Matthew Gibbons

Intergenerational Economic Mobility in New Zealand

Introduction

Intergenerational mobility is about the relationship between people's outcomes and their childhood family circumstances. Researchers have sometimes defined intergenerational economic mobility as being about the extent to which an adult's income and occupation are determined by their own talents and ambition, irrespective of their family background (Blanden, Gregg and Machin, 2005, p.2). This type of intergenerational mobility differs from the structural mobility that happens when average incomes and job quality improve over time, and is sometimes also different from the intragenerational mobility that occurs when individuals change jobs or advance in their career (Aldridge, 2005). Because of social and political interest in equality of opportunity and economic efficiency, intergenerational economic mobility has been of increasing interest to researchers. Intergenerational economic mobility research is a subset of the expanding literature on relationships between childhood and adult outcomes in areas such as education, health and behavioural traits.[1]

Matthew Gibbons is an analyst at the New Zealand Treasury and is currently working in the economic research and analysis team. He has a PhD in politics from the University of Waikato.

Intergenerational mobility is of interest to policy makers because large family background effects could imply that some people are unable to fully develop and use their skills and reach their potential. High levels of opportunity are usually considered intrinsically desirable, especially when outcomes are unequal (Black and Devereux, 2010, p.3). Low levels of opportunity can also reflect barriers to individual development and skill utilisation that result in an inefficient use of human capital. In addition, lack of equal opportunity may reduce the motivation, effort and productivity of citizens and increase pressure on governments for economic redistribution (OECD, 2010b, pp.181-2). Mobility researchers have therefore frequently attempted to identify the most efficient ways of giving more children a better start in life (Delorenzi, Reed and Robinson, 2005, p.2).

Obviously, some policies to promote intergenerational mobility could compromise the achievement of other policy objectives, such as skills development, economic growth and individual freedom (Roemer, 2004, p.51). For instance, increases in tertiary education expenditure have boosted aggregate education levels, but the

greatest growth in participation rates has sometimes been among those from higher income families (Blanden and Machin, 2004, p.247). Similarly, children and a country's economy benefit when parents invest time, emotional commitment and money in their children. Parental investments, including the imparting of values, can mean that some children have better economic prospects than their peers. Indeed, eliminating all intergenerational economic effects might come at a heavy cost in terms of economic efficiency, incentives and the resources available for other social policy objectives (Delorenzi, Reed and Robinson, 2005, p.9; Swift, 2004).

... eliminating all intergenerational economic effects might come at a heavy cost in terms of economic efficiency, incentives and the resources available for other social policy objectives ...

This article quantifies intergenerational economic mobility in New Zealand by testing the relationship between the economic circumstances of parents and of their children as adults. Policy implications drawn by researchers about how mobility can be increased are then discussed. This article summarises a recent Treasury working paper, *Income and Occupational Intergenerational Mobility in New Zealand*, which is available on Treasury's website.

Calculating intergenerational mobility

The following model is commonly used to estimate intergenerational income mobility (Björklund and Jäntti, 2009, p.408; Blanden et al., 2004, p.125):

$$ln(Y_i^{child}) = \alpha + \beta ln(Y_i^{parents}) + \gamma Z_i + \varepsilon_i$$

where:

$ln(Y_i^{child})$ = a natural log of individual's adult lifetime income (or a proxy).

α = the constant

β = the intergenerational income elasticity (marginal effect of a 1% change in parental lifetime income)

$\beta ln(Y_i^{parents})$ = a natural log of parents' lifetime income (usually just of fathers and a proxy) when their children were growing up

Z_i = control variables (e.g. parents' ages)

ε_i = random error term.

The intergenerational income elasticity (β value) quantifies intergenerational mobility by estimating the effect of a 1% change in the lifetime income (or a proxy) of a person's parents on that person's own income as an adult. A higher intergenerational income elasticity implies larger parental income effects and lower intergenerational mobility. Researchers have sometimes augmented this model by adding controls for variables such as educational qualifications (Blanden et al., 2004, p.139).

Accurately calculating intergenerational economic mobility is often challenging. Intergenerational income data is scarce in most countries, while measuring people's long-term economic situation is difficult. Higher and more accurate intergenerational mobility results usually occur when a large number of income measurements from peak earning years are available (Haider and Solon, 2006). Sample selection rules and the comprehensiveness of the data set can also affect the results (Couch and Lillard, 1998, p.320).

The New Zealand data

Data to test intergenerational economic mobility in New Zealand is limited. This study used data from two internationally recognised studies: the Dunedin Multidisciplinary Health and Development Study and the New Zealand Election Study. These data sets have different samples, use different units of measurement and include people of different ages. Using both data sets improves our knowledge of intergenerational mobility in New Zealand and allows cross-validation of the results.

The Dunedin Study is a cohort study of 1,037 children born between April 1972 and March 1973 in Dunedin, which was then New Zealand's fourth largest urban centre. The results can be cautiously extrapolated to other New Zealanders born in the early 1970s because the study included children from a full range of backgrounds (Silva and McCann, 1996, pp.11-13) and because, irrespective of where in New Zealand they live, all New Zealanders have the same entitlements to social services. Health outcomes for the participants at age 26 were usually not statistically different to those of other New Zealanders. However, because of Dunedin's ethnic composition the study is under-representative of Māori and Pacific peoples compared to New Zealand's population (Poulton, Hancox et al., 2006, pp.1, 9). Although by age 32 only 38% of participants were still living in Dunedin, the study collects data on participants who have moved within New Zealand or overseas.

Lifetime income was proxied by data on parents' incomes when the participants were aged 13 and 15, and by data on the incomes of participants from their most recent assessment at age 32. When data on the incomes of participants' parents was collected the average age of mothers was 40 and the average age of fathers was 42. At age 32, 94% of those assessed by the study at age three were still participating, although there was some non-reporting of fathers' incomes.

Intergenerational economic mobility was also measured using occupation data from the large 1996 New Zealand Election Study data set. This data set includes people born in all regions of New Zealand and immigrants. While the Election Study collects income data only on respondents, the 1996 post-election survey asked respondents what their occupation was and what their parents' occupations had been when the respondent was aged about

14. The postal response rate was 55.7% (4,118 respondents). Groups that are less likely to be on the electoral roll, vote and answer surveys include those who move frequently, young people, Māori, and some ethnic groups (Vowles, 2002, pp.99-103). The data has been weighted to match voting behaviour, but does not always perfectly mirror the characteristics of New Zealand's population.

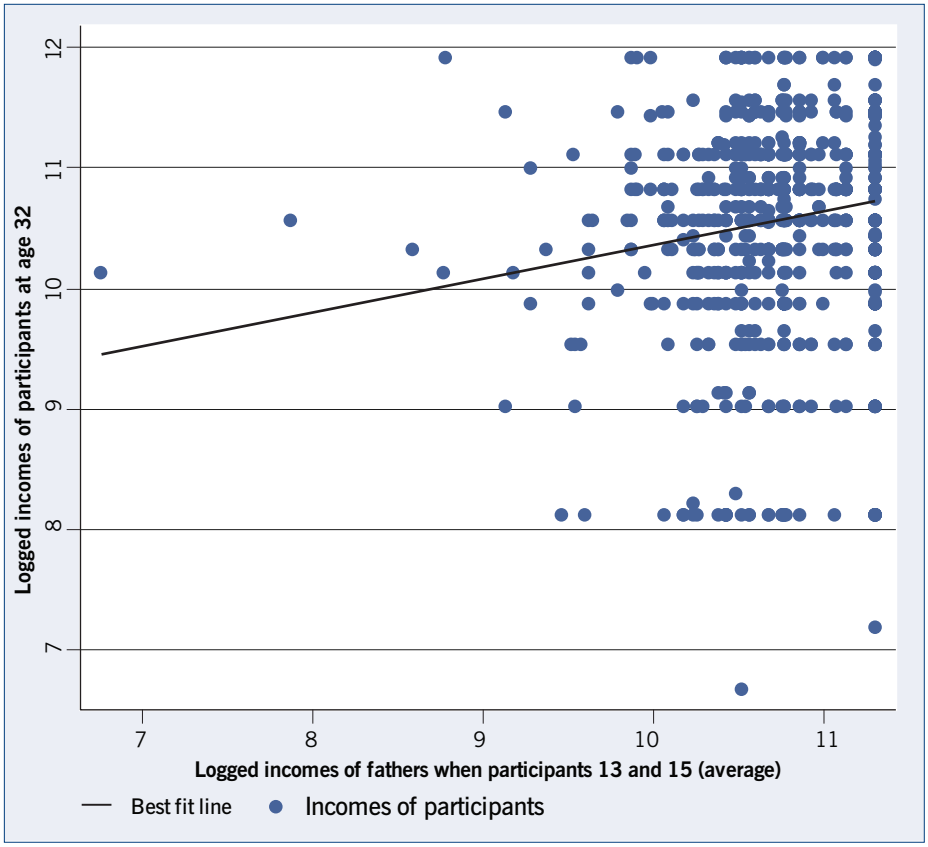
People's occupation determined their socio-economic status (SES) score. The SES scores run from 10 (textile workers) to 90 (senior managers). The average income of people in different occupations in the 1996 census, together with their educational qualifications and survey data on consumption levels, was used to calculate the SES of occupations (Davis, Jenkin and Coope, 2003, pp.12-16). Since occupation is an excellent indicator of lifetime income, data on SES has frequently been used to calculate intergenerational mobility (Blanden, 2008, p.16). While a person's SES is not the same as their income, the SES scores correlate with health and economic outcomes (Davis, Jenkin and Coope, 2003, p.11).[2]

The Dunedin Study income mobility results

Figure 1 shows the incomes of Dunedin fathers and of their children as adults with no control variables included. The x axis measures the average incomes of the fathers of Dunedin Study participants when the participants were 13 and 15. They axis measures the incomes of participants at age 32. All the income results are in logs. Each dot shows the income of a participant at age 32, and their father's income when that participant was growing up. The black best-fit line shows the estimated relationship between the incomes of fathers and the incomes of their grown-up children.

The results suggest a positive, but weak, intergenerational income effect. When a gender control was added, to control for the tendency of men to earn more than women, the intergenerational income elasticity was 0.26 (95% confidence interval: 0.14 to 0.39). This indicates that a 1% increase in the lifetime income of a person's father would result in a 0.26% increase in their own income as an adult.

Figure 1: The incomes of Dunedin fathers and of their children as adults



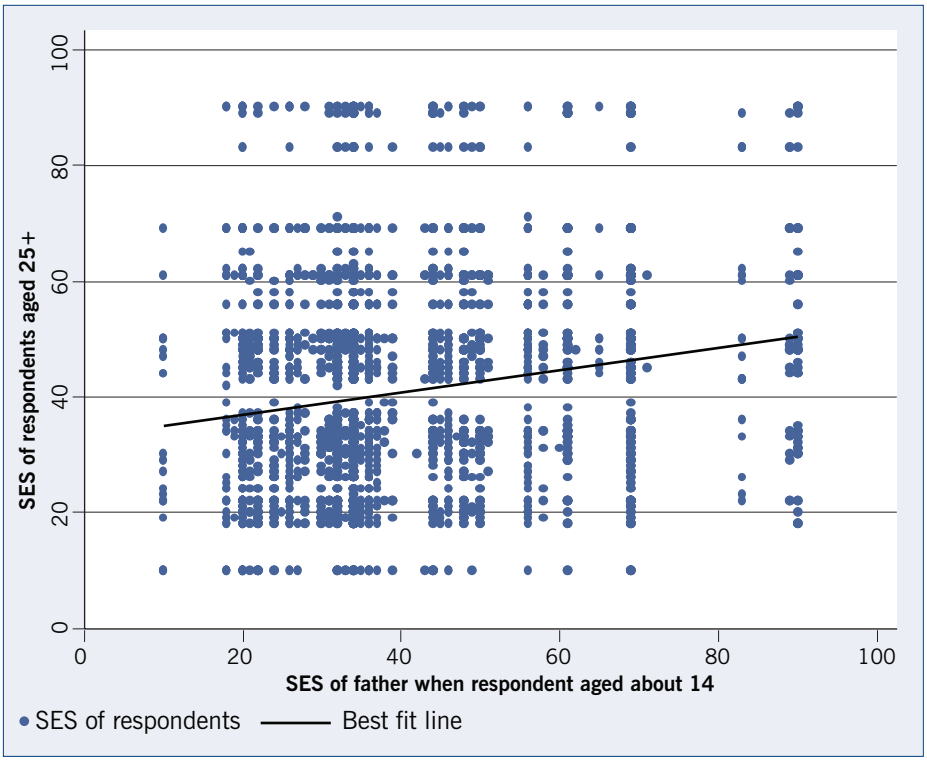
The wide scatter of dots confirms that a broad range of factors affect people's incomes as adults, with fathers' incomes explaining only 1.4% of the variance in the incomes of their grown-up children. In contrast, adding variables for a person's gender and educational qualifications explained about 22% of variance in adult income.

Other researchers have also found that individual background factors, such as child poverty and coming from a dysfunctional home environment, tend to have a modest effect on people's outcomes. Multiple disadvantages can have a larger effect, but even then many children overcome them (Ferguson and Horwood, 2003, pp.150-1; Melchior, Moffitt et al., 2007, p.972).

Separate results for men and women showed that the intergenerational income elasticity point estimates were moderately higher for men than for women. However, the differences were not statistically significant (see Figure 3). Age controls for the parents of participants have been omitted from the Figure 1 model but consistently had small and statistically insignificant effects on the results. Replacing fathers' income with combined parental income produced similar results. This is not surprising: the data indicates that when the participants were teenagers their fathers earned 75% of total household income. There was a 0.20 correlation between the unlogged incomes of mothers and fathers, potentially indicating assortative coupling. Excluding participants whose parents reported very low incomes and whose own incomes had been distorted by currency conversions had only a small effect on the results.

This study's estimate of 0.26 for all participants is very similar to Andrews and Leigh's recent calculation of an intergenerational income elasticity of 0.25 (95% confidence interval: .04 to .46) for New Zealand men aged between 25 and 54. However, Andrews and Leigh used 1999 survey data on respondents' recall of their fathers' occupations to impute incomes (Andrews and Leigh, 2008, p.13). The Dunedin Study data is superior because it does not rely on people accurately recalling their father's occupation and only imputes an average income for each income bracket used in its questionnaire.

Figure 2: The SES of fathers and their children (1996 Election Study)



The Dunedin results are easier to understand by considering an example. When the participants were 13 and 15 the average income of fathers in the Dunedin Study was about $48,000 in 2008 values, while the income for fathers in the top income category used by the Dunedin Study was approximately $81,000. Suppose a man from Dunedin had grown up with a father who was in the top income group. The intergenerational income elasticity of 0.26 implies that this man would, on average, earn approximately $8,000 more annually at age 32 than if his father had been in the average income group.[3]

Some of the effects of parents' incomes on the incomes of their children occur because children from higher income families tend to spend longer in the education system. This study followed overseas studies by adding variables for participants' educational qualifications (Blanden et al., 2004, p.139). The results indicated that on average about half of the effects of family background on income were mediated through effects on children's educational qualifications, and about half occurred through other channels. Researchers have suggested that parental income effects that are not mediated through educational qualifications probably result from family dynamics and parenting, the formation of preferences and aspirations, social connections, investment in other aspects of their children's lives, and genetic factors (Björklund, Jäntti and Solon, 2007, p.13; Roemer, 2004, p.51).

The Election Study occupational mobility results

Intergenerational occupational mobility was tested using nationwide 1996 New Zealand Election Study data on the SES of respondents and of their fathers. Despite the different measurement units, the results are similar to those using Dunedin Study income data.

Figure 2 shows the SES of fathers on the x axis and the SES of their children on the y axis. To allow people time to finish their education and experiment with different jobs, the results are given only for respondents aged 25 or over. The results indicate that there is a positive, but weak, relationship between the SES of fathers and the SES of their grown-up children.

The estimate for the average effect of the SES of fathers on the SES of their children was 0.20 (95% confidence interval: .16 to .24). The results imply that, everything else being equal, a person whose father had an SES ten points higher than average would themselves have an SES two points higher than average as an adult. Having a father who is a lawyer (SES of 83) rather than a labourer (SES of 20) is, on average, associated with a 12.6 unit difference in a person's adult SES. This is approximately the difference between being an insurance underwriter (SES of 48) and being a builder (SES of 36), or of being a nursing or midwifery professional (SES of 45) and being a secretary or keyboard operator (SES of 33) (Galbraith et al., 2003, pp.26-8). However, fathers' SES explains less than 5% of the variance in people's SES. This indicates that other variables, which have not been included in the model, had a larger effect than a father's SES on a person's own SES.

The 1996 Election Study had a large sample size and collected data on a similar proportion of Māori to the proportion of Māori in New Zealand's population. The results suggested that on average those who identified as Māori had SES scores that were 6.86 points lower on the 10 to 90 scale than for New Zealand's population as a whole. This difference occurred despite convergence over time in many outcomes for Māori and non-Māori (Gould, 2008; Treasury, 2001). However, there was insufficient evidence that fathers' SES had a different effect on Māori intergenerational mobility than for New Zealand's entire population.

Comparing the results with those for different countries

This article will now cautiously compare our rates of intergenerational mobility with those for the most similar overseas studies. Making international comparisons of intergenerational mobility is difficult. However, Figure 3 shows intergenerational income elasticity estimates from studies that used similar methods and data sets to those used in New Zealand. None of the results include controls except for age. With the exception of Germany, all the results measured fathers' incomes for one or two years only. The incomes of the children in Britain and Germany and for men in the United States and Canada were measured at similar ages to the Dunedin Study participants, but the results for the Nordic countries measure the incomes of child cohorts when they are in their late thirties or early forties.

The solid bars are point estimates for the intergenerational income elasticity. Results for men are in blue; those for women are in grey. Higher estimates imply lower mobility. For instance, the low point estimates for Denmark indicate that, on average, the income of a person's father has a very small effect on their own income as an adult. In contrast, the high point estimates for Britain indicate that the income of a person's father is more strongly associated with their own income as an adult.

The point estimates for people from Dunedin are above those for the Nordic countries, but below those for people in Britain and the United States. However, the black 95% confidence interval lines for people from Dunedin overlap with those for people born in most countries. Confidence intervals show the range of values that, in repeated sampling of a population, will in the long run contain the true population parameter. The large confidence intervals for people born in Dunedin reflect a relatively small sample size and a weak relationship between the incomes of parents and their adult children compared to other variables. In contrast, the confidence intervals are small for countries, such as Canada and Denmark, where census or tax data has been used and the sample is very large. At a 5% and 10% level, only men in Denmark were more mobile than men from Dunedin. Even at a 10% level, there were no statistically significant differences between rates of intergenerational mobility for women from Dunedin and women in other countries. Our results therefore suggest that rates of intergenerational income mobility for people from Dunedin appear to be in a similar range to rates for people born in other developed countries.

Other researchers have often also initially reported inconclusive findings. Greater certainty about the relative position of countries has usually resulted from applying the same methods and methodological assumptions to data sets from different countries, and by increasing the number of cases (Grawe, 2004, pp.65-6, 70; Jäntti, Bratsberg et al., 2006, p.1). Administrative unit-record data, including tax data, is increasingly being used for research purposes in New Zealand (Lane and Maloney, 2002). In the future, it might be possible to use tax data to study intergenerational income mobility in New Zealand, although a way of matching grown-up children with their parents would need to be found.

Figure 3: Intergenerational income elasticity results

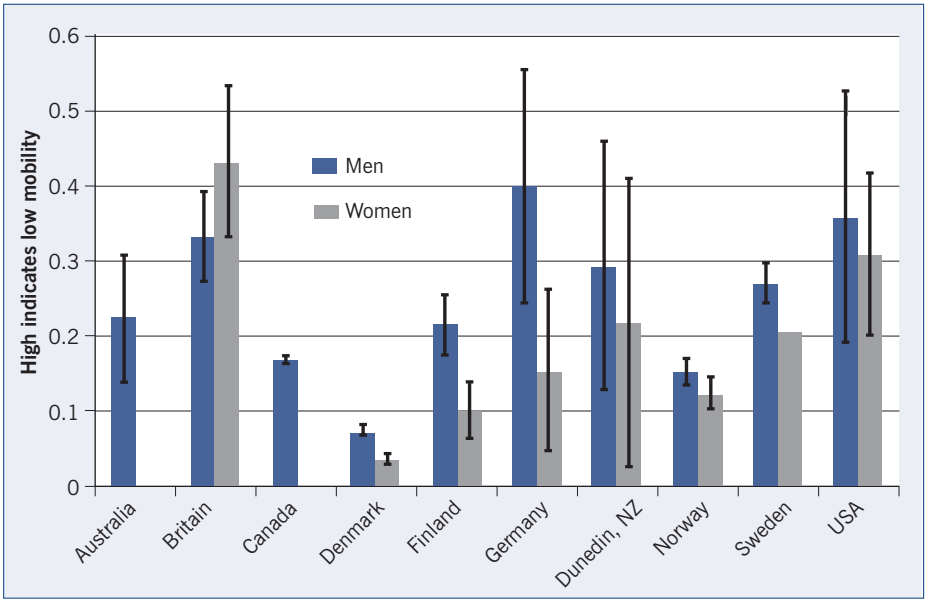
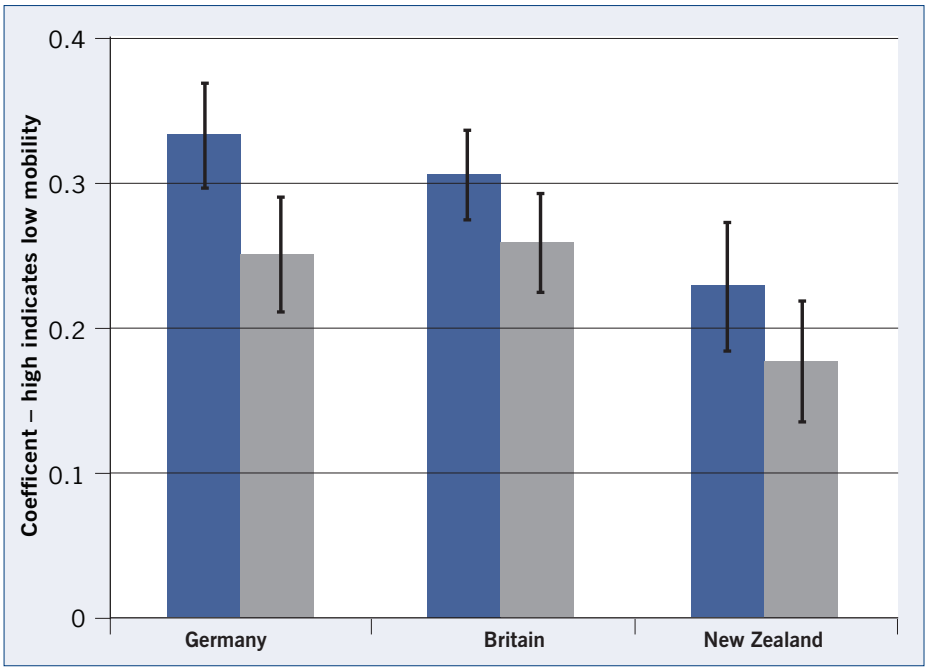


Figure 4: Intergenerational occupational mobility in Germany, Britain and New Zealand



Looking now at intergenerational occupational mobility, Figure 4 compares results for New Zealand, using Election Study data, with the results for Germany and Britain in a similar overseas study (Ermisch, Francesconi and Siedler, 2006, pp.666-9). The results show 90% confidence intervals and suggest that men and women in New Zealand had slightly higher intergenerational occupational mobility than people 25 years or older in Britain. However, this difference was barely significant at a 10% level. Men in New Zealand also had higher occupational mobility than men in Germany, and this difference was statistically significant at a 5% level. Although our point estimate for New Zealand women is lower than the point estimate for German women, even 90% confidence intervals overlapped.

Our point estimate for New Zealand men is very similar to an unpublished intergenerational occupational mobility point estimate for New Zealand men. The results of that study suggested that

New Zealand had high intergenerational occupational mobility compared to other countries, with New Zealand placed third out of 32 countries (Blanden, 2008, p.34). However, because confidence intervals were not included the differences in rank order may not be statistically significant.

Explaining variations in intergenerational mobility and the policy implications

A number of factors affect a country's rate of intergenerational mobility. Some researchers have suggested that mobility is high in the Nordic countries (Denmark, Finland, Norway and Sweden) because the widespread availability of high-quality childcare and after-school care has resulted in academic achievement and cognitive and non-cognitive skills being high among children from low-income families. These services have also improved people's economic circumstances by making it easier for women to work (Esping-Andersen, 2004, pp.306-8). Research by the OECD into compulsory education has found that the quality of teachers is considerably more important than the level of education expenditure for promoting intergenerational mobility (OECD, 2010b, p.190).

Almost 93% of the Dunedin Study participants attended pre-school (Silva et al., 1982, pp.27, 29). However, currently New Zealand children growing up in the financially poorest areas and from Māori and Pacific backgrounds are less likely to participate in early childhood education than other children (Ministry of Education, 2010). Unpublished research by Treasury also shows that children from lower income households have relatively low early childhood education participation rates. Currently a government taskforce is reviewing the effectiveness of early childhood education expenditure and will recommend improvements to policy settings (Tolley, 2010).

By international standards, the relationship between student performance and socio-economic background is currently relatively high in New Zealand (OECD, 2010b, p.188). However, the probability that New Zealanders whose parents did not finish secondary school will receive a tertiary education has considerably increased since the mid-1990s. Indeed, in 2006 only half of adults who had undertaken tertiary education had a parent with a tertiary education. This indicates that New Zealand adults 'move reasonably readily into tertiary education' (Ministry of Education, 2008).

Intergenerational mobility appears to be higher when children from poorer families benefit from early childhood education expenditure, and when the relationship between family income and educational outcomes is weak.

Researchers have increasingly argued that the ease with which people can break into the labour market also substantially affects a country's rate of intergenerational mobility (Corak and Piraino, 2010). In Britain, for instance, there has been growing interest in how policies that make establishing a business and employing people easier may promote intergenerational mobility, particularly for groups with high rates of unemployment (Cabinet Office Strategy Unit, 2008, p.49).

The relatively high intergenerational occupational mobility of New Zealand men compared to German men (Figure 4) probably partly reflects the way in which the German education system streams students at an early age into different career paths, and the low tendency for people in Germany to change jobs and occupation (Hobijn and Sahin, 2009, pp.108-10; OECD, 2010b, p.188). In contrast, all New Zealand secondary schools offer a similar range of subjects. People in New Zealand also seem to move more frequently between jobs than in Germany (Statistics New Zealand, 2008, pp.5-6). In addition, New Zealand has often been more successful than most European countries, including Germany, at keeping long-term unemployment rates low (Hobijn and Sahin, 2009, pp.109-10; OECD, 2010a, p.270). Low unemployment and a relatively flexible labour market probably help explain why parental background tends to have a modest effect on people's adult economic outcomes in New Zealand.

Parental characteristics also affect rates of intergenerational mobility. For instance, the United States' 'exceptionally high' teenage birth rate may be important in reducing intergenerational mobility. Also, fewer parents in the United States seem to spend time reading to their children than parents in countries such as Canada, and this reduces their children's life chances (Corak, Curtis and Phipps, 2010, pp.20, 24). New Zealand also has a high teenage birth rate and researchers have found evidence of intergenerational welfare-benefit dependency (Maloney, Maanin and Pacheco, 2003).

Conclusion

Intergenerational economic mobility research tests the relationship between a person's adult economic circumstances and their family background. Because people are interested in equality of opportunity and economic efficiency, in recent years intergenerational mobility has received growing attention from economists and from the OECD. Intergenerational economic mobility has been quantified by the author using income data from the Dunedin Study of children born in 1972–73, and occupation data from the 1996 New Zealand Election Study.

The results indicate that in New Zealand the income or SES of a person's parents when they are a teenager appears to have a modest effect on their subsequent economic outcomes. In contrast, a person's own educational qualifications have a strong effect on their

adult economic situation. The confidence intervals for the income mobility results are large. However, intergenerational income mobility rates for New Zealanders appear to be in a similar range to rates for people born in other developed countries. The results suggest that intergenerational occupational mobility rates in New Zealand are relatively high. Although the results improve our knowledge of intergenerational mobility in New Zealand, further research using larger data sets would be desirable.

Factors that affect a country's rate of intergenerational mobility include the characteristics of a country's education system, of its labour market and of its people. Intergenerational mobility appears to be higher when children from poorer families benefit from early childhood education expenditure, and when the relationship between family income and educational outcomes is weak. Flexible labour markets that facilitate employment also promote intergenerational mobility. In addition, mobility tends to be higher when a high proportion of parents invest time and other resources in their children. There is obviously potential for New Zealand to improve its position in all these respects. However, since policies to promote intergenerational mobility can compromise the achievement of other economic and social policy goals, policy makers need to carefully consider the cost of policy initiatives and the trade-offs involved.

1 Researchers in Britain frequently refer to social mobility when studying income or educational mobility. This article uses the term economic mobility to collectively refer to income and occupational mobility.

2 The correlation between Election Study results and SES is only .32, although the eight income bands are not ideally designed for the comparison. For Dunedin Study participants the relationship between SES and income is .45.

3 To calculate estimated income it is necessary to multiply the log of fathers' income by the elasticity, add the intercept, then take an anti-log.

References

Aldridge, S. (2005) Preface, in S. Delorenzi, J. Reed and P. Robinson (eds), *Maintaining Momentum: promoting social mobility and life chances from early years to adulthood*, London: IPPR

Andrews, D. and A. Leigh (2008), 'More inequality, less social mobility', discussion paper, Canberra: ANU

Björklund, A. and M. Jäntti (2009) 'Intergenerational economic inequality', in W. Salverda, B. Nolan and T. Smeeding (eds), *The Oxford Handbook of Economic Inequality*, Oxford: Oxford University Press

Björklund, A., M. Jäntti and G. Solon (2007) 'Nature and nurture in the intergenerational transmission of socioeconomic status: evidence from Swedish children and their biological and rearing parents', *B.E. Journal of Economic Analysis & Policy*, 7 (2), article 4

Black, S.E. and P.J. Devereux (2010) 'Recent developments in intergenerational mobility', National Bureau of Economic Research working paper, http://www.nber.org.paperw15889

Blanden, J. (2008) *How Much Can We Learn From International Comparisons of Social Mobility?*, Guildford: Department of Economics, University of Surrey

Blanden, J., A. Goodman, P. Gregg and S. Machin (2004) 'Changes in intergenerational mobility in Britain', in M. Corak (ed.), *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press

Blanden, J., P. Gregg and S. Machin (2005) *Intergenerational Mobility in Europe and North America*, London: Centre for Economic Performance

Blanden, J. and S. Machin (2004) 'Educational inequality and the expansion of UK higher education', *Scottish Journal of Political Economy,* 51 (2), pp.230–48

Cabinet Office Strategy Unit (2008) *Realising Britain's Potential: future strategic challenges for Britain*, London: Strategy Unit, Cabinet Office

Corak, M., L. Curtis and S. Phipps (2010) *Economic Mobility, Family Background, and the Well-being of Children in the United States and Canada,* Bonn: IZA

Corak, M. and P. Piraino (2010) *The Intergenerational Transmission of Employers*, Bonn: IZA

Couch, K. and D. Lillard (1998) 'Sample selection rules and the intergenerational correlation of earnings', *Labour Economics,* 5 (3), pp.313–29

Davis, P., G. Jenkin and P. Coope (2003) *New Zealand Socio-Economic Index 1996: an update and revision of the New Zealand socio-economic index of occupational status,* Wellington: Statistics New Zealand

Delorenzi, S., J. Reed and P. Robinson (2005) Introduction, in S. Delorenzi, J. Reed and P. Robinson (eds), *Maintaining Momentum: promoting social mobility and life chances from early years to adulthood*, London: IPPR

Ermisch, J., M. Francesconi and T. Siedler (2006) 'Intergenerational mobility and marital sorting', *Economic Journal*, 116 (513), pp.659–79

Esping-Andersen, G. (2004) 'Unequal opportunities and the mechanisms of social inheritance', in M. Corak (ed.), *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press

Ferguson, D. and L.J. Horwood (2003) 'Resilience to childhood adversity: results of a 21 year study', in S.S. Luthar (ed.), *Resilience and Vulnerability: adaption in the context of childhood adversities*, Cambridge: Cambridge University Press

Galbraith, C., G. Jenkin, P. Davis and P. Coope (2003) *New Zealand Socio-economic Index 1996: users' guide*, Wellington: Statistics New Zealand

Gould, J. (2008) 'The distribution of personal incomes 1951 to 2006: Māori and non-Māori compared', *New Zealand Population Review*, 33/34, pp.249–60

Grawe, N.D. (2004) 'Intergenerational mobility for whom? The experience of high- and low-earning sons in international perspective', in M. Corak (ed.), *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press

Haider, S. and G. Solon (2006) 'Life-cycle variation in the association between current and lifetime earnings', *American Economic Review*, 96, pp.1308–20

Hobijn, B. and A. Sahin (2009) 'Job-finding and separation rates in the OECD', *Economics Letters*, 104 (3), pp.107–111

Jäntti, M., B. Bratsberg, K. Røed, O. Rauum, R. Naylor, E. Österbacka et al. (2006) *American Exceptionalism in a New Light: a comparison of intergenerational earnings mobility in the Nordic Countries, the United Kingdom and the United States*, Bonn: IZA

Lane, J. and T. Maloney (2002) 'Overview: the New Zealand conference on database integration and linked employer-employee data', *New Zealand Economic Papers,* 36 (1), pp.3–7

Maloney, T., S. Maanin and G. Pacheco (2003) 'Intergenerational welfare participation in New Zealand', *Australian Economic Papers*, 42 (3), pp.346–60

Melchior, M., T.E. Moffitt, B.J. Milne, R. Poulton and A. Caspi (2007) 'Why do children from socioeconomically disadvantaged families suffer from poor health when they reach adulthood? A life-course study', *American Journal of Epidemiology*, 166 (8), pp.966–74

Ministry of Education (2008) *The Educational Inheritance of New Zealanders,* Wellington: Ministry of Education

Ministry of Education (2010) *Prior Participation in Early Childhood Education: New entrants* (webpage), Wellington: Ministry of Education

OECD (2010a) *Employment Outlook: moving beyond the jobs crisis*, Paris: OECD

OECD (2010b) *A Family Affair: intergenerational social mobility across OECD countries*, Paris: OECD

Poulton, R., R. Hancox, B. Milne, J. Baxter, K. Scott and N. Wilson (2006) 'The Dunedin Multidisciplinary Health and Development Study: are its findings consistent with the overall New Zealand population?', *New Zealand Medical Journal*, 119 (1235), pp.1–11

Roemer, J.E. (2004) 'Equal opportunity and intergenerational mobility: going beyond intergenerational income transition matrices', in M. Corak (ed.), *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press

Silva, P.A. and M. McCann (1996) 'Introduction to the Dunedin Study', in P.A. Silva and W.R. Stanton (eds), *From Child to Adult: the Dunedin Multidisciplinary Health and Development Study*, Auckland: Oxford University Press

Silva, P.A., R. McGee, J. Thomas and S. Williams (1982) 'A descriptive study of socio-economic status and child development in Dunedin five year olds', *New Zealand Journal of Educational Studies*, 17, pp.21–32

Statistics New Zealand (2008) *Survey of Working Life: March 2008 quarter,* Wellington: Statistics New Zealand

Swift, A. (2004) 'Would perfect mobility be perfect?', *European Sociological Review*, 20 (1), pp.1–11

Tolley, A. (2010) 'Government taskforce on early childhood education', retrieved 12 February 2011 from http://www.beehive.govt.nz/release/government-taskforce-early-childhood-education

Treasury (2001) *Reducing Māori and Pacific Inequalities*, Wellington: The Treasury

Vowles, J. (2002) 'The puzzle of turnout', in J. Vowles, P. Aimer, S. Banducci, R. Miller and A. Sullivan (eds), *Proportional Representation on Trial: The 1999 general election and the fate of MMP*, Auckland: Auckland University Press