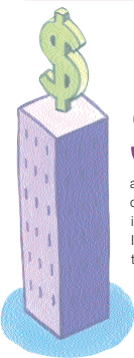




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History matters: trading technologies and the ideas market

The juggernaut of economic growth moves on but the market for intellectual property rights is not keeping up.
Danny Quah urges action.



Societies are naturally conservationist by at least one measure: they recycle ideas and attitudes. Unlike the recycling of raw materials, however, this isn't always a good thing. Intellectual nostrums continue to hold currency even after they have been fully discredited. The constant ebb and flow of what is topical disguises what matters, what lies just beneath the surface.

Today, in the midst of pronouncements of economic doom and gloom or, by contrast, during the halcyon 1990s decade of heady dot-com mania with its pronouncements of everlasting prosperity, it is easy to forget what endures in the broad sweep of human progress, and instead to conflate what is permanent with what is immediate. So here's a reminder. Or at least here is a list of the facts I keep in my mind which constitute my best guess of what's permanent and important.

One hundred years ago earth held one billion people. Today six billion roam the planet. One hundred years ago the average human had real income barely one-eighth that of his modern counterpart. Today world income is 50 times what it was 100 years ago. This dramatic improvement in welfare is not confined to economic measures like income. One hundred years ago the average human being had a full life span of under 40 years. Today average life expectancy is close to 70 years. One hundred years ago one quarter of all babies died within their first year of life; today less than six per cent suffer that sad fate. One hundred years ago only one in four adults could read and write: today more than 80 per cent can do so.

Worth noting is that nothing remotely similar to this modern economic development, with prosperity so sustained and progress so widespread, ever occurred any time in the previous 50,000 years of human history. What I find additionally remarkable comes from comparing these measurements not just across time but also across economic phenomena now extant. Today, no fact about business cycles, unemployment, inflation, corporate governance malfeasance, or financial market mania – important though each of these is – comes anywhere close quantitatively to matching the awesome scale and silent beauty of the process of economic development.

However, at one time, everyone in the world was equally miserable and dirt poor. Now, even as so many people are unbelievably better off, so too the gap between rich and poor can be difficult to comprehend. In 1993 the richest one per cent of people in the world received in total as much income as the bottom 57 per cent: the 50 million very rich versus the 2.7 billion very poor. Average

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income in the top five per cent of the world's population was 114 times that in the bottom five per cent. In the half decade until 1993, average world income grew six per cent but real incomes in the bottom five per cent fell by a quarter: those in the top five per cent rose by an eighth.

So the world remains a profoundly unequal place. Not only that, but hard-earned economic progress can quickly be annihilated, for one reason or another. Botswana is regularly ranked by investors as the best, safest risk in Africa. It is rich with diamonds, copper and nickel. Since independence in 1966, Botswana has putatively transformed itself from one of the world's poorest countries to a well-performing middle income country. Its annual per capita growth rate has regularly been among the highest worldwide. But in Botswana 35 per cent of the adult population are HIV/AIDS-infected – the highest rate of infection in the world. Despite the abundance of natural resources, life expectancy at birth in Botswana is now only 35, having declined from as high as 65 years only a decade ago.

To summarise, there is economic growth and there is economic inequality. Over the medium to long term, the impact on human welfare of each of these dwarfs practically everything else. For brevity, let's call the circle of observations and ideas I have just described growth and distribution. What then are the important touchstone issues? First, to understand the market for technology, that is, to understand the economic exchange of knowledge and ideas, or intellectual assets in general. Second, to understand why, beyond the difficulties we can recognise in those markets, there are still those who, while acknowledging the massive benefits that accrue to so many from economic growth, erect yet additional obstacles to the flow of ideas and to economic progress more generally.

I mention the second because it is about why bad things happen to good societies. The modern theory of political economy seeks to understand this. But here I will focus on the first set of issues.

Economic growth occurs through advances in technology. That has always been so. Technology advances, in turn, through innovation, the instantiation of (making an instance of) new knowledge and new ideas. The creation and dissemination of ideas comes about through balancing incentives and costs. There should be well functioning markets for intellectual assets to guide their production and use, just as there are for pencils and umbrellas and most other goods and services. Unfortunately, not so. The world today has no well functioning markets for intellectual assets.

Contrast what market we have for intellectual assets with that for financial assets. In my view, one is evil twin to the other. Only it's difficult to figure out which is which.

Very early on, economists had figured financial markets to be the quintessential perfect market in economic theory. These markets were friction free

and transparent. There is a view, however, that in reality financial markets don't seem to always work well.

Wait a minute. For some observers, the statement I have just made errs so generously on the side of circumspection, that the sentiment in it is just plain wrong. For such observers, many financial markets and many financial instruments are tantamount to weapons of destruction. Financial crises bring down governments and inflict massive pain on societies.

But we have always had financial crises. They are not new. Financial markets and financial instruments do much that is good. By most accounts, the late 19th century was a golden era of economic growth. Massive flows of people, capital, and ideas swept across the world. Exports as a share of income doubled. Sixty million people left their homes in Europe to live and work in North America and Australia; a comparable number left China and India for Southeast Asia. All told, one tenth of the world's population migrated across national boundaries. Fully half of Britain's national savings was invested in foreign lands. Foreign capital relative to income tripled in Africa, Asia and Latin America. The end result of all this: growth rates of world per capita income increased three-fold between 1870 and 1914.

It was a time of massive improvement in economic prosperity. But that era also had financial crises galore. For that you didn't need dot-com tech mania. Speculation was rife in commodities that were as solid as metals, construction, railroads, and beer. In the US, the post Civil War boom saw financial speculation that nearly brought down the US Treasury and devastated the Grant administration, as Wall Street financiers sought the aid of the federal government in cornering the market for gold, leading instead to financial ruin for thousands on Black Friday, 24 September 1869. In the 1870s Viennese building sites had their prices driven way off realistic construction earnings by speculative buying for profitable resale. In the 1880s brewery shares in Britain went through the roof, as private breweries, one after the other, went public in what we might now think of as a hops-com mania. Guinness, the brewing company, had its IPO over-subscribed many times, and its market valuation rapidly doubled. A French syndicate in 1888 cornered the world market in copper futures and in copper itself – 160,000 tons of the heavy metal – only to have the metal price crash by over 50 per cent in 1890, requiring a 140 million francs rescue by the Bank of France. But through it all, painful as each individual financial crisis turned out to be, the juggernaut of economic growth moved on, steadily improving the lives of hundreds of millions of people.

The real killer, in this reading of economic history, was not the errant behaviour of financial markets. It was the large scale shutting down of

trade and resource flows across countries that ended the golden era of economic growth in the late 19th century. It was the reversal of globalisation.

Markets for financial assets are markets that we thought worked well in theory, but don't in practice. The world has devoted billions of dollars to organising such markets and then, apparently surprised by the outcome, has spent considerable resources studying them, sometimes proposing to spend even more to shut them down.

Markets for intellectual assets, on the other hand, are markets that we have always known from economic theory do not work. That they don't work well in practice is then an immediate given. But unlike markets for financial assets, markets for intellectual assets have been by and large totally ignored. The scientific and policy challenges here are plain. The assignment of property rights in markets for intellectual assets (through intellectual property rights or IPRs) does not magically remove the negative effects of externalities and thereby restore social efficiency. In fact, the opposite: *ex post* IPRs create artificial monopolies and restrict the dissemination of knowledge. We live with IPRs because we cannot yet agree on any other robust general way to *ex ante* provide an incentive for innovation, the creation of new intellectual assets. Current IPR regimes have no claim to being the right way or even a good way to organise how we create and disseminate intellectual assets. And strong intellectual property rights certainly don't nudge us in the direction of well functioning economies. Intellectual assets matter greatly. They underlie figuring out new engineering and new science to raise economic productivity and bring about

economic growth; providing AIDS medication efficiently to the poor without which 480 million over the next half century will lose their lives; improving genetic manipulation and disseminating its benefits appropriately; spreading ideas in general and, selfishly, maintaining the health of the education system in which we work here in universities.

Intellectual assets matter for people's lives. Markets for them don't work well in theory or in practice. What we have today in the real world, passing itself off as a marketplace in intellectual property rights, is a makeshift cobbling together of inefficiencies that just about gets by, because nothing obviously better is around to replace it. And no one seems to care. Over the last 50 years, the ratio of real resources that societies have devoted to organising, tinkering with, and studying markets for intellectual assets relative to that expended on financial assets is, for all practical purposes, zero. We should not reduce the denominator in this calculation. But we should raise the numerator. We don't understand intellectual assets. We need to. ■



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Intellectual property

To read Professor Quah's work on new models of IPRs, see his current manuscripts and recent output web pages at <http://econ.lse.ac.uk/staff/dquah>

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Dr Stephen Redding, Economics, CEP, also works on economic growth and the international dissemination of technology, see <http://econ.lse.ac.uk/staff/sredding/redwps.htm>

Dr Mark Schankerman, Economics, STICERD, studies intellectual property and R&D strategies of firms, see <http://econ.lse.ac.uk/staff/schankm>

Measuring growth

Delivering the 2002 Royal Economic Society public lecture in December, Nicholas Crafts, professor of economic history at LSE, suggested why the usual measures of economic growth understate improvements in living standards: conventional price indices substantially exaggerate increases in the cost of living, and national income measures do not take into account the most important scientific achievement of the 20th century – the massive reduction in mortality risk. Professor Crafts estimates that, if just these two things are factored in, real living standards have exhibited growth double that of conventional real gross domestic product in the last quarter of the 20th century. See *Britain's Relative Economic Performance, 1870-1999* (Institute of Economic Affairs, 2002).

