.govt.nz/BaselineMonitoringReport/Outcomes of Tertiary....](http://wiki.tertiary.govt.nz/BaselineMonitoringReport/Outcomes of Tertiary...)
- Yamarik, S. (2008), “What Does State-level Data tell us about the Social Value of Education?” (<http://www.voxeu.org/index.php?qnode/1664>) 19 September 2008.

LIST OF RECENT DISCUSSION PAPERS

2009

- 09.09 James Obben and Monique Waayer, *The Dynamic Relationship Between the State Pension Scheme and Household Saving in New Zealand*, November 2009.
- 09.08 Kevin Heagney, *Modelling Tax Policy Development Governor Fitzroy's Tax Reform 1844-45*, August 2009.
- 09.07 Kevin Heagney, *The conflicting Revenue and Expenditure Record of Crown Colony New Zealand 1840-1852*, June 2009.
- 09.06 James E. Alvey, *James M. Buchanan's Parable: A Conjectural History of Private Property and a Perplexing Argument for Limits on the Market*, May 2009.
- 09.05 James E. Alvey, *Buchanan on Culture: Victorian Budgetary Ethics and 'Puritan Ethics'*, April 2009.
- 09.04 James E. Alvey, *The Foundations of James Buchanan's Work: Exchange and Gains from Trade in all Aspects of Life, including Markets and Politics*, April 2009.
- 09.03 Hans-Jürgen Engelbrecht, *Natural Capital; Subjective Well-Being, and the New Welfare Economics of Sustainability: Some Evidence from Cross-Country Regression*, January 2009.
- 09.02 Srikanta Chatterjee, Allan Rae and Ranjan Ray, *India's Evolving Food Economy and Trade Prospects for Australian and New Zealand*, January 2009.
- 09.01 Stuart Birks, *Theory, Consistency and Rhetoric*, January 2009.

2008

- 08.04 Hans-Jürgen Engelbrecht, *Average Subjective Well-Being and the Wealth of Nations: Some Insights Derived from the World Bank's Millennium Capital Assessment*, June 2008.
- 08.03 Srikanta Chatterjee, *Anatomy of the Recent Growth and Transformation of the Economies of China and India*, April 2008.
- 08.02 Allan N. Rae, *China's Agriculture, Smallholders and Trade: Driven by the Livestock Revolution?* April 2008.
- 08.01 James Obben, *Empirical Analysis of the Official Cash Rate and the Monetary Transmission Mechanism in New Zealand*, January 2008.