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Obituary

Steven Jonathan Dowrick, 1953–2013: A Tribute by Bruce Chapman (Australian National University) and Bob Gregory (Australian National University). The authors thank Deborah Mitchell and Maria Racionero for their very significant contributions.

Stephen Jonathan Dowrick was born on 7 May 1953 in Dublin Ireland, and died in Canberra on 3 August 2013, from brain cancer. Steve became one of Australia's finest economists and published influential and path-breaking papers in the world's best journals. If intellectual contribution is the only criterion for success Steve would have been right at the top of the Australian economics pyramid; not alone, but with just a handful of revered colleagues.

But Steve's contribution to humankind, the quality of his personal and professional relationships, and his life activities go far beyond his intellectual influence, extraordinary as that was. A short traverse of Steve's early life is instructive and illustrative of his values, in particular with regard to matters of distributional fairness.

When Steve finished high school (as dux) he was offered a scholarship at Cambridge University. Before beginning he undertook volunteer work for approximately a year at Blackfriar's Settlement, Southwark, in London, where his job was driving a van for a project named Workshop for the Disabled.

While studying physics at Cambridge he actively participated in issues of social and political justice. He was soon to incur the antagonism of the authorities and was suspended indefinitely from classes for obstructing a visit to Cambridge by the President of the Greek 'Junta', the activities of which offended Steve morally and ethically.

A friend, also in trouble for anti-authoritarian activities, persuaded Steve to become a community development officer in a poor dockside suburb in South Wales. For 6 years Steve supported and represented disadvantaged residents at Public Inquiries on Town Planning issues, teaching children photography, producing a community newspaper on behalf of the local poor, and organising local action groups aimed at diminishing many forms of inequity.

In 1982 Steve returned to Cambridge University, this time to study economics. It was there in 1983 that he met Deborah Mitchell, an Australian student, and they married in York in 1984. After Steve completed his PhD at the University of Warwick, they moved to Canberra. Deborah is now a Professor at ANU, in the Australian Demographic and Social Research Institute. They raised two children, Helen and Lydia, born in 1986 and 1987. Steve and Deborah's daughters inherited their father's compassion and intelligence, and are both strong testimonies to the parental influences of nature and nurture.

The welfare of his family was as critical an aspect of Steve's character as his concern for the underprivileged, and he was so much more than a loving and devoted father. He actively involved himself totally in his daughters' education and sporting worlds. Deborah, his completely devoted life partner, has said that he was the kind of dad who would rather spend time with Helen and Lydia at night and set his alarm for 4.30 am the next morning to attend to academic business.

In terms of Steve's professional contribution, we start with teaching. As an educator Steve was superb and egalitarian. Course content was designed to inspire those who might have otherwise been disengaged, while stretching the minds of the best. Despite the many demands on his time Steve was an involved PhD supervisor of many, a large number of whom chose academia, which bears testimony to his influence.

Steve's publications can be placed in two broad groups, evident from the start of his career. One area, industrial relations, began while he was a PhD student at the University of Warwick (1985) and there are well-developed and widely cited theory papers exploring bargaining between unions and oligopolies. The other subject area is income convergence, which began at the Research School of Social Sciences at ANU, and is concerned with the analysis of economic growth sources and income convergence across countries.

His first major income convergence publication, co-authored with Tom Nguyen (Dowrick & Nguyen, 1989), appeared in the *American Economic Review*, as did many subsequent papers dealing with similar issues. Most of Steve's convergence research themes can be detected in this famous paper, so it is a natural place to start (see also Dowrick & Gemmel, 1991).

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Income catch-up across OECD countries was a contested field in the post-Second World War period, but the Dowrick and Nguyen contribution was to change that. They focused on the source and measurement of income catch-up by placing the analysis into a production function framework. Catch-up is decomposed into two parts: moving closer to the technological frontier of the leading country, and moving around the production frontier to increase factor inputs to increase income per capita. This analytical reorientation led to stark and important conclusions.

Dowrick and Nugyen found that all OECD countries were moving closer to the technological frontier and that there was a stable technology catch-up parameter; the further the distance from the frontier the faster the rate of technological change. Among some low-income OECD countries there was no income convergence because capital growth was sufficiently below that of high-income countries so that the technology catch-up was overwhelmed.

Once Steve established that good empirical research, built on new international databases, could provide important insights to understanding catch-up, there was a considerable amount of international academic interest. There were now many possible pathways to follow.

One pathway was to extend the country list beyond the OECD to include Africa, Asia and Central and South America, and remained directly focused on catch-up (Dowrick & Gemmel, 1991). When this is done, and as might be expected, the simplicity of the original analysis is lost and the world becomes messier. In the post-Second World War period, the rich and middle income countries, more or less, conform to his original catch-up model. Low-income countries, however, are quite different – industrial productivity is diverging within this group and apposite to rich countries. However, agricultural productivity is apparently converging, which may not have been expected.

The analysis was also extended to different time periods. An excellent paper with Brad DeLong (Dowrick & DeLong, 2003) offers a broader and more nuanced analysis of growth patterns across the world over one and half centuries and is full of interesting and important insights. But the simplicity of analysis and straightforward 'facts' of the original paper are lost in a changing world that is more complex. For example, before the Second World War, globalisation was not simply associated with catch-up in a straightforward manner, even among richer countries, and openness to trade and migration did not seem to promote convergence outside a small charmed circle.

Another successful pathway chosen, which lead to many well cited papers and remained a continuing research project until the end of his life (Ackland *et al.*, 2013), was to explore fairly standard index number measurement issues which when applied to cross-country databases became increasingly complex. The research led to new and attention-grabbing empirical insights.

The initial task was to look more closely at country per capita income measurement in an international context. Steve quickly came to the judgement that adjusting cross-country nominal income levels by Purchasing Power Parity PPP is better than adjusting nominal income by exchange rates, a process which over-emphasises cross-country differences in traded-non-traded goods prices. Most economists would agree with this judgement *a priori*, but this is an empirical issue and the empirics reveal new problems, all of which were discussed and resolved with Steve's clear writing style.

A purchasing power parity index requires that a common cross-country bundle of goods be selected. But how should this bundle be chosen? Consumption patterns vary across countries and through time as income levels and relative prices change, presenting the classic index number problem. Steve argued for the following empirical judgements, many of which are emphasised in a recent survey paper by Deaton and Heston (2010).

First, choosing a high-income country consumption bundle overstates income of the poor countries, and a middle income country consumption bundle is probably best for cross-country poverty analysis, income convergence and catch-up. Steve with others shows that price relativities of large advanced countries generally imply bias against measurement of convergence among less developed economies.

Second, constant price measures of living standards systematically confuse true GDP convergence with price convergence, the direction of the bias depending on whether the prices correspond to those of relatively rich or relatively poor countries. The PPP comparison of per capita income understates true GDP dispersion and all the more so if prices are converging over time, a point which had been largely overlooked (Dowrick & Quiggin, 1997).

Third, policy-makers generally exaggerate the importance of changes in their country GDP per capita ranking. Dowrick and Quiggin (1994) show that international living standard rankings are essentially indeterminate within five or six places. Hence, it is not useful to use ranking changes as evidence of policy success or failure unless the change is very large. Much of their analysis assumes a common utility function across countries and they comment that they are surprised that this works so well, at least for pairwise comparisons (so are we surprised!). Income and relative prices differ between Germany and Japan, for example, and lead to different consumption bundles even if their utility functions are the same, a major insight.

Fourth, demographic trends have generally widened income dispersion across countries because rich countries, in relative terms, had growing workforce participation, generated by a decline in youth dependency. High birth rates in lower income countries reduce economic growth through investment effects and possibly through capital dilution. Steve responded to this finding and wrote a number of economic demography papers (Brander & Dowrick, 1994; Day & Dowrick, 2010). Day and Dowrick addressed the usefulness of different policy instruments such as baby bonuses, paid maternity leave and childcare subsidies, to change fertility and female labour force participation (Day & Dowrick, 2010).

Finally, it is a small step from the early income convergence analysis to Steve's recent work on global poverty measurement (Dowrick & Akmal, 2005 and Ackland *et al.*, 2013). Steve and co-authors show that the measurement of purchasing power parity to translate a common poverty line into local currencies matters a great deal. Of the two most common methods, they show that the EKS approach is better for measuring purchasing power parities than Geary-Khamis (GK). The GK method evaluates incomes at prices corresponding to those found in relatively rich countries, and, as shown in Steve's earlier work, tends to overstate real income in the poorest countries, relative to the United States, by an average of 20 per cent but up to 50 per cent for some countries (see also Deaton & Heston, 2010).

Steve, like many young researchers, responded to the wider economic environment at the time his career began and he demonstrated that access to new international databases was an influential determinant of one research stream. The other external influence was probably the sudden macroeconomic break of the early 1970s when high inflation and high unemployment became the norm, real wage growth outstripped productivity, and, as a result, there was increased interest in the role of trade unions. Steve responded to two broad sets of questions.

One question set addresses the relationships between trade union negotiated wages, oligopolistic structures and product market conditions and how these relationships respond to differences in trade union organisation and changes in product market conditions. Of the many issues he explored, the following are particularly interesting. His empirical UK research rejected efficiency wage models and tended to support bargaining models of wage determination, because bargained wage premia tend to be deducted directly from profits rather than being passed on in prices (Dowrick, 1990). He also found that unemployment had no effect on the bargained wage outcome and on bargaining strength, directing attention towards insider relationships.

The other question set concerns productivity, innovation and trade union-firm relationships (Dowrick & Spencer, 1994). He quotes surveys which show that 6 per cent of trade union leadership was strongly resistant to technical change, 27 per cent slightly resistant, and the remaining two-thirds slightly in favour or strongly in favour. Why were there large differences? When are unions Luddites? This important theoretical paper resonates with common sense. This model makes it clear that union opposition to new technology tends to occur when union preferences are weighted in favour of jobs, labour demand is perceived to be inelastic, and unions are organised on an industry or craft-based organisation in non-competitive industries. In general, his research suggested that more centralisation of wage bargaining provides greater macroeconomic wage flexibility and technological innovations.

To conclude on the research side, we return to the special nature of Steve's personal and professional relationships and its impact on the ANU environment. Steve made a significant contribution to the Australian economics profession by serving as a Co-editor and then Editor of the *Economic Record* from December 1995 to December 1998, and then on its Editorial Board from 2004. Steve generated widespread externalities, especially for young people. He tended to publish with co-authors, nearly of whom were connected, one way or another, to the ANU. Most were early career women and many were his students. He was there for young colleagues and was a very active proponent of equality for female economists. At the 8 March 2013 ANU International Women's Day celebration his contributions were appropriately recognised with an ANU Gender Champion Award.

In preparing this obituary it has been a special privilege for us to look back at Steve's career and read his insightful and important papers. The clear writing style and focus on problems that matter to all of us, and with a special emphasis on distributional issues and the measurement and understanding of poverty, has made our task so worthwhile.

Steve Dowrick was a remarkable academic role model, as a teacher and with respect to highly influential research contributions. Beyond that he was a very special person, without vanity, self-aggrandisement or egotism, and with a unique blend of intelligence, kindness and commitment to equality and family. All of us who understand Steve know about his active engagement in causes of social justice, his complete disregard of the superficialities of status and rank, and his affable embrace of humour, even in the presence of distressingly deficient health.

We in the Australian economics community, and far beyond, are so sad to have lost him, so lucky to have known him.

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