

ECN230 SRP session 9. Trade and Global Income Equality

Income Convergence

Economists reckoned that incomes in poorer economies should naturally catch up to those in richer ones, based on experience in Europe in the 19th and early 20th centuries, when industrial laggards caught up to (and frequently overtook) Britain. Backward countries could borrow the latest know-how from leading ones, the thinking went, and their limited capital base promised hefty returns to investors. In the 1950s two economists, Robert Solow and Trevor Swan, separately developed models of economic growth in which higher returns to capital in poorer countries than in rich ones lead to more investment, generating faster growth and convergence. As scholars gathered more data on more countries, however, it became clear that the 20th century was not a period of convergence, but rather of “divergence, big time”, in the words of Lant Pritchett of Oxford University [1].

Then, just as economists had all but given up on the idea of convergence, poorer countries began outgrowing rich ones in an extraordinary way. Between 1985 and 1995 incomes per person in the emerging world fell behind those in rich countries at a rate of 0.5% per year, according to a study by Michael Kremer of the University of Chicago, Jack Willis of Columbia University and Yang You of the University of Hong Kong.¹ But from 2005 to 2015, incomes converged at a rate of 0.7% per year. Slower growth in the rich world aided the shift, but more important was a broad acceleration in poor-country growth. Crucially, the share of developing economies experiencing disastrous downturns shrank dramatically, according to work by Dev Patel of Harvard University, and Justin Sandefur and Arvind Subramanian of the Centre for Global Development. Average annual growth rates were negative in 42% of low-income countries in the 1980s, compared with only 16% in the 2000s and 2010s² [1].

Is global economic inequality getting better or worse?

Most people who have a view on the matter—regardless of whether they are critics of globalisation or advocates—accept that global inequality is getting worse. Most official agencies either say or seem to suppose that global inequality is rising. Xavier Sala-i-Martin of Columbia University³ quotes the typical and widely cited United Nations' *Human Development Report*. In 1999, this said:

In 1960, the 20% of the world's people in the richest countries had 30 times the income of the poorest 20%. In 1997, 74 times as much. This continues the trend of nearly two centuries. Some have predicted convergence, but the past decade has shown increasing concentration of income among people, corporations and countries [2].

Critics of capitalism are convinced that the gap between rich and poor is widening across the world. For them, the claim amounts almost to an article of faith: worsening inequality is a sure sign of the moral bankruptcy of “the system”. Whether rising inequality condemns capitalism in this way is a question worth addressing in its own right, but there are reasons to doubt it. However, it would also be interesting to know the answer to the narrow factual question: is it true that capitalism is making global inequality worse? [3]

Unfortunately, this apparently straightforward question turns out to be harder to answer than one might suppose. There are three broad areas of difficulty. The first is measuring what people, especially the poorest people in developing countries, consume [3].

The second is valuing consumption in a way that allows making useful comparisons across countries and over time. The third, in effect, is settling on an appropriate basis of comparison. Which matters more? Does it matter whether inequality is widening among nations, or whether inequality is widening among all the people of the world, regardless of which country they happen to live in? Judging any claim about global inequality is impossible without a clear understanding of how the researchers concerned have dealt with all three questions [3].

How did the UN know that global inequality had grown much worse? Its economists say (a) inequality has worsened within countries; and (b) inequality has worsened across countries. From these two things, the UN reckons, it follows, that (c) inequality among the people of the world is rising as well [2].

Mr Sala-i-Martin agrees with (a), that within-country inequality has increased, on average, in recent decades, but the picture is not clear-cut. Inequality increased in some countries and decreased in others. Rapid globalisation does not push all one way: globalisers such as South Korea and Indonesia have seen inequality fall [2].

What about (b), inequality across countries? On this, the UN neglects an important point. Measuring incomes in terms of purchasing power, rather than at market exchange rates, makes incomes more equal. (The reason is that the cost of living is lower in poor countries.) When the UN says that the incomes of the richest 20% were 30 times bigger than the incomes of the poorest 20% in 1960 and 74 times bigger in 1997, it is using market exchange rates. In purchasing-power terms, the corresponding ratios were 11 and 15. Despite the fall after 1980 (when the ratio was 16), there was an upward trend for the period as a whole [2].

Yet another measure (the cross-country variance of income per head) confirms this. Over the past 30 years, rich countries have grown richer and most of the very poorest have stayed very poor. This is the pattern that Harvard's Lant Pritchett referred to in his study entitled, “Divergence, Big Time”⁴ [3].

A thought-experiment reveals how easy it is to get muddled. Mr Sala-i-Martin explains. Suppose propositions (a) and (b) hold true—that inequality measured across countries is widening (i.e., the gap grows between average incomes in the richest countries and average incomes in the poorest countries, measured without regard to changes in population), and that inequality is worsening within every individual country—it does not follow, that global inequality itself is rising [2][3]. Why not?

Suppose a third assumption: that poor countries account for a big share of all the poor people in the world. Imagine that five-sixths of the world's population live in poor and stagnant economies, and one-sixth in rich fast-growing ones. In across-country terms, this means “divergence, big time”. Now, instead, imagine that a sub-group of poor but very populous economies starts to grow very quickly. At

¹ Kremer, M., J. Willis and Y. You, “Converging to Convergence”, NBER, No. 14560, Mar 2021.

<https://www.nber.org/system/files/chapters/c14560/c14560.pdf>

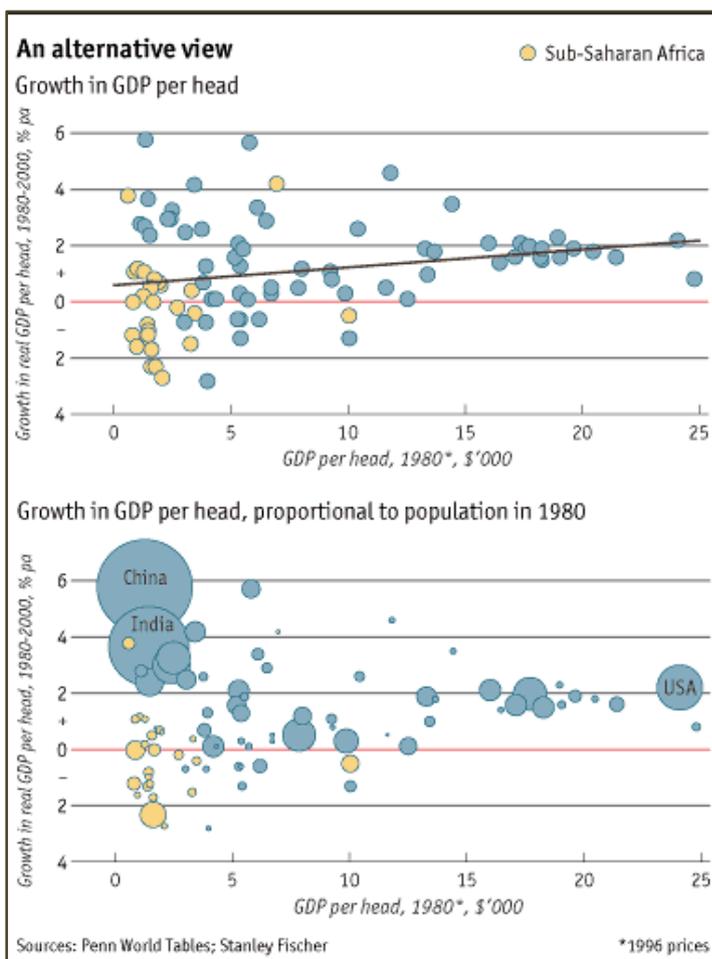
² Patel, D., J. Sandefur and A. Subramanian, “The New Era of Unconditional Convergence”, Center for Global Development, Working paper 566, Feb 2021 <https://www.cgdev.org/publication/unconditional-convergence>

³ Sala-i-Martin's, “The Disturbing 'Rise' of Global Income Inequality”, NBER Working Paper No 8904, Apr 2002.

⁴ Lant Pritchett, “Divergence, Big Time”, *Journal of Economic Perspectives*, summer 1997, Vol 11, No 3, p. 3-17.

the same time, inequality within these poor countries worsen somewhat. Despite their size, each country in that sub-group is only one data-point in the across-country comparisons: the rapid growth in that sub-group is not enough to make any difference to divergence. There is rising within-country inequality and rising across-country inequality. However, by assumption, if the sub-group has a large share of the world's population and sees its incomes rise rapidly toward those of the rich, then inequality measured across all the people of the world could very well be falling [2][3].

A far-fetched case? No, Mr Sala-i-Martin points out, this is exactly what has been happening. The big, poor sub-group of countries growing very fast are China and India. Their average incomes were growing much faster than average incomes in the rich, industrial economies. It could be true that inequality widened within every country, including within China and India; and that the gap between the very poorest countries (of sub-Saharan Africa) and the richest (Europe and the US) widened. However, at the same time, it could be that inequality measured across all the individuals in the world was falling fast, because average incomes in the two most populous poor countries grew rapidly. If one simply weighs the across-country measures of divergence by population, one does not see a rising trend of inequality, but the opposite: as the author puts it, not "divergence, big time" but "convergence, period" (see charts, growth in GDP) [2][3].



It so happens that average incomes in India and China are going up extremely rapidly. Without knowing anything else, one should therefore be sceptical about all the claims that are so confidently made about rising "global inequality" [3].

In both charts, the horizontal axis shows the average level of GDP per head in 1980, and the vertical axis shows the rate of growth in inflation-adjusted GDP per head between 1980 and 2000. For the moment, concentrate on the top chart, which shows each country as a single point. If it were true, on average, that incomes in poor countries grew faster between 1980 and 2000 than incomes in rich countries, then the points in the top chart would tend to lie on a downward-sloping line. In that case, one would say that the poor countries were on average catching up—and that global inequality measured across countries was trending downwards. In fact, as the top chart shows, poor countries are not on average catching up. A line of best fit drawn through the points actually slopes upwards, implying the richer the country, the richer it gets, and that cross-country inequality is getting worse [3].

Now look at the bottom chart. This plots the same countries as circles with areas drawn in proportion to their population. India and China stand out, both by virtue of their vast populations, and because their growth record in the 1980s and 1990s was so much better than the poor-country average. A population-weighted line of best fit drawn through this chart would slope downwards, implying both catch-up and narrowing inequality [3].

In short, taking into account that China and India performed so well since 1980 (and especially after 1990), and the fact that these two countries accounted for such a big share of all the world's poor, it is difficult to use the global trends in poverty and inequality during 1980-2000 as a criticism of global capitalism. Unfortunately, however, these diagrams say nothing about poverty as such: they contain no information about how many of China's people, or the US's or any other country's, were poor. Nor do they say anything about whether growth in any particular country was good for the poor people living there (of course, growth raises incomes on average by definition). To look more carefully at these questions one must peer through a cloud of statistical and econometric chaff [3].

Much of the acrimonious debate among economists about global poverty and inequality turns out to revolve around a single technical issue: is it better to measure consumption (and hence living standards) using data drawn from national accounts or data drawn from household surveys? The two sources ought to marry up. In fact they differ systematically, and by a wide margin. Worse, growth in consumption, not merely levels of consumption, differs persistently according to which source is used. National-accounts data tend nearly always to give a much more optimistic view of trends in poverty than do household-survey data [3].

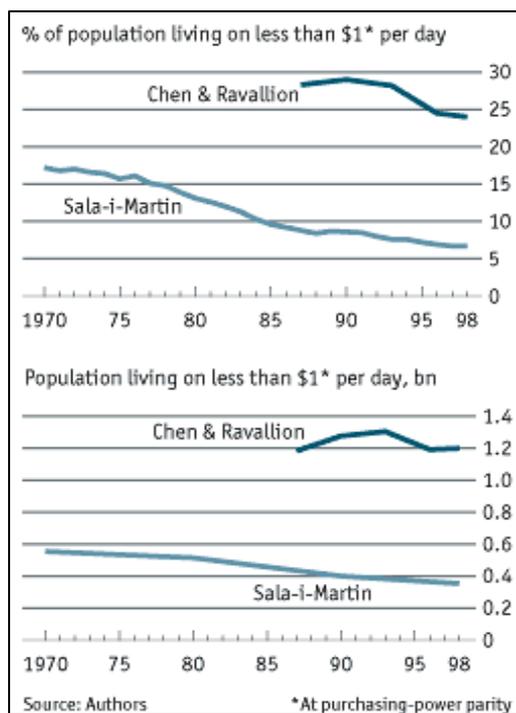
Accordingly, in a review of the literature by Angus Deaton of Princeton University⁵ contrasted two sets of studies. (Mr Deaton is perhaps the only economist at work in this area who is acknowledged by all sides both as authoritative and as having no ideological axe to grind.) The

first draws mainly on national-accounts data, the second on household surveys. Their results are at odds [3].

⁵ Deaton, A. "Measuring Poverty in a Growing World (or Measuring Growth in a Poor World)", revised Feb 2004.

Work by Surjit Bhalla⁶, by Xavier Sala-i-Martin⁷, and by Francis Bourguignon and Christian Morrisson⁸ shows rapid—indeed historically unprecedented—falls in poverty during the 1980s and 1990s, the new golden age of global capitalism. According to these papers, the proportion of the world's people living on less than a dollar a day (inflation adjusted) has fallen so quickly that the decline has been enough to offset rising population in the developing countries. In other words, the number of people in poverty has been falling not only as a share of the world's population but also, remarkably, in absolute terms [3].

Mr Sala-i-Martin sets about combining information on both country variance weighted by population and unweighted, to see how income is distributed across the world's people. He finds that rising global inequality is “nowhere to be seen”. This is true on seven different measures: “the Gini coefficient, the variance of log income, two Atkinson's indexes, and three generalised entropy indexes” [2]. His calculations, for instance, show that the proportion of the world's people living in acute poverty (on less than a dollar a day) fell from 17% in 1970 to 7% in 1998; the proportion living on less than \$2 a day fell from 41% to 19%. The absolute headcount of global \$1-a-day poverty fell, according to the same estimates, by 200m (see chart, % of population); and the count of \$2-a-day poverty fell by 350m. Mr Bhalla, who finds the sharpest drop in poverty of these authors, wryly states that in 2000 when the United Nations (UN) announced its Millennium Development Goal on poverty—to bring the number of people living on less than a dollar a day in 2015 down to half the level in 1990—the goal had already been achieved [3].



This is not at all the picture that emerges from the second, and far more widely cited, set of estimates. Calculations by the World Bank, using direct surveys of households, carry the official imprimatur of the UN, which uses them in monitoring progress towards its Millennium Development Goal on poverty. They seem to show relatively little reduction in poverty over recent decades [3].

Chen and Ravallion⁹ of the World Bank lays out the thinking behind the Bank's estimates. The authors put the

proportion of people living on less than a dollar a day at 28% in 1987—far higher than the corresponding figure according to Mr Sala-i-Martin's work. By 1998, the proportion in poverty had in fact fallen (something which you might not guess if you listened only to those who deplore the wickedness of global capitalism), but only to 24%. Compare that with Mr Sala-i-Martin's estimate of just 7% [3].

That discrepancy draws attention to the danger of focusing too much on the dollar-a-day threshold. That is a crowded part of the global income distribution. For this reason alone, switching from one data source to another, or moving the official poverty line from one level to another, is apt to have a large effect on the figures. This underlines the importance of not regarding any of these numbers as definitive [3].

Still, the question remains, why are the differences so big? Several factors are at work. The World Bank attempts to measure “consumption poverty”, as opposed to “income poverty”. To the extent that poor people manage to save, their consumption will be less than their income, and so there will be more poor people on the Bank's definition. The Bank expresses its poverty ratios as proportions of population in the developing countries; Mr Sala-i-Martin, for instance, uses global population. The effect is to make Mr Sala-i-Martin's estimates, other things equal, smaller than the Bank's. Country samples also vary from study to study. Then, there is the effect of basing estimates on national accounts rather than on household surveys [3].

It is revealing to consider why, according to the Chen-Ravallion study, poverty fell relatively slowly on their household-survey measure. It was not because of an increase in within-country inequality—in other words, brisk growth in average consumption was not being hogged by the better off. It was because growth in average consumption was slower than what growth in national incomes, as measured in the national accounts, would lead one to expect. Growth in consumption per head across the countries in the Chen-Ravallion sample was less than 1% a year between 1987 and 1998, according to the household surveys. Growth in consumption per head according to the national accounts was more than 3% a year [3].

Mr Deaton notes that a plethora of new data has so far failed to resolve this issue “because the new sources are mutually contradictory”. Summing up, he states: “If the surveys are wrong, and the national accounts right, either inequality has been widening in ways that our data do not appear to show, or poverty has been falling more rapidly than shown by the dollar-a-day counts. If the surveys are right, there has been less growth in the world in the 1990s than we are used to thinking” [3].

It would be a mistake to presume that either source of data is better in principle. Surveys are famously prone to error because of bad or fluctuating design, discrepancies in samples and poor execution. National accounts have drawbacks as well, especially in poor countries. For instance, they fail to capture some sorts of non-market income and consumption. This makes them prone to understate the consumption of the poor, but also to overstate the growth of consumption of the poor as incomes rise and as more activities fall within the scope of market transactions [3].

⁶ Bhalla, S. “Imagine There is No Country: Poverty, Inequality and Growth in the Era of Globalisation”, Institute for International Economics, Sep 2002.

⁷ Sala-i-Martin, X. “The World Distribution of Income”, NBER Working Paper, 8933, May 2002.

⁸ Bourguignon, F. and C. Morrisson. “Inequality among World Citizens: 1820-1992”, *American Economic Review*, 92(4).

⁹ Chen, S. and M. Ravallion. “How Well Did the World's Poorest Fare in the 1990s?”, *Review of Income and Wealth*, 47(3).

Still, most of the discrepancy between the survey estimates and the national-accounts estimates—with the surveys persistently pessimistic on trends in poverty—is probably due to the fact that as people get better off, they are less likely to respond (accurately, or at all) to surveys. As a result, as countries get richer, the ratio of “survey consumption” to “national-accounts consumption” is usually found to fall. Consistent with this, the ratio of the two measures is highest in the poorest countries.

Mr Deaton argues that both sources ought to be used, though combining them properly raises a host of difficult technical issues. Meanwhile, the truth about global poverty and inequality presumably lies somewhere between the extremes suggested by the two methodologies [3].

One can at least conclude that the official World Bank data, used by the UN and other agencies, are too pessimistic: poverty has most likely fallen faster than these widely cited figures suggest, and possibly fast enough to reduce the global headcount of those living on less than a dollar a day, even as population rises. More accurate answers will require more work to be done. In the meantime, however, the official position on global poverty ought to start, at a minimum, to acknowledge the uncertainty surrounding the figures and, further, to concede that the truth is likely to be better than the official figures say [3].

So, what of the fear that global capitalism is making progress at the expense of the poor? The true figures would probably be quite reassuring on this—but even if the more pessimistic official figures were correct, it would be worth questioning the conclusions that the anti-globalists draw from them. If poverty was proving as tenacious in the face of growth as the Bank's estimates say, would it make sense to blame global capitalism for that? [3]

Hardly. On any estimate, poverty is at its most impervious in sub-Saharan Africa. Look again at the two stacked charts. The countries of sub-Saharan Africa are represented by the yellow circles. These are not just the poorest countries in the world, but also the slowest-growing. Can it be plausibly claimed that these countries are the victims of globalisation? That would be an odd conclusion, given that sub-Saharan Africa's economies are so comparatively isolated from the rest of the world economy—by force of history, circumstance and, to a large extent, the policies of their own and other governments. Sub-Saharan Africa plainly suffers not from globalisation, but from lack of it. The focus of attention should be on how to extend the benefits of international economic linkages to the region. Removing every rich-country barrier to trade with these countries would be an excellent place to start [3].

By contrast, India and China are showing how great the benefits of international economic integration can be. Neither country is an exemplar of free-market capitalism—far from it. However, it is undeniable that both countries have consciously chosen to seize the opportunities afforded by the global economy, through both trade and foreign investment. As incomes surge, while the living standards of the poorest improve more modestly, if at all, inequality within both countries may well be rising. The gaps between urban and rural incomes, especially, have widened lately [3].

This may prove a temporary phenomenon. But suppose otherwise; suppose the problem persists. Would any such worsening of inequality entitle one to conclude that India and China had taken a wrong turn during those 20 years? Of course not. Look at Africa to understand that there are worse things than inequality [3].

only bad news is that, after the respite provided recently by surging globalisation, inequality may well resume its long-term historical trend and start rising again in due course.

The reason is that China and India will no longer be poor—and if the world's poorest countries, mainly in Africa, continue to stagnate, the global dispersion of incomes will widen. Whether the main problem here is African poverty or global inequality (caused by China and India leaving poverty behind) is one for the UN's economists to think about [2]. ♦

Was the catch-up growth in developing economies during the 1990s and 2000s an aberration?

Since the turn of the century, the currents taking people from poverty to wealth flowed at an unprecedented rate. Adjusted for living costs, output per person in the emerging world almost doubled between 2000 and 2009; the average annual rate of growth over that decade was 7.6%, 4.5 percentage points higher than the rate seen in rich countries (see chart, GDP per person). The share of the developing world's population living on less than \$1.25 a day (the international definition of poverty) fell from 30% in 2000 to below 10%, according to an estimate by the Centre for Global Development, based on World Bank data [4].



According to the IMF, 2013 marked the first year in which emerging markets accounted for more than half of world's GDP on a purchasing-power basis (see chart, emerging-market share of GDP). In 1990, their share was less than third of a much smaller total [5]. Since the 1990s, 73% of developing countries managed to outpace the US's growth, and doing so on average by 3.3% a year. Some of this was due to slower growth in the US; most was not [5]. The most impressive growth was in four of the biggest emerging economies: Brazil, Russia, India and China. They grew in different ways and for different reasons, but their size and growth rates marked them out as special – on purchasing-power terms they were the only \$1 trillion economies outside the OECD (and were among the ten largest national economies in 2013) [5].



The 4.5-percentage-point growth advantage over the rich world, other things equal, implies that the average income per person would converge with that in the US in just over 30 years: scarcely a generation. Such a rate in convergence would represent an historic change rivalled in its scope only by the extraordinary industrialisation that opened the

global rich-poor income gap in the first place, and a completely unprecedented pace narrowing the gap between the developed and developing worlds [4].

Those hopes are now slipping away. An analysis of data on GDP per person, taking into account living costs, released in April 2014 by the World Bank's International Comparison Programme (ICP) showed that convergence slowed down a lot. Since 2008, growth rates across the emerging world have slipped back toward those in advanced economies. In 2013, the average was just 2.6 percentage points faster than US GDP. If China were excluded from the calculations, the difference would have been just 1.1 percentage points. The 2014 IMF growth projections darken the outlook further. The difference between the growth in emerging markets other than China and growth in the developed world is just 0.39 percentage points in 2014. That growth rate would put off full convergence for more than 300 years [4].

Riding the whirlwind

The BRIC era arrived at the end of a century in which global living standards had diverged remarkably. Towards the end of the 19th century the US economy overtook China's to become the largest on the planet. By 1992 China and India—home to 38% of the world's population—were producing just 7% of the world's output, while six rich countries which accounted for just 12% of the world's population produced half of it. In 1890, an average American was about six times better off than the average Chinese or Indian. By the early 1990s, that increased to 25 times better [5].

Then, the world shifted beneath economists' feet as growth in the developing world shot up from the end of the 1990s. Two broad factors drove that change. Years of trade liberalisation and market reforms culminated in the establishment of the World Trade Organisation in 1995, with China acceding to it in 2001. At the same time, technological improvements made possible longer and more complex supply chains. By the 1990s container shipping had made transporting goods around the world easier and cheaper than ever before, and the new ports needed to add trade capacity could be built quickly and easily. Better communications, and the development of computer-based design technologies that allowed precise details of components to be easily sent from place to place, and to be changed on the fly, mean that the range of things to be shipped increased. Cheaper and easier international trade allowed supply chains that had been segregated within countries and regions to expand across the globe [4].

This allowed for a much faster pace of catch-up. Japan and South Korea needed to build industrial and technological capabilities from the ground up; more recent sprinters needed little more than a supply of cheap labour and the regulations and infrastructure required to move products quickly in and out of factory towns [4].

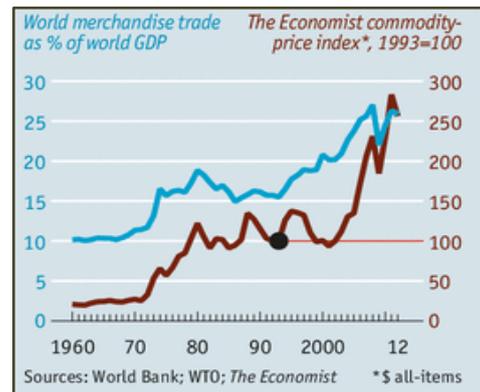
However, superimposed on these effects were useful tailwinds that included:

- * A benign macroeconomic environment – interest rates were low in the 2000s and capital flowed freely;
- * Rapid growth in commodity prices – many emerging economies rely heavily on natural resource exports; and
- * Global trade, the biggest push factor – which was not unrelated to the commodity-price boom [4].

The remarkable growth of emerging markets, in general and the BRICs in particular, transformed the global economy. A great deal of this was due to the rise of China as a manufacturing superpower, but that was far from being the whole story [4]. The growing and vastly more accessible pool of cheap labour in emerging economies

was a huge step forward in global trade. Merchandise exports soared from 16% of global GDP in the mid-1990s to 27% in 2008. The Chinese share of global exports topped 11%, with trade accounting for more than half of the country's GDP [5].

The growth in trade was matched by a growth in demand for commodities as China and the nations supplying it soaked up energy and raw materials such as iron ore, copper and lead (see chart, merchandise trade and CPI). Prices surged, generating a bonanza for the emerging world's commodity producers and contributing to a broad-based boom, benefiting both fellow-BRICs Russia and Brazil and of smaller economies, including many in Africa [5].



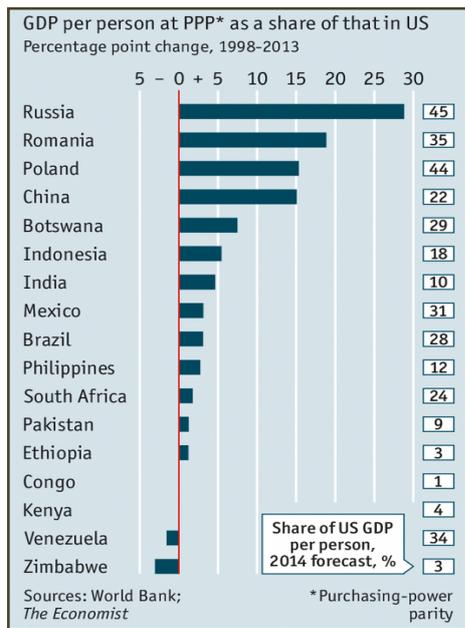
In 2006, before the effects of the financial crisis slowed rich-country growth, emerging economies achieved catch-up rates of more than five percentage points even excluding China. The catch-up was far more broad-based than it had been in previous growth spurts (see chart, catching up) [4]. From 1993 to 2007 China averaged growth of 10.5% a year. India, with less reliance on trade, managed an average of 6.5%, more than twice the US average growth rate. The two countries' combined share of global output more than doubled to nearly 16%. Global financial imbalances ballooned. Advanced economies ran a current-account deficit that peaked at nearly 1.2% of rich-world GDP in 2006, while that year emerging economies' combined current-account surplus peaked at 4.9% of GDP [5].



The benefits were unevenly spread during 1998-2013 (see chart, GDP country comparisons). Eastern Europe and the East Asian economies closed the gap at a remarkable clip, though for many eastern European countries a significant part of that growth simply reversed the contraction that followed the fall of the Soviet Union. In 1998, GDP per person in Poland was just 28% of that in the US, while China's was just 7%. By 2013, those rates rose to 44% and 22%, respectively. Other countries made less progress. Brazil's GDP per head was already 25% of the US in 1998, but scraped forward just three percentage points [4].

In 1997, just before the great catch-up took effect, Lant Pritchett at the World Bank, described a widening income gap between rich and poor countries as "the dominant

feature of modern economic history”. Its dominance was rendered made worse because orthodox economics cannot explain it. Theories of economic growth, such as Nobel-winner Robert Solow’s in 1956, predicted that over time poor economies should catch up with rich ones [4].



In the Solow model, economies were poor because their workers had access to less capital. This capital shortfall implied that the return on investment should be high, so capital should flow from rich countries to poor ones, leading the two worlds to converge on similar levels of productivity and income. That richer countries themselves continue to grow complicated matters, but not too terribly. Their long-run growth, Mr Solow reckoned, was driven by new technology which, once developed, could be adopted by poorer economies too. Indeed, the poor could potentially learn from the missteps made by the rich, and leapfrog directly to more productive ways of doing things [4].

The model seemed to fit the histories of then-rich countries. The UK’s industrial revolution led GDP per person to soar above that in other countries in the 19th century. By 1870 Britons were 30% and 70% more productive than in the US and Germany, respectively. The advantage disappeared as rivals improved upon the UK’s successes. By the early 20th century, the US had surpassed the UK; not long after the Second World War, most of Western Europe caught up [4].

What was true for Europe and its colonies did not apply elsewhere. Prior to the late 1990s poor countries growing faster than rich ones were rare, and doing it persistently was rarer still. From the mid-1940s to the mid-1990s, less than a third of developing economies grew faster than in rich ones, at any one time. In any given economy, a decade’s gain was reversed in the next. Promising bursts of growth in Africa and the Middle East in the 1960s and 1970s stalled. Crises repeatedly punctured bubbles of enthusiasm in Latin America. This dismal performance left economists feeling dismal. In 1987, another Nobelist, Robert Lucas, noted: “The consequences for human welfare involved in questions like [getting poor countries to grow faster than rich ones] are simply staggering: Once one starts to think about them, it is hard to think about anything else.” [4]

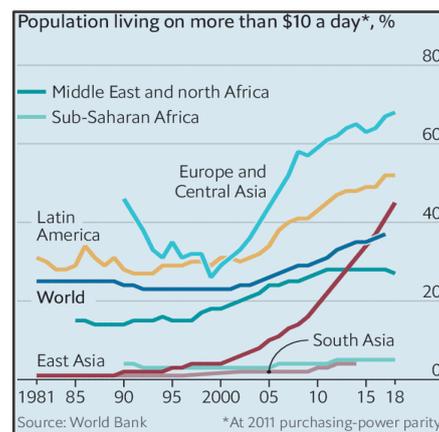
Some Asian economies were exceptional cases. Japan, industrialised in the first part of the 20th century, grew to be the world’s second largest economy. South Korea,

Taiwan and a smattering of city-states like Hong Kong and Singapore also got rich [4].

Economists tweaked their models, deploying new notions such as that of human capital to try and explain the persistent divide. Perhaps, it was only economies with comparable levels of investment and worker skills that converged to similar incomes, a phenomenon dubbed “conditional convergence”. Others in the profession explored different possibilities. Some reckoned institutions were the key. In the tropics, European colonial powers tended to impose institutions distorted by the overriding interest in extracting natural resources to which the interests and rights of the general population were secondary. Since these institutions were persistent, the legacy of past misgovernment continued to hold down incomes. Still other economists focused on geography and climate. Remoteness from economic centres and hot, disease-prone conditions could retard development [4].

Since the peak of the convergence era in 2008 the tailwinds have flagged—a becalming that can be seen in the number of developing countries catching up with rich ones, which has fallen (see again chart, emerging markets catching up). Chinese growth dropped from a peak of above 14% in 2007 (India managed 10.1% growth, Russia 8.5%, and Brazil 6.1%) to just 7% (India by 5.6%, and Russia and Brazil by 2.5%), and this has had a knock-on effect on commodity prices. Trade, which tumbled in the GFC, briefly roared back in 2010 but has barely kept pace with output growth more recently [3][4].

Before the pandemic hit, both the rich and middle classes were growing in numbers. According to the World Bank, the share of the world’s population living on more than \$10 per day (at 2011 purchasing-power parity)—enough money to buy things other than food and shelter—swelled from less than a quarter two decades ago to almost two-fifths in 2017. The bulk of the growth has been in East Asia, but the figure increased in every region (see chart, living on more than \$10 a day). The Brookings Institution, a think-tank, estimated in 2018 that the number of rich people (those living on more than \$110 a day) will grow by 50%, or 100m people, by 2030. The global middle class (which it also defines as those on more than \$10 a day) will increase to almost two-thirds of the world’s population.



Economist, “Global hipsters: Flat-white world”, 7 Nov 2020, p. 51-2.

Unsurprisingly, this means that the BRIC economies are contributing less to global growth. In 2008 they accounted for two-thirds of world GDP growth. In 2011 they accounted for half of it, in 2012 a bit less than that. Other emerging markets will pick up some of the slack. Yet those markets are not expected to add enough to prevent a general easing of the pace of world growth [5].

After the rapid growth from the early 1990s, the most populous emerging economies had taken advantage of most of the easiest steps on the ladder to prosperity. As an illustration: in 1997, none of the fastest 100 supercomputers in the world was to be found in a BRIC. In 2013 six computers in China grace that list, as did six from other BRICs, and one of them tops it: Tianhe-2. It crunched numbers faster than any other device in the world. That is an extraordinary achievement, and the potential for growth as such technology spreads wider is clear. However, it is also an indication that the country's growth would not be as quick as it used to be. **Bleeding-edge innovation is harder than catching up** [5].

Other countries have impressive growth potential. Goldman Sachs touted a list of the "Next 11" which included Bangladesh, Indonesia, Mexico, Nigeria and Turkey, but there were various reasons to think that this N11 could have an impact on the same scale as that of the BRICs [5].

The first is that these economies are smaller. The N11 has a population of just over 1.3 billion. That is less than half that of the BRICs. The N11 is barely more populous than India, which is the BRIC with the greatest possibility for growth still ahead of it, if only it could reform itself enough to put more of those people to work [5].

The second is that the N11 were already richer than the BRICs were back in the day. Economists reckon that the bigger the gap between a country's output per person and that of the technological leader, the faster the economy is capable of growing. Weighted by population, the average per person output of the N11 was already 14% of that in the US. When the BRIC economies began their economic surge their population-weighted output per person was just 7% of the US's. It is a measure of the continued potential for growth in India, where population has risen fast, that its figure in 2013 was still just 8% [5].

It is not just the N11. The world as a whole has less catch-up potential than it used to. Its most populous countries are no longer all that poor and its poor countries are no longer all that populous. Two decades of BRIC-led growth mean that there are far fewer people earning very little. In 1993 about half the world lived at below 5% of US GDP per person, according to an analysis of IMF figures by *The Economist* (see chart, cumulative share). In 2012, the equivalent figure was 18% of US GDP per person [5].



The third reason that the performance of the BRICs cannot be repeated is the very success of that performance. The world economy is much larger than it used to be: twice as big in real terms as in 1992, according to the IMF. That means that emerging markets—whether the BRICs or the N11 or both—must deliver larger absolute increases in output to generate a marginal economic boost matching that seen in the 1990s and 2000s [5].

The same maths apply to labour markets. New additions to the workforce will henceforward have a harder time disrupting the global economy. The billion jobs that the McKinsey Global Institute sees as having been added to non-farm employment from 1980 to 2010 boosted it by 115%. If the world were to put on another billion jobs from 2010 to 2040 that would represent just a 51% increase in world employment: impressive but less dramatic [5].

There are also fears that rapid catch-up might have meant shallow catch-up of a sort that could never be sustained. The factors that made industrial capacity easy to build did not encourage the development of the physical infrastructure and the capacity for things like design and marketing which, when they grow up alongside manufacturing, help to anchor it in the broader economy. China and some other emerging markets used the heady catch-up years to develop underlying technological and managerial capabilities and invest in infrastructure. Others made less progress [4].

Growth driven entirely by manufacturing brings particular worries. Dani Rodrik, Institute for Advanced Study in Princeton, notes that over time the share of employment in industry at any given stage of a country's development has declined; middle-income economies today employ fewer people in manufacturing than did middle-income economies in the 1960s or 1980s. The income level at which an economy typically enjoys the peak share of employment in industry has fallen by almost half [4].

While the manufacturing sectors of developing economies can quite often come to match the labour productivity of rich-world economies, the distance towards rich-world levels of wealth that an economy can travel simply by developing its manufacturing has been falling. With manufacturing as a proportion of the total economy peaking earlier and at a lower level, emerging economies can now find their catch-up more likely to stall at disappointingly low levels of income.

To get the rate of convergence up to what it was a decade ago is a challenge. That period was exceptional and cannot be replicated easily, if at all. Simply keeping up with the rich world will prove a challenge for many. Gaining ground will require reforms that look less achievable. The great expectations raised over the last half-generation look increasingly likely to be dashed. Many of the economies that benefited least from the most recent convergence wave are economic "hard cases", where infrastructure is least developed, government is most corrupt, and basic security is a constant concern [4].

There is a risk, though, that matters may move in the opposite direction. The rich world is more cautious about globalisation than it was a decade or two ago, and more interested in maintaining its export competitiveness. A century ago, the world's last great era of trade integration ended with a war and ushered in a generation of economic nationalism and international conflict. The recent proliferation of regional trade agreements could signal a move towards fractionalisation of the global economy. And slowed growth in the now-large BRICs could lead to the sort of internal tensions that countries can displace by picking external fights. Whether or not the world can build on a remarkable era of growth will depend in large part on whether the new giants tread a path towards greater global co-operation—or stumble, fall and, in the worst case, fight [5].

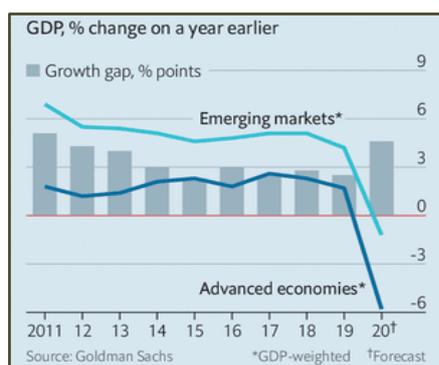
The world economy's reaction to the rise of the BRICs also makes it less prone to further shocks of a similar sort. Markets responded to soaring commodity demand and prices. Firms and households are saving on inputs; businesses and governments have rushed to develop new

resources, as seen in the shale oil-and-gas bonanza now unfolding in North America [5].

Internationally, lower growth could focus leaders on increased co-operation and a new push for liberalisation. The BRIC era took place in the absence of major new trade liberalisation (though China's entry into the World Trade Organisation was an important landmark); with trade growing so healthily anyway, the rewards were harder to appreciate. A slowdown could bring new focus to global trade talks. A deal that addressed non-tariff trade barriers, especially trade in services, could yield big benefits [5].

In 2020, a World Bank study showed that emerging economies were again catching up, shedding light on some of the mysteries of economic growth. But 2020 was a bit different in that few emerging markets grew at all. But because advanced economies retreated even faster, the gap between them narrowed [6].

The last time there was such a decisive growth gap between advanced and emerging economies was in 2013 (see chart, GDP, % change). That was year of the "taper tantrum", an emerging-market sell-off prompted by fears that the US would slow its pace of monetary easing. It marked the end of a decade of heady emerging-market optimism best symbolised by the enthusiasm for the "BRICs", an acronym coined by Goldman Sachs, which helped sell many investors on four of the most populous emerging markets: Brazil, Russia, India and China [6].



The idea that "backward" economies could grow faster than mature ones was first spelled out by economic historians like Alexander Gerschenkron in the 1950s and Moses Abramovitz in the 1970s. It rests on the assumption that imitation is easier than innovation and returns to investment are high where capital is scarce. The evidence for faster growth was weak between the 1970s and the early 1990s, but has become stronger since, as Dev Patel of Harvard University, Justin Sandefur of the Centre for Global Development and Arvind Subramanian of Ashoka University have pointed out most forcefully [6].

In making their projections for the BRICs, Goldman drew on a cautious version of the thesis, called "conditional" convergence. Simply put, this says that poor countries will grow faster than rich ones, other things equal. Those other things, for Goldman, included a country's level of education, its openness to trade, its internet penetration and ten other characteristics. According to Steven Durlauf of the University of Chicago, Paul Johnson of Vassar College and Jonathan Temple, a freelance economist, researchers identified 145 plausible factors that must be accounted for. The list includes everything from inflation and foreign direct investment to religion, frosty weather and newspaper readership [6].

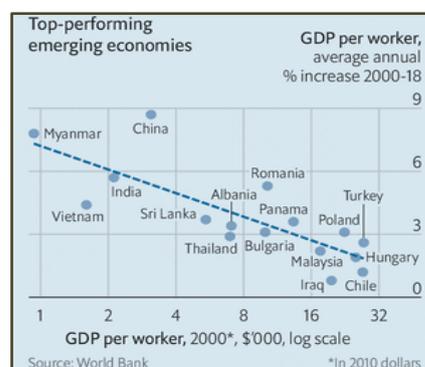
Goldman assumed that emerging economies would catch up with a productivity frontier exemplified by the US. But many economies seem to converge not towards a global leader but with their neighbours or peers. Indeed, some of

the best examples of convergence come from within countries or economic blocs. Poor Japanese prefectures have tended to catch up with richer ones, as have Canadian provinces, Indian states and the regions of Europe [6].

If the forces of convergence operate within these blocs, it is reasonable to wonder if other such groupings exist. Are there any other convergence "clubs", rich or poor, the members of which are bunching up?

In *Global Productivity: Trends, Drivers, and Policies*, a book published by the World Bank, an algorithm is used to sort through many combinations of countries, looking for groups that seem to be converging with each other. Based on the productivity performance of 97 economies since 2000, the bank identifies five clubs. The three gloomiest groups comprise fairly poor countries. A fourth contains some big ones of unfulfilled potential, such as Argentina, Brazil, Indonesia, Mexico and South Africa.

The most successful club spans all today's advanced economies as well as 16 emerging markets, such as China, India, Malaysia, Thailand and Vietnam (see chart, top-performing EMEs). Poorer members tend to grow faster than the rich ones, at a pace that would halve the productivity gap between them every 48 years [6].



What explains the centripetal forces at work? It is not proximity: the countries range from Myanmar and Canada to Finland and Chile. Many members have impressive levels of investment and trade, but so do others in the clubs below them. Higher levels of education and government effectiveness make a bigger difference, at least at the start of their catch-up phases [6].

Most members of the top club also do well on a measure of economic "complexity" developed by Ricardo Hausmann of Harvard and César Hidalgo of the Massachusetts Institute of Technology. Countries score highly if their exports are both eclectic and exclusive, spanning a diverse range of products that few other countries also export. But there are exceptions. Chile is in the top club, but appears economically uncomplicated. That may be because its exports (copper, salmon, fruit) look simple but are produced, differentiated and packaged in sophisticated ways. Its round, red cherries, for example, are carefully selected for export to China as symbols of luxury. The authors of the World Bank's book worry that the covid-19 pandemic will inhibit investment, shorten supply chains and breed insularity, all of which could hamper convergence. But they also note some potential silver linings. Crises, for instance, can encourage structural reforms; the lack of upkeep of outdated capital during dark times can hasten its replacement with newer technologies in the recovery [6].

Pioneers of convergence theory understood that a country cannot fully exploit industrial advances if it clings to customary patterns of production and consumption: what Thorstein Veblen, a sociologist, called "the received scheme of use and wont". For this reason Abramovitz

believed that war and political convulsion can serve as a “ground-clearing experience opening the way for new men, new organisations and new modes of operation”. Optimists, who pray that convergence will outlast this convulsive year, must hope that the received scheme of use and wont is one of the pandemic’s many casualties [6]. ■

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