

Ross Garnaut

# Global Development in the Twenty- first Century

I am glad to be here at Victoria University of Wellington giving this lecture in honour of Professor Sir Frank Holmes. Frank hosted my first visit to New Zealand 40 years ago, when, with Les Castle, he organised an early conference in the Pacific Trade and Development series that continues today. Four years later he was the leader of the New Zealand group that joined John Crawford, Peter Drysdale, Stuart Harris and me at the Pacific Community Seminar at the Australian National University, a precursor of the Pacific Economic Cooperation Council, and therefore a forebear of APEC. Frank made large contributions to the establishment and extension of closer economic relations between Australia and

New Zealand in the 1980s through to the early years of this century. I discussed Asia–Pacific cooperation with Frank on many occasions in Australia, New Zealand and elsewhere in the Asia–Pacific. Frank was more comfortable with preferential trade than I ever became, and we learned about another view from each other. We can all be grateful for Frank’s contribution to ensuring that New Zealand was a participant in the deepening of Asia–Pacific economic integration through the last quarter of the 20th into the current century.

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In a different field, I remember extensive discussions with Frank about currency union with Australia around the turn of the century. Our host institution this evening, then the Institute of Policy Studies at Victoria, had just published his book with Arthur Grimes and Roger Bowden, *An ANZAC Dollar* (Holmes, Grimes and Bowden, 2000). This took Frank back to his 1950s roots in public policy, working on money and banking. His proposal for currency union with Australia was dismissed too swiftly by leaders of Australian policy institutions that then were justifiably pleased at having avoided recession through a few turbulent years in the Asia-Pacific economies when New Zealand had twice succumbed.

New Zealand was to have one more recession avoided by Australia, in the aftermath of the great crash of 2008. It is now riding higher, as my own country

monetary union would push us towards more systematic analysis of stabilising fiscal policy as preparation for monetary union. That would be no bad thing.

Frank Holmes was a New Zealand leader of what my recent book, *Dog Days: Australia after the Boom*, calls the independent centre of the polity (Garnaut, 2013). He saw great value in careful and transparent analysis of the public interest, separate from any vested or partisan political interest. The success of public policy in any democracy in these troubled times depends on the strength of a strong independent centre.

Younger people here this evening may need reminding of how natural it is to raise the big issues in global development in New Zealand. Just 50 or so metres from here, in the Cabinet room of the Old Government Buildings we are reminded of the contributions of the New Zealand

economics to an unsettled world after the Second World War (Condliffe, 1951).

#### Modern economic growth and its maturation

Tonight I am going to argue that there is some prospect that the 21st century will see most of humanity living at material standards that are broadly comparable with those of the developed countries. I call that the maturation of modern economic growth. I see the maturation of modern economic growth as the only stable end-point of the process that began in Britain a quarter of a millennium ago. Any outcome short of that is not a resting place, but a point of disequilibrium and disruption. We do not know to what heights the increase in productivity and living standards will take the developed countries from now on, but whatever they may be, the maturation of economic growth will involve most of humanity living at that level.

I will provide some evidence this evening that capital may become much more abundant and labour much more scarce through the 21st century, supporting the maturation of global development. The same forces – abundant capital and scarce labour – that support rapid growth in living standards in the developing countries will make it possible to secure relatively equitable distribution of income in the world as a whole and eventually in each of its parts.

But the maturation of global development has to climb over some daunting barriers. This evening I briefly discuss three barriers that at this stage seem to be particularly challenging: the reconciliation of much higher average living standards with the maintenance of the reasonable climate stability that is necessary for the continuation of global economic growth; the avoidance of economic development success in parts of the world being overwhelmed by development failure elsewhere; and the maintenance of effective government in the public interest in high-income market economies as wealthier private interests become less inhibited and more effective in influencing policy. My treatment of the barriers is necessarily brief, so that I do little more than highlight critical issues for continuing research.

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grapples with the end of the China resources boom. Macroeconomic stability is an elusive goal for a small economy with strong export specialisation in commodities, and I fear that New Zealand's medium-term future will not be as comfortable as the present. New Zealand has felt more bumps than Australia since the deep recessions of 1991–92, but Australia is currently feeling a bigger bump. There may come a time for Australians and New Zealanders to consider with more open minds the merits of being part of a bit bigger (for Australia) or substantially bigger (for New Zealand) currency area, joining two neighbouring countries of modest size with integrated labour and financial markets, free and intense bilateral trade and overlapping cycles in terms of trade. The recent experience of the European

governments of the late 19th and early 20th centuries to ideas that were then at the frontier of thinking about developed countries. We are reminded of William Pember Reeves, who took knowledge from that Cabinet room into his influential foundational directorship of the London School of Economics (Reeves, 1902). A couple of decades later a young refugee from continental Europe's capitulation to Nazism, Karl Popper, found in New Zealand the place to write one of the most compelling and important books on political philosophy to emerge from the last century (Popper, 1945). And I would include in the great New Zealand contributions to understanding modern global development J.B. Condliffe's brilliant and authoritative *The Commerce of Nations*, written to provide guidance from the history of economic thought and

Modern economic growth is young. We are still learning how it works. Modern economic growth is disturbing and painful. It does not take root anywhere until there is a widely shared view within the society that the benefits are worth the pain. It changes beliefs as well as political and social relationships and institutions. It puts down the mighty from their seats and elevates new elites. It enhances the power of states in the territories of which it has taken deep roots, and disturbs the international political order.

Modern economic growth is beneficent. In countries which have enjoyed its fruits for many generations it raises the material comfort, knowledge, health, longevity, and capacity for communication across humanity of most ordinary citizens to levels unknown to the elites of earlier times. Modern economic growth is restless. It never stays on one course for long, disturbing what we thought we knew about it with each new turn, and providing great challenges for every generation. Condliffe's account of modern economic development from Adam Smith to the Second World War is a story of events shaping and changing the nature of global development generation by generation (Condliffe, 1951).

The challenges of modern economic development are more than usually difficult in the early 21st century. Gone is a contemporary basis for what had become a presumption in the developed countries, that the majority of people in each new generation would enjoy higher living standards than those in any generation that had lived before. Gone is any basis for assuming that our democratic institutions are easily reconciled with the effective operation of a market economy; and that only democracies are able to ride modern economic growth to high standards of living. And now, with anthropogenic climate change, we see more clearly than ever before that failure to change the composition of growth to take account of external environmental costs of private decisions will disrupt the beneficent process.

### Three groups of countries

Obviously every country is unique, but we have to think in broader categories if we

are to make sense of the world as a whole. I find it useful to think about three groups of countries: developed, developing and underdeveloped. In the developed countries, almost a billion people enjoy the high living standards that come from full absorption of the benefits and effects of modern economic growth. For all our problems, the developed countries of 2015 are good places to be. I will argue this evening that China is heading rapidly towards a place among the developed countries, so we will soon be talking about roughly a third of humanity's seven billion members, with a majority of them in China. In the developed countries excluding China, average output and expenditure (the mean of the domestic distribution) has been moving upwards at a snail's pace in the 21st century; and the average for ordinary people (the median) is no longer moving up at all.

the last quarter of the last century. The average is looking a bit stronger in the 21st century so far. Here we are talking of around a seventh of humanity. We find useful insights into this part of the human development experience in Paul Collier's book *The Bottom Billion* (2007). Most of the bottom billion are in Africa. Increasing numbers are in the immediate region of Australia and New Zealand.

### Challenges in the developed countries

The central challenge arises from the stagnation in living standards for all but the rich in all the substantially-developed countries since the great crash of 2008. In the United States, average living standards of people at the median of the income distribution are no higher, and perhaps lower, now than three decades ago. The cessation of growth in living standards for ordinary people has several interrelated

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The developing countries (without China) contain over half of the world's people, with most in South and South East Asia and a majority of the rest in Latin America. These have placed their feet on one or other of the multiple escalators of modern economic development and are moving towards the income levels and material standards of living of the developed countries at varying rates. Most countries that get on an escalator keep moving, but at different paces and with occasional jerks in the machinery – sometimes with a stalling of the mechanism for a few years or even a decade.

And then there are the underdeveloped countries, which have not put their feet on an escalator. In the underdeveloped countries, on average there was hardly any growth in living standards over

sources. One is a historic slowing of productivity growth in the 21st century. A second is the demographic change that follows from the combination of increased life expectancy and fertility below population-replacement levels that is present in all the developed countries. Ageing seems to reduce capacity for innovation, and to reduce incentives to invest. A third, influenced by the first two, is a tendency for private savings to run ahead of investment, causing employment to fall more rapidly than the labour force. A fourth is the effect of globalisation of production of a wider and wider range of economic activities, and of the deployment of capital. Globalisation has been helpful to the increase in developed-country as well as global production, while transferring income from labour in the developed to the developing

countries and of resources from the public revenues to the owners of capital. A fifth is a weakening of redistributive fiscal interventions to moderate the inequality of incomes and wealth that emerges from market exchange.

While there are differences across developed countries and time in the widening of income inequality and the slowdown in economic growth, the similarities are more powerful than the differences in the 21st century so far. China is different, as it completes the 'catch-up' with the productivity levels and living standards of the established developed countries, but it will be subject to similar pressures and constraints once it is there.

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### *A closer look at productivity growth in the developed countries*

Productivity growth in the developed countries at the frontiers of modern economic activity has been proceeding less rapidly since 2000 than at any time since the early days of modern economic development a quarter of a millennium ago. This has been the subject of considerable discussion in the economic literature. One famous paper has suggested that we may not see again the rises in productivity and therefore of living standards of earlier periods of modern economic development (Gordon, 2012).

In Australia, New Zealand and other English-speaking countries, as well as Spain, the consequences of low productivity growth were masked for a while by an extraordinary housing and consumption boom from the turn of the century to the great crash of 2008. That was unsustainable. It was funded by our banks borrowing abroad in wholesale markets. It came to an end in cataclysm in the large developed countries. The

great crash didn't end badly in Australia, and led to recession but not cataclysm in New Zealand. The better end in the Tasman neighbours was partly a result of quick-footed policy, but that policy was only viable because of Australians' special fortune in being beneficiaries of the Chinese economic response to the crash (Garnaut, 2013). New Zealand benefited as well from Australia's fiscal and monetary expansion.

China's resources boom postponed the effects of declining productivity on Australian living standards until China's pattern of growth changed again from about 2011. A new Chinese model of growth emphasised greater equity in income distribution and reduced pressure

on the natural environment.

There are many things we do not understand about the marked slowing of productivity growth in the developed countries. There is even a question of whether we are measuring productivity properly. Over recent years and decades we have been introduced to new commodities and new services that greatly improve the quality of life, without those qualitative factors being influential in the productivity statistics.

### *A closer look at low real interest rates and deficient demand*

Nevertheless, measured well or poorly, the reality of low and – in the case of Australia, since 2005 – negative total factor productivity growth of the traditional kind has reduced incentives for business investment. Levels of business investment in all of the developed countries have been low this century, and especially since the crash of 2008. This has placed downward pressure on employment. All developed

countries have experienced since the great crash a combination of rising savings and lower business investment, and therefore a tendency towards reduced demand, higher unemployment and lower economic growth. This has been responsible for part of the widening of inequality.

One consequence of higher savings and lower investment is lower interest rates. Low official interest rates have been reinforced by 'quantitative easing' in, at various times, Britain, continental Europe, Japan and the United States, where central banks are providing assets that can be turned into cash as they buy back government bonds from the private sector. Quantitative easing has been putting more money into the community with a view to reducing interest rates and encouraging business activity.

There is a fair bit of evidence that low official short-term interest rates and quantitative easing are a temporary and minor part of a bigger story: that we have entered a world in which long-term interest rates are much lower on an ongoing basis than they used to be. The most commonly traded long-term government security in most countries is a ten-year bond. The interest rates on ten-year bonds are lower in real terms than they have ever been in almost all of the developed countries. On Friday 20 February 2015, when I was preparing this text, the nominal ten-year bond rate was 2.11% in the US; 1.76% in the UK; 0.36% in Germany; 0.39% in Japan; 2.57% in Australia; and 3.32% in New Zealand. That is the rate, before deducting inflation, at which the private sector is prepared to lend to government on a ten-year basis. The average in real terms weighted by size of economy is around zero. We have not been in this territory before.

A closer look shows that we were heading into this unusual territory before the financial crisis. There is reason to doubt whether quantitative easing has had a large influence on long-term interest rates. Recently we saw long-term bond rates fall in the United States as the Federal Reserve brought quantitative easing to an end. This suggests to me that extraordinarily low contemporary short-term rates reflect perceptions that there has been a permanent lift in the volume

of long-term savings relative to long-term investment.

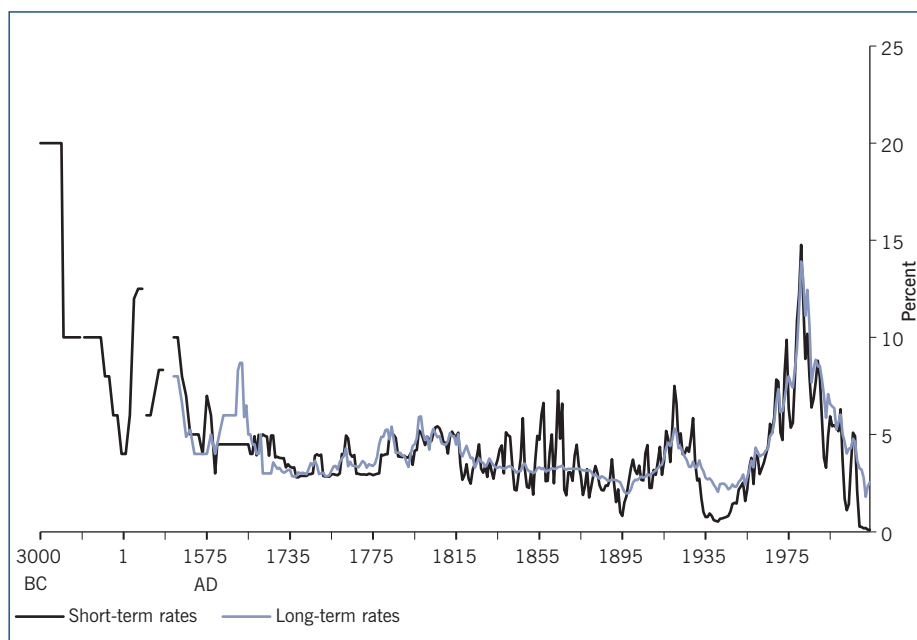
The one certain economic consequence of quantitative easing has been to promote capital outflow and a lower exchange rate in the countries in which it has been applied.

To illustrate how unusual today's real long-term interest rates are compared with anything that has come before I am taking two graphs from a paper presented in February 2015 by the Bank of England's chief economist (Haldane, 2015). Figure 1 presents data on nominal sovereign bond rates back to the days when Elizabeth I was raising funds to defend the realm against the Spanish Armada. Figure 2 reveals the distinctive nature of the contemporary real interest rates: near zero.

Being in a world of near-zero real interest rates has large consequences. One is a potentially favourable influence on the distribution of income within societies. The celebrated recent book by the French economist Thomas Piketty, *Capital in the Twenty-first Century* (2014) has been widely read and discussed in New Zealand, as it has elsewhere (Bertram, 2014, 2015). It has been the best-selling economics book of our time – for the first couple of years after publication, the best-selling economics book ever. Piketty argues that we are heading towards a world of widening inequality in income distribution because the rate of interest is going to exceed the rate of growth. Those who already own a large amount of capital will be accumulating it at a high interest rate. He presents much historical data which shows a tendency for rates of return on low-risk investment, like government bonds or land, to be around 4–5% in real terms, right back to the 18th century. Piketty asserts that real returns on low-risk long-term assets will remain near those levels. With rates of growth (and he has in mind mainly rates of growth in developed countries) falling below that level, it follows that we will see inequality growing wider and wider. There is no logical reason why inequality will not come to equal and exceed that of the Belle Époque in Europe in the late 19th and early 20th centuries.

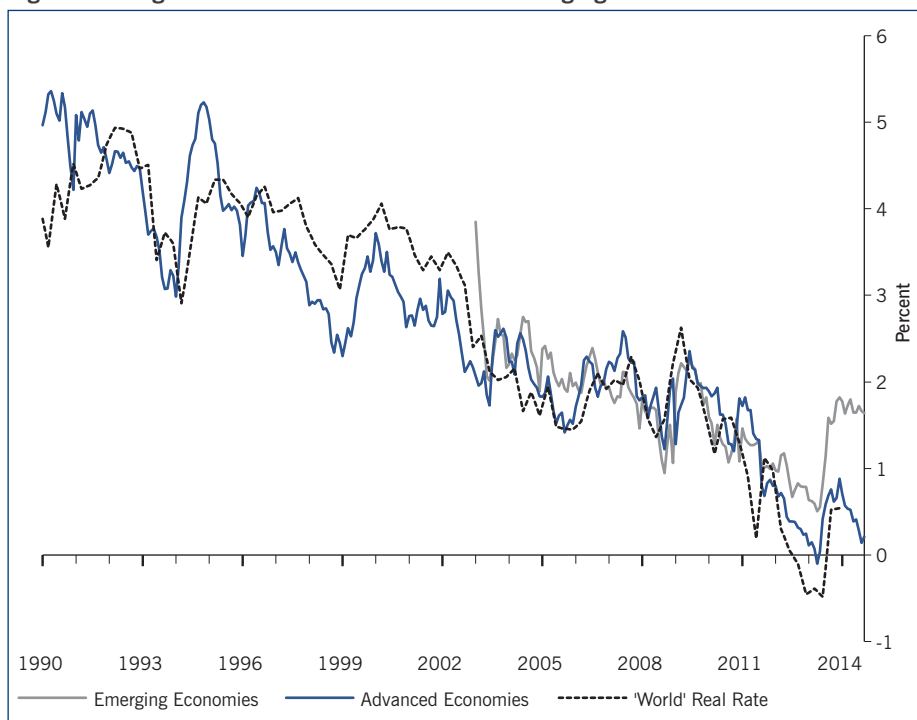
That view puts Piketty at odds with the greatest public intellectual of the 20th

**Figure 1: Short and long-term interest rates**



Source: Haldane, 2015

**Figure 2: Long run real rates in advanced and emerging economies**



Source: Haldane, 2015

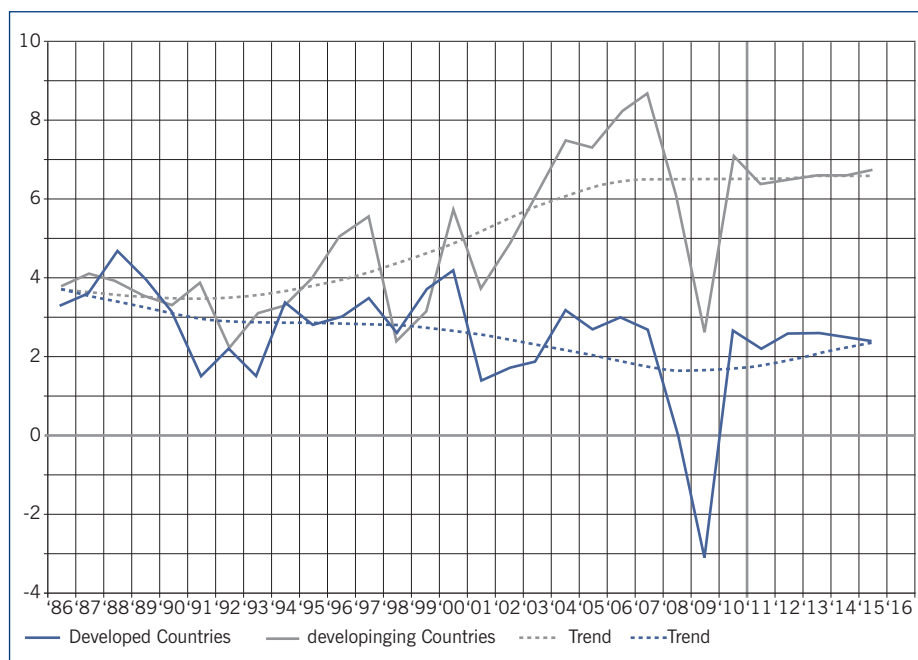
century. John Maynard Keynes argued that we could expect negligibly low returns on investment in the long-term future – a century forward from when he was writing in the 1930s (Keynes, 1931, 1936).

Piketty's challenging analysis is right in drawing attention to large increases in inequality in the distribution of income and wealth in the late 20th and early 21st centuries. It is right in drawing attention to the need for international cooperation

in the taxation of capital if these tendencies are to be corrected without political disruption in the democracies. It is right as well in drawing attention to the increasing role of capital in the policy-making process in the developed democracies, which is weakening the effectiveness of fiscal interventions that moderated income inequality in the developed economies in the golden quarter-century after the Second World War. But recent developments in global



**Figure 3: Global growth rates, developed and developing countries 1986 to 2016**



Source: IMF, 2014

capital markets suggest to me that Keynes is right and Piketty wrong on the particular question that will be most important in shaping global development in the 21st century.

Keynes expects people, and especially the wealthy, to save a substantial proportion of their incomes in future as they have in the past. So, he says, if we do not make a mess of modern economic development with war or unnecessary depressions – and he wrote *The Economic Consequences of the Peace* (1919) to show us how to avoid the former and *The General Theory* (1936) the latter – then the long-term future for the global economy is one of abundance of output and capital. The abundance will cause the rate of return on capital to fall to low levels. People who have a lot of capital will not have enormous incomes simply as a result of that ownership. This world will see ‘the euthanasia of the rentier’. For those who are interested in access to the important things of life there will be an abundance, so that questions of inequality will not matter very much.

I can't avoid noting that Keynes invented the important concept of ‘positional goods’, which in their nature are available only to some. Keynes' personal list of the things that were important would have included access to the London Opera, Russian ballet

and French champagne, which, in their nature, are available in limited supply. For personal access to these, he may have had to rely on the tastes of most of the population being different from his own.

Keynes' world is almost the opposite of the world that Piketty anticipates in his book.

If Keynes was right and Piketty wrong on this one big question, why did inequality increase so much in the 21st century to date, as rates of return fell? Because rates of return did not fall if we include capital gains, as Picketty does, with good reason. But much of the increase in wealth and income at the top of the distribution in this century so far that is reasonably measured by Picketty reflects once-and-for-all increases in asset values associated in one way or another with the decline in interest rates themselves.

Low interest rates have helped to lift investment and growth in employment and output, but have not increased them enough to achieve anything like full employment. Governments have been reluctant to expand expenditure funded by borrowing in response to weak domestic demand, despite the unprecedentedly low costs of borrowing. This is partly motivated by concern over long-term problems of servicing government debt – a real concern for highly indebted countries if there are reasonable prospects of a return to higher interest rates or to

difficulties in borrowing abroad. To the extent that weak domestic demand is the product of high savings associated with ageing and population decline, it is prudent for governments to limit the increase in indebtedness, except where debt raises future incomes and capacity to service debt. This has focused attention on public investment in productivity-raising infrastructure at home, and income-earning investment in public infrastructure abroad. Public investment abroad to raise domestic demand and employment is especially important in countries experiencing population decline, where the opportunities for investment in income-generating infrastructure at home are more limited.

Capital outflow to income-generating infrastructure investment in developing countries can therefore be helpful to maintaining growth in employment and output in the developed countries. It goes along with low real exchange rates and high net exports. It is a point of high complementarity between current requirements for prosperity in the developed countries, and the requirements for strong growth in the developing countries.

The developed country to watch most closely as an influence on capital flows from developed to developing countries from now on is China. China already has much larger savings in absolute terms than any developed country. Its savings, investment and capital flows are likely to dominate global totals in the 2020s at least as thoroughly as those of the United States immediately after the Second World War, or the United Kingdom immediately before the First World War.

#### The developing countries

The average rates of growth in productivity and output have held up in the developing countries despite the fall from early in this century and the further step down with the great crash of 2008 in the developed countries. Figure 3 from the International Monetary Fund (IMF, 2014) tells the story. Developed-country real purchasing power grew rapidly in the 1980s, but then eased back through the 1990s to the great crash. Growth since 2008 has been at a crawl and is not expected to change trajectory in the foreseeable future.

Figure 3 demonstrates the marked change in the trajectory of developing relative to developed growth from the beginning of the 21st century, growing wider from 2008.

Developing Asia was the standout performer in the last quarter of the 20th century, nearly trebling output in the 1980s (an increase in real purchasing power of 183.5%), easing a little in the 1990s with the Asian financial crisis (an increase of 144% over the decade) and accelerating in the early 21st century (an increase of 129% in the eight years to the great crash of 2008). This is 'catch-up growth' in full stride. Asian developing country growth performance was strongly influenced by China, but has held up despite the deceleration of Chinese growth since 2011 (an increase of 68% between 2008 and 2014).

Latin American was slower than developed-country growth in the 1980s (an increase of 71.5% over the decade), but held up much better in the 1990s (67%). It accelerated in the early 21st century (an increase of 60% in the eight years to 2008). It has eased since the great crash (an increase of 28% in the six years to 2014), having been knocked back more by the end of the China resources boom than by the stagnation in the developed world.

The 'catch-up' momentum has been especially powerful in the large Asian developing countries, most importantly, after China, India and Indonesia. India has almost matched China since 2011, and may soon do so. Indonesia restored strong growth impressively within a few years of the 1997–99 crisis and depression, and subsequent democratic transition.

Most developing countries following export-oriented industrialisation strategies were held back to some extent by Chinese competition through the 1990s and early 21st century. The new model of Chinese growth and associated increase in relative Chinese costs and withdrawal from global markets for labour-intensive goods, and the expansion of opportunities for developing countries for a wide range of goods and services in the China market itself, provide a highly favourable environment for growth in the developing countries, and especially in developing Asia.

Unlike China, many of the rapidly growing Asian developing countries, including

India and Indonesia, have experienced budget, and sometimes external payments, constraints on growth which have made it difficult to provide the infrastructure required for rapid development. This highlights the complementarity between developed and developing country requirements for maintaining strong growth in employment and output in the period ahead.

#### **The underdeveloped countries**

The bottom billion include all of Australia's and New Zealand's island neighbours in an arc of instability, intensifying poverty, high fertility and population growth, from

temporarily create the statistical illusion of development, but is usually associated with kleptocratic capture of economic benefits by a small elite that can corrode established institutional strengths.

The magnitude of the challenge does not mean that progress is impossible – just difficult, requiring institutional stability, wisely directed institution-building over long periods, and often intrusive external support. A number of bottom billion African countries are making headway in the 21st century so far, including Ethiopia with large Chinese support for infrastructure and agricultural and

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Papua New Guinea to Fiji. Collier did not include Papua New Guinea in his bottom billion in 2007, and the persistence then of the struggle for good governance within the leadership justified his hesitation at that time. Regrettably, there is a Gresham's law of corruption in a country with weak institutions. When the currency has been debased, bad money drives out good. The good is forced out of circulation until there has been transformational institutional change.

My observations from experience of development in the island countries of the south-west Pacific correspond with those of Collier in Africa and support his main conclusions. Underdevelopment has its origins in problems of governance, which are far-reaching and intractable. Making headway on the problems of governance sets a path to development, but it is hard to get started. Democracy is often an illusion until institutional weaknesses have been removed by education and drawing on external institutions. The exploitation of valuable natural resources can

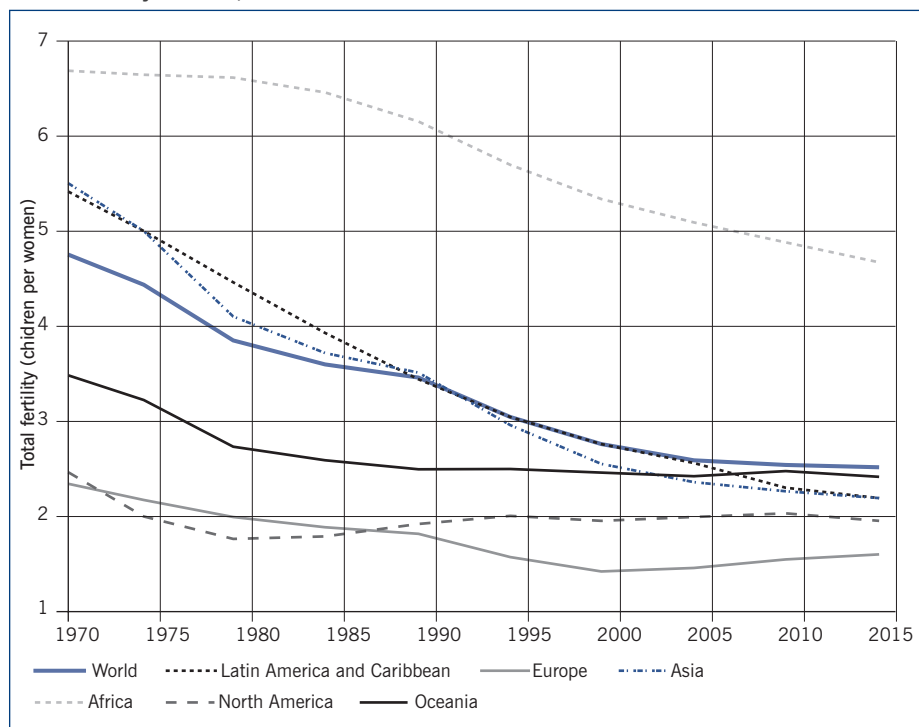
industrial development.

The bottom billion are more important than their current numbers suggest because much higher fertility makes them a rapidly increasing proportion of humanity. We could be confident that the global population will be on a downward path within a few decades despite increasing longevity only if a large proportion of the bottom billion were headed towards entry into the ranks of the developing countries.

International support for development in the bottom billion must take the form of transfers rather than income-earning investments and be justified on development and security grounds. It can contribute to lower real exchange rates and net exports, and therefore to employment in the developed countries, but not to future income for an older population in the developed countries.

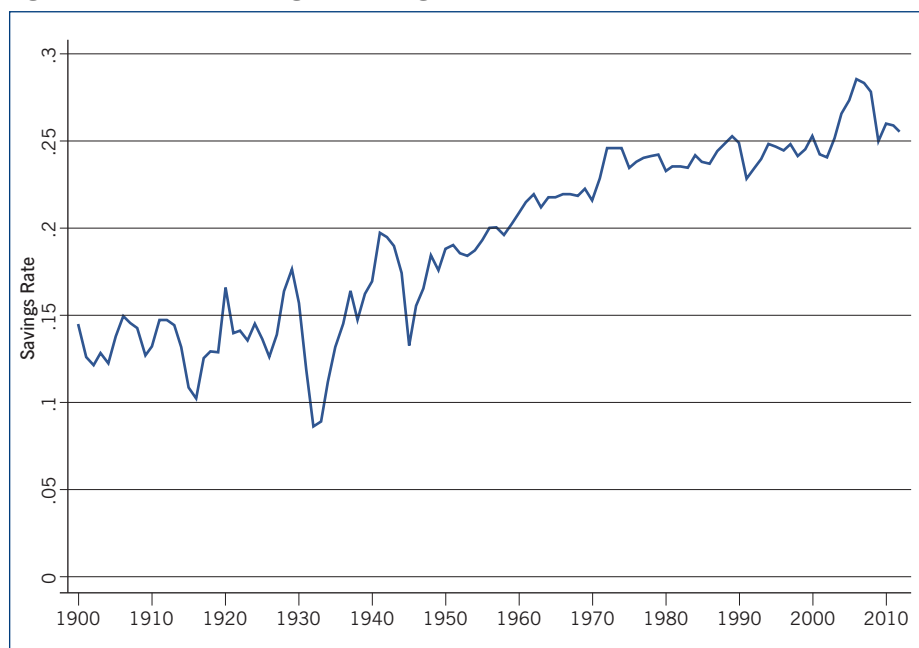
Whether humanity achieves the maturation of global economic development with all of its benefits for all of humanity depends on getting the

**Figure 4: Levels of total fertility (births per woman), for the world and major areas, 1970 to 2015**



Source: United Nations, 2014

**Figure 5: Secular trend in global savings rate**



Source: Eichengreen, 2015

people of the underdeveloped countries onto the economic development escalator. That is a hard task. Omitted, we cannot even be certain that the proportion of people on earth enjoying high living standards will increase over time, even if countries like China and Indonesia and India are growing strongly.

The good news is that the sub-Saharan African economic story is looking much stronger in the 21st century so far. Growth

is proceeding rapidly in the countries in sub-Saharan Africa – a majority of these countries – that are not experiencing extreme political disorder. Real purchasing power more than doubled in sub-Saharan Africa between 2000 and 2008 and increased almost by half in the six years after that. High terms of trade from the China resources boom helped, but strong growth has survived the shift to the new model of economic growth in China.

**Bringing global development to maturation**

I have outlined powerful forces favouring the maturation of global development in the 21st century, lined up against the three barriers to which I have drawn attention. Most importantly, the slower growth of population and labour force and the prospects of absolute decline later in this century, and the high and rising rate of global savings out of a growing world income hold out the prospect of persistently low costs of capital and high and rising incomes of ordinary people everywhere. These developments are favourable both for the rapid catching up of the developing and, should domestic conditions permit, underdeveloped countries, and for equitable distribution of the fruits of economic growth. They are reinforced by a tendency for technological change to be capital-augmenting in the early 21st century – the prices of capital goods are falling faster than those of consumer goods, so that a given amount of capital stretches further.

I will run through these favourable developments for the maturation of global economic growth, and then discuss the three barriers.

Natural increase in population has ceased in the third of humanity in the developed countries including China. It is rapidly decelerating towards zero in the more than half of humanity in the developing countries. It is decelerating but remains high in the rapidly increasing seventh of humanity in the underdeveloped countries. Through a long transition to stable or declining world population, longer life expectancy can keep population growth positive for generations after fertility has fallen below replacement levels. But in the end it is fertility that drives long-term global population and labour force growth.

Figure 4 tells the story of declining fertility. It is customary to think that fertility of about 2.1 represents replacement level. The true replacement rate falls with reduced female child mortality and rises with natal masculinity. Rising ratios of males to females at birth in China and South Asia in particular have been the dominant source of a decrease in the zero population growth level of fertility in recent years.



Fertility in the developed regions of the world is now below replacement. It is falling rapidly towards replacement and can be expected relatively soon to fall to and below that level in the developing countries. It has fallen from about 6.7 to 4.7 in Africa since 1970, but is still high enough there and in the rest of the bottom billion for the time being to hold fertility in the world as a whole well above replacement – about 2.6 at present.

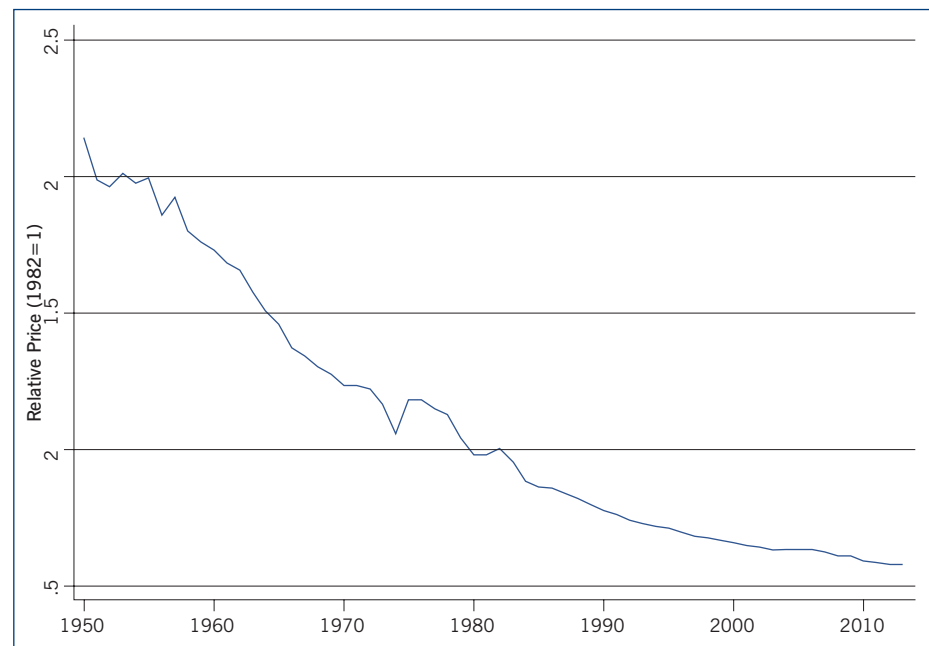
The experience of global development and demographic arithmetic tell us that continuation of early 21st-century economic success in Africa would see global fertility fall below replacement levels within a couple of decades. The global labour force would begin to fall not long after that, and global population reach its peak and begin to decline not long after the middle of the century.

Figure 5, from a recent paper by Barry Eichengreen (2015), shows the tendency for global savings rates to rise over decades. Low labour force growth and high rates of increase in the stock of capital through rising savings are favourable both for rapid growth in average incomes and for falling inequality. Figure 6, also from Eichengreen, reveals a powerful tendency for the relative costs of capital goods to decline over time. This means that recent economic growth has been capital-augmenting, with the potential to facilitate rapid global economic growth and increases in the labour share of rising income.

How do we reconcile the presence of powerful forces promoting low returns to capital and increasing scarcity of labour and higher labour incomes in the world as a whole, with the tendency towards stagnant or declining standards of living and greater inequality in the developed countries to which Piketty has drawn attention, and which we have observed is a threat to democratic government?

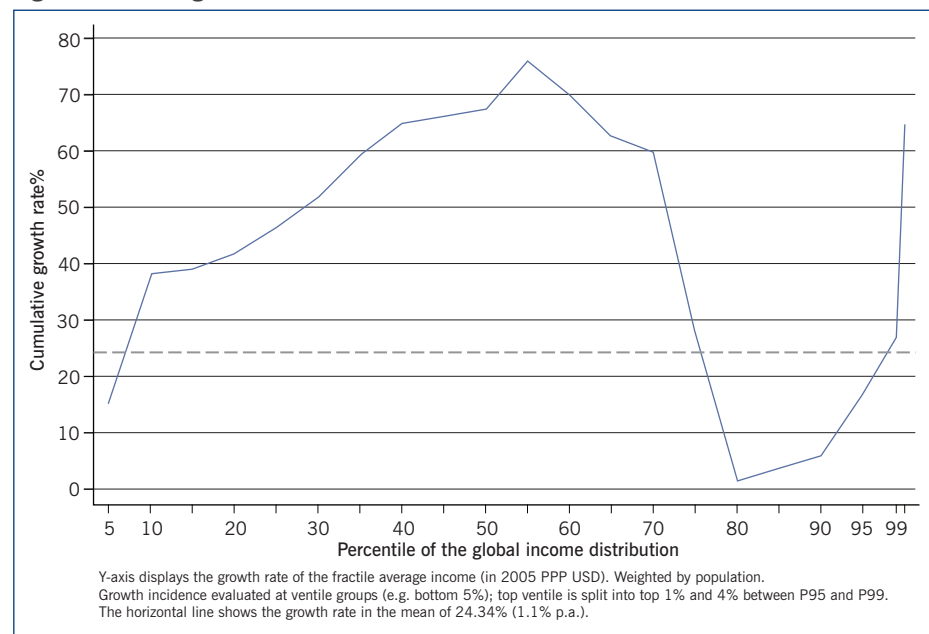
Reference has already been made to the once-and-for-all contribution made to increased inequality of wealth and income by falling interest rates in the early 21st century. Figure 7, prepared by two World Bank researchers (Lakner and Milanovic, 2013), helps us to understand the complex interaction of national and global developments. It focuses on the three decades up to the great crash

**Figure 6: Secular trend in global savings rate**



Source: Eichengreen, 2015

**Figure 7: Global growth incidence curve 1988 to 2008**



Source: Lakner and Milanovic, 2013

of 2008, so misses the deterioration in median incomes and widening dispersion of incomes in developed countries since then.

Over the three decades the dispersion of global incomes as measured by a global Gini coefficient narrowed slightly. There were huge variations in the increase in incomes for people at different places in the global distribution of income over the three decades. People near the middle of the distribution and right at the top did extremely well – the middle corresponding to workers in

China and the rapidly growing Asian developing countries, the top to the 1% in developed countries to which Piketty draws attention and their counterparts all over the world. People around the 80th and 90th percentiles – well off on a world scale, corresponding to workers in the developed countries – did poorly, as did members of the bottom billion in the low percentiles of the chart.

So, at the global level, the recent pattern of development has favourable features: developing countries are growing strongly and catching up rapidly with the

developed; many in the bottom billion are showing signs of having joined modern economic development; and global income distribution is not becoming more unequal. There is a problem in developed countries of domestic demand being too weak to maintain full employment and high economic activity, but the best solution – investment abroad in income-generating infrastructure with support from high net exports and a low real exchange rate – is closely complementary to what is required for growth to remain strong in developing countries. At the highest level of generality, humanity has

progress towards the maturation of global development without large reductions in carbon intensity would change global temperatures, and therefore have consequences for other things, to an extent that was inconsistent with the domestic and international political stability upon which economic growth depends (Stern, 2007; Garnaut, 2008, 2011; Christoff, 2013).

Radically reducing the carbon intensity of economic activity has a cost, which itself generates some headwind for global economic growth, especially in the early decades of the century. Early

strengthening commitment to reducing use of fossil fuels in the biggest users (Global Commission on the Economy and Climate, 2014; Garnaut, 2014; Chen et al., 2013). Fourth, international cooperation on climate change mitigation has been strengthened as major countries have groped towards a more practical approach built around ‘concerted unilateral mitigation’ rather than an unrealistic search for comprehensive, legally binding agreements.

We are a long way from being on a trajectory of emissions growth that is likely to be consistent with the continuation of modern economic growth in the 21st century. But we have travelled far enough along the path of reducing the emissions intensity of economic activity in recent years to be confident that the means are available to reconcile all of humanity having high standards of living with climate stability. The questions are about the capacity of domestic and international political systems to deploy policies that reconcile economic growth with the maintenance of the natural environment that sustains it.

On inclusive development across the whole of humanity, as with climate change mitigation, recent developments are hopeful on an issue that has the potential to block the maturation of global development. The classical economists thought that sustained increases in living standards of ordinary people were unlikely because they would generate an increase in population that swamped the increase in production (Malthus, 1798, 1840; Ricardo, 1817). That was more or less how population and living standards had interacted through human history until the mid-19th century. The experience of modern economic growth has taught us that higher and more secure incomes and the greater self-confidence and education of women which accompany them lead to large reductions in fertility. That is followed, with a lag, by slower labour force growth and, all other things being equal, by increases in labour incomes.

On the exclusion of the bottom billion and its effects on global population as a barrier to the maturation of global development in the 21st century, I once would have been as pessimistic as the

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reasonable prospects for the maturation of global development in the 21st century, with more equitable distribution of greatly increased global incomes.

### Three barriers to maturation of global development

Let us return to the three barriers to the maturation of global development.

First, anthropogenic climate change. Established patterns of consumption and investment place great pressure on the environment. The pressure that is most likely to truncate modern economic development through the 21st century is anthropogenic climate change. At the most optimistic end of the range of possibilities defined by the science, the raising of average consumption and investment levels per person to those of the developed countries without radically reducing the carbon emissions intensity of economic activity would create serious headwinds for global development through the second half of the 21st century. More likely, steady

assessments suggested that the costs of reducing carbon intensity to levels that substantially reduced climate risks were of manageable dimension, especially if these were achieved through general and economy-wide interventions rather than through regulatory action (Cline, 1992; Nordhaus, 1994, 2008; Stern, 2007; Garnaut, 2008, 2011).

Four developments point to substantially lower costs of mitigation of climate change than suggested by earlier assessments. First, a focus on energy efficiency has reduced quickly and considerably the amount of energy applied to each unit of economic activity. Electricity use has fallen significantly in recent years in all the established developed countries, and electricity intensity has fallen sharply in China. Second, the costs of new, low-carbon technologies are falling faster than anticipated, especially with large-scale production of capital goods in China and deployment in many countries. Third, study of health and other co-benefits of decarbonisation is

classical economists. The awful arithmetic is that the size of the global labour force and population can continue to rise if a seventh and growing proportion of humanity continues to have high fertility, even if the developed and developing countries together have population decline. The recent success of economic growth and the early stages of declining fertility in much of sub-Saharan Africa gives the developed countries the chance to reinforce success with intelligent support. China's immense increase in trade and investment in Africa is controversial. Overall, it seems to have been effective in reinforcing stronger economic performance (Johnston, forthcoming, 2015).

The special challenge for Australia and New Zealand is that some of the most intractable elements of the bottom billion are in our own neighbourhood, in Papua New Guinea, the Solomons, Vanuatu and Fiji. It may be that the barrier to the maturation of modern economic development is removed in the decades ahead, while leaving a deep problem for our immediate region. We have a special responsibility in this region and to date have not handled it well. For the maturation of global development to be as beneficial for Australia and New Zealand as it is for the world as a whole, we will have to put much greater effort into understanding what is necessary to overcome the high barriers to participation in modern economic development in our own backyard.

#### **Concluding note on political systems**

That leaves the central barrier to the maturation of global development: the restoration of effective economic policy in the public interest in the old developed countries, and its establishment in China as a developed country, which will be influential on the quality of government everywhere.

Some of the problems of developed countries since the great crash of 2008 have been exacerbated by failure of economic analysis. These are the most easily corrected. The recent G20 heads of government meeting in Australia focused on promotion of higher levels of public investment in income-generating infrastructure – at home, where there

is productive potential for it, and in successful developing countries. Effective investment abroad will improve the economic prospects of developed and developing countries alike. China has gone furthest in developing the institutions for large increases in international investment, but others may follow.

Modern economic growth and reconciling equity with growth both require effective government. Sustaining high productivity growth requires government to be strong enough to unwind anti-competitive arrangements that accumulate over time in any

of established standards of living for ordinary people.

Recent commentators on the role of vested interests in lowering the quality of economic policy in the public interest (Stiglitz, 2012; Krugman, 2003; Sachs, 2012; Garnaut, 2013) have related the general phenomena highlighted by Diamond specifically to economic policy. These are not new concerns, having been voiced by economists who recognised the transformative benefits of democratic capitalism. Schumpeter in his classic *Capitalism, Socialism and Democracy* noted that the means at the disposal of

## The problem of vested interests corrupting policy-making in the public interest is not confined to the democracies.

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economy; to provide a wide range of public goods and to tax external costs of private decisions in order to reconcile the functioning of a market economy with continued growth in the public interest; and to run fiscal and monetary policy consistently with economic stability. And effective government is required to run tax and expenditure policies that constrain inequality in income distribution within limits that are consistent with political support for growth-sustaining policy. This is a huge challenge for the developed countries, and I can do no more than underline its importance in my concluding remarks.

Larry Diamond has recently written about a 'democratic recession' since 2006 in the world as a whole, driven partly by 'the decline of democratic efficacy, energy, and self-confidence in the West' (Diamond, 2015). He notes as integral parts of the problem the ever-increasing costs of election campaigns, and the surging roles of non-transparent money in politics. Contemporary democracy in developed countries is for the time being failing in a struggle against the weight of vested interests to implement policies that are necessary for the maintenance

private interests in a democracy 'are often used to thwart the will of the people', and 'to interfere with the working of the mechanism of competitive leadership' (Schumpeter, 1942). In the early post-war period Condliffe cautioned that, 'It is always dangerous to entrust the final decisions of social policy to those who stand to gain from an immediate course of action' (Condliffe, 1951). What makes these concerns more immediate today is the more overt and less constrained interventions by vested interests in the developed countries' policy-making process, their evident success in influencing policy in the early 21st century, and the associated decline in aggregate economic performance and the skewed distribution of incomes and wealth.

For the developed countries, and clearly for my own country, the reform of democracy has to begin with tight and effective constraints on corporate, including trade union, funding of political campaigns and parties.

The problem of vested interests corrupting policy-making in the public interest is not confined to the democracies. The struggle of a new general secretary, Xi Jinping, to exclude corrupt influences on

policy has been a dominant political focus of the new party and state leadership that came to office in late 2012 and early 2013 in China. The current Chinese leadership's hopes are more easily exclaimed than implemented, and it would be surprising if they were straightforwardly successful. The contemporary association of developed countries with democracy will soon change if I am right about China joining the ranks of developed countries through the 2020s.

Most of the world's high-income people will then live in a country whose government professes to govern for the people, but avowedly not by the people.

Whether humanity sees the maturation of modern economic development through the 21st century depends above all on whether we can find effective systems of government for the people through the 21st century. Whether government by the people becomes dominant in the world,

or is confined to a few places in which it put down deep roots a long time ago, will be determined over much the same time. The prospects for both the maturation of global economic growth and government by the people will be strongly influenced by the strength of the independent centre of the democratic developed countries, to which Frank Holmes contributed so much in New Zealand.

## References

- Bertram, G. (2014) 'Has *Capital in the Twenty-first Century* changed anything?', in *The Piketty Phenomenon: New Zealand perspectives*, Wellington: Bridget Williams Books
- Bertram, G. (2015) 'A New Zealand perspective on Thomas Piketty's *Capital in the Twenty-first Century*', *Policy Quarterly*, 11 (1), pp.39-46
- Chen, Y.Y., A. Ebenstein, M. Greenstone and H.B. Li (2013) 'Evidence on the impact of sustained exposure to air pollution on life expectancy from China's Huai River policy', *Proceedings of National Academy of Sciences*, 110 (32), pp.12936-41
- Christoff, P. (ed.) (2013) *Four Degrees of Global Warming: Australia in a hot world*, Oxford and New York: Routledge EarthScan
- Cline, W.R. (1992) *The Economics of Global Warming*, Washington, DC: Institute for International Economics
- Collier, P. (2007) *The Bottom Billion: why the poorest countries are failing and what can be done about it*, New York: Oxford University Press
- Condliffe, J.B. (1951) *The Commerce of Nations*, London: George Allen and Unwin
- Diamond, L. (2015) 'Facing up to the democratic recession', *Journal of Democracy*, 26, (1), available at <http://www.journalofdemocracy.org/article/facing-democratic-recession>
- Eichengreen, B. (2015) *Secular Stagnation: the long view*, NBER working paper 20836, Cambridge, Mass: National Bureau of Economic Research
- Garnaut, R. (2008) *The Garnaut Climate Change Review*, Melbourne: Cambridge University Press; Chinese language edition, Beijing: China Social Sciences Academic Press
- Garnaut, R. (2011) *The Garnaut Review 2011: Australia in the global response to climate change*, Melbourne: Cambridge University Press
- Garnaut, R. (2013) *Dog Days: Australia after the Boom*, Melbourne: Black Inc
- Garnaut, R. (2014) 'China's role in global climate change mitigation', *China and World Economy Journal*, 22 (5), pp.2-18
- Global Commission on the Economy and Climate (2014) *The New Climate Economy Report*, available at <http://newclimateeconomy.report/>
- Gordon, R.J. (2012) *Is U.S. Economic Growth over? Faltering innovation confronts the six headwinds*, NBER working paper 18315, Cambridge, Mass: National Bureau of Economic Research
- Haldane, A.G. (2015) 'Growing fast and slow', paper presented at University of East Anglia, Norwich, 17 February, available at <http://www.bankofengland.co.uk/publications/Pages/speeches/2015/797.aspx>
- Holmes, F., A. Grimes and R. Bowden (2000) *An ANZAC Dollar: currency union and business development*, Wellington: Institute of Policy Studies, Victoria University of Wellington
- International Monetary Fund (2014) *World Economic Outlook October 2014: legacies, clouds, uncertainties*, Washington, DC, available at <http://www.imf.org/external/pubs/ft/weo/2014/02/>
- Johnston, L. (forthcoming, 2015) 'Why China's "new normal" is good news (for China) in Africa', in L. Song, R. Garnaut, C. Fang and L. Johnston (eds), *China's Domestic Transformation in a Global Context*, Canberra: ANU Press
- Keynes, J.M. (1919) *The Economic Consequences of the Peace*, New York: Harcourt, Brace and Howe
- Keynes, J.M. (1931) 'Economic possibilities for our grandchildren', in *Essays in Persuasion*, London: MacMillan
- Keynes, J.M. (1936) *The General Theory of Employment, Interest and Money*, London: Palgrave Macmillan
- Krugman, P. (2003) *The Great Unravelling: losing our way in the new century*, New York: W.W. Norton
- Lakner, C. and B. Milanovic (2013) *Global Income Distribution: from the fall of the Berlin Wall to the great recession*, World Bank policy research working paper 6719, available at <https://openknowledge.worldbank.org/handle/10986/16935>
- Malthus, T.R. (1798) *An Essay on Population*, London: J. Johnson
- Malthus, T.R. (1840) *Principles of Political Economy Considered with a View to their Practical Application*, 1920 edn, London: John Murray
- Nordhaus, W. (1994) *Managing the Global Commons: the economics of climate change*, Cambridge: MIT Press
- Nordhaus, W. (2008) *A Question of Balance: weighing the options on global warming policies*, New Haven and London: Yale University Press
- Piketty, T. (2014) *Capital in the Twenty-first Century*, Cambridge, Mass: Belknap Press
- Popper, K. (1945) *The Open Society and its Enemies*, London: Routledge
- Reeves, W.P. (1902) *State Experiments in Australia and New Zealand*, Cambridge: Cambridge University Press
- Ricardo, D. (1817) *Principles of Political Economy and Taxation*, 1962 edn, London: Dent (Everyman)
- Sachs, J. (2012) *The Price of Civilisation: virtue and prosperity after the economic fall*, London: Vintage Books
- Schumpeter, J. (1942) *Capitalism, Socialism and Democracy*, 5th edn, 1976, London: George Allen and Unwin
- Stern, N.H. (2007) *The Economics of Climate Change: The Stern Review*, Cambridge, Mass: Cambridge University Press
- Stiglitz, J.E. (2012) *The Price of Inequality: how today's divided society endangers our future*, New York: W.W. Norton and Company
- United Nations (2014) *The World Population Situation in 2014: a concise report*, New York: Department of Economic and Social Affairs Population Division, United Nations, available at <http://www.un.org/en/development/desa/population/publications/trends/concise-report2014.shtml>