

Chapter 9

Globalisation, New Technology and Economic Transformation

Rob Atkinson

Introduction

For many, globalisation ó the tighter and broader integration of product, service, financial, and labour markets ó is at the core of the economic and social transformation of the last quarter century. To be sure, the nature and extent of globalisation is new and unprecedented and it is easy to view globalisation as the key mover of change.

But while the extension of markets beyond national borders has amplified and accelerated structural economic and social changes, the fundamental driver, of not just globalisation but many of these changes in the economy and society, has been the information and communications technology (ICT) revolution. In just 25 years we went from a world of electric typewriters to one of laptop computers more powerful than the mainframe computers of that era; from one of dial pay phones to GPS-enabled cell phones; from 8-track cassette players to iPods. Without the ICT revolution, globalisation as we know it would not be possible.

In this chapter, I first argue that economic transformations of the kind we are in the midst of today have occurred on a regular basis over the last several hundred years, and at their heart are driven by technological revolutions.¹ I then examine how the last great economic transformation from the regional factory economy to the national mass production corporate economy after WWII led to the same kinds of geographic restructuring of production that we are experiencing today, only on a national level, as opposed to a global one. I then discuss how the new technology-driven economy is driving not just globalisation, but many of the economic effects we commonly attribute to globalisation. In other words, while globalisation has had an impact

1. For a more in depth discussion of these issues see Robert D. Atkinson, *The Past and Future of America's Economy: Long Waves of Innovation that Power Cycles of Growth* (Northampton, MA: Edward Elgar, 2004).

on industrial change, economic dislocation, and income inequality, these changes are driven more by a technology-driven transformation to a new economy, in particular by the ICT revolution, than by globalisation per se.

Finally, I argue that while progressives are right push for a global economy that achieves the kind of goals that most post-war developed nation economies achieved ó robust growth that is broadly shared ó to achieve that goal today, we need to shift to renewed progressive governance. The most important aspect of this will be to advocate for a new global growth economics that puts in place policies and incentives to shift nationsøeconomic policies away from negative-sum mercantilism and to a positive-sum growth economics that is focused, first and foremost, on boosting productivity.

Economic Transformations

Why has ICT driven the recent economic transformation? In a nutshell, it is because IT prices have plummeted, performance has exploded, *and* usability has improved in parallel over the last decade. If just one of these had happened, the digital revolution would have been stillborn. If prices had fallen without performance improvements, the result would be cheap but not very effective technologies. If performance had improved without price declines, IT would have proven too expensive to put into everyday devices and applications. If both happened but the technology remained hard to use, adoption rates would be significantly lower. Luckily, all three happened.

Moreover, the technology is anything but static. As ICT continues getting cheaper, faster, better, and easier to use, organizations continuously find new and expanded uses for IT every day, as the recent emergence of *YouTube* illustrates. It has become pervasive in its use and its impacts, going far beyond just the Internet and personal computers. As some keen observers of the digital economy point out, "at each point in the last 40 years the critical step in the transformation of technological potential into economic productivity has been the discovery by ICT users of how to employ their ever greater and ever cheaper computing power to do the previously impossible."²

Today, information technology enables the creation of a host of tools to create, manipulate, organize, transmit, store and act on information in digital form in new ways and through new organizational forms. As a result, ICT has transformed the internal operations of organizations (business, government and non-profit); transactions between organizations; and transactions between individuals, acting both as consumers and citizens, and organizations. ICT has been instrumental in enabling the emergence of much more globalised markets in goods, services, and finances.

Indeed, it is hard to imagine how today's globally dispersed production systems would work without ICT to knit them together, whether it is computer-based logistics systems that enable companies to weave together multinational supply-chains; e-mail and low cost

²Stephen S. Cohen, J. Bradford DeLong, Steven Weber, and John Zysman, *Tracking a Transformation: E-Commerce and the Terms of Competition in Industries*, BRIE-IGCC E-economy Project Task Force (Washington, DC: Brookings Press, 2001).

telecommunications systems that let managers easily communicate across the globe;³ or software, Internet and digital telecommunications capabilities that enable the dispersed location of a whole host of information-based services, such as call centres, back office processing and software production.⁴

The technology revolution has not only improved our communications system, it made it more economic to ship products. Not only is the cost of shipping a pound of pig iron from Australia to Zaire cheaper, but as the weight-to-value ratio of products has increased costs as a share of total costs has declined. When most of the value of the economy was made up of heavy things that did not cost much (e.g., cement, wood, fish, commodity steel), it made little sense to ship them very far. But as the economy has become increasingly made up of lighter things that cost more (e.g., computer chips, airplanes, drugs) it is now economical to ship them around the globe. This is one reason why the inflation-adjusted value of U.S. trade per pound has risen by approximately four percent per year on average over the last three decades.

Furthermore, the weight of an increasing share of the economy is zero, since many services (e.g., insurance, software, media, call centres) can be transported in bits, as opposed to atoms. A host of jobs that we once thought were tied to the local community in which they are consumed are

³A three-minute telephone call between London and New York City costs \$70 in today's dollars in 1964, but less than 50 cents today and probably close to zero as we move to Internet telephony. Between 1987 and 1997 the cost of a US to London telephone call declined by 90 percent. James Burnham, "The Growing Impact of Global Telecommunications on the Location of Work," *Contemporary Issues* 87 (St. Louis, MO: Washington University, Center for the Study of American Business, Oct. 1997).

⁴The cost of a T-1 dedicated phone line between the United States and Manila has dropped from \$30,000 a month to less than \$10,000 in the past few years. Moreover, technology advances have allowed the number of voice channels that can be put on a T-1 line to increase about five fold. "In a Global Economy, Competition Among BPO Rivals Heats Up." *Knowledge@Wharton* (9 Oct. 2002): <knowledge.wharton.upenn.edu/article.cfm?articleid=642>.

now footloose. Retail transactions can be conducted 5,000 miles away over the Internet sometimes easier than 10 miles away on a busy road. Local business functions like banking, insurance, and securities brokering are now conducted by phone and net at a distance. An array of professional services, including law and accounting, can be conducted online.

Indeed, the ICT revolution has enabled an increasing share of information-based services to be physically distant from the customer (e.g., e-banking) or the other parts of the production process (e.g., back office operations) while remaining functionally close. The new digital economy is transforming economic geography, enabling as many as 12 to 14 million once relatively immobile information-based jobs in the United States to now potentially be located virtually anywhere across the globe.⁵ In the New Economy, someone in Japan can just as easily purchase stocks on-line from E-Trade or Charles Schwab as someone in the United States. It is almost as easy to locate a call centre in Hyderabad, India, as it is to put it in Hagerstown, Maryland.

By improving supply chains and information on potential economic opportunities and reducing communication costs, ICT is allowing businesses, and indeed most organisations, to rearrange inputs, labour, and capital as never before. These new globalised production chains allow businesses to specialize in what they are good at, contract out what they are not, and reach scales that minimize costs and maximize innovation.

5. Robert Atkinson and Howard Wial, "The Implications of Service Offshoring for Metropolitan Economies," (Washington, DC: The Brookings Institution, 2007): www.brookings.edu/~media/Files/rc/reports/2007/02cities_atkinson/20070131_offshoring.pdf.

Why has ICT had such far-reaching and profound effect? The short answer is because ICT is what economists call a "general purpose technology."⁶ Unlike other technologies that may affect just one process or one sector, general purpose technologies (GPTs) are used pervasively and in most sectors. Moreover, the performance and price of GPTs improve over time, often quite dramatically. Finally, GPTs make it easier to invent and produce new products, processes and business models.

GPTs don't just lead to new products; they often lead to fundamental societal and economic transformations. Technologies like the steam engine, railroads, electricity and the internal combustion engine, and steel are all examples of general purpose technologies that drove economic transformation and growth in the past. The modern industrial economy of the early 1990s was impossible without the emergence of GPTs like steel and electricity. The emergence of cheap steel in the 1880s and 1890s transformed not just the steel industry, but also almost all manufacturing, since a wide array of industries, such as bicycles, sewing machines, and machine tools, could now take advantage of high-strength steel.

It was through studying these technology-fuelled revolutions that led noted economist Joseph Schumpeter to argue that the process of economic change is not an incremental and linear one – as most neo-classical economists conceive it to be – but rather a process of revolutionary transformation. Yet, new technologies do not advance incrementally, but rather burst onto the scene irregularly with clusters of breakthrough technologies, and resultant transformations from one kind of society to another. Schumpeter noted that, "These revolutions are not strictly

6. Richard G. Lipsey, Kenneth I. Carlaw, and Clifford T. Bekar, *Economic Transformations: General Purpose Technologies and Long-Term Economic Growth* (New York: Oxford University Press, 2005).

incessant; they occurred in discrete rushes that are separated from each other by spans of comparative quiet. The process as a whole works incessantly, however, in the sense that there is always either revolution or absorption of the results of revolution.⁷

We've been there before

Today's rapid economic, social and political changes driven by ICT are by no means unprecedented. This series of transformations, occurring roughly every fifty years, from one kind of economy and society to another has in fact been the dominant, if unappreciated, story of advanced industrial economies.

These technology-led revolutions are exciting, sometimes breathtakingly so. They enable the creation of inspiring and important new products and services. They revive and spur economic growth. They provide the grist for a host of new entrepreneurial opportunities. But as Schumpeter noted, while they are creative, they are also destructive. They upset conventional ways of doing things. They force individuals, organizations, and even whole regions to adapt or suffer the consequences of not doing so. They turn some industries and occupations into "buggy whip industries," with little real purpose anymore. In short, they produce winners and losers. Indeed, it is because technology-led revolutions both create and destroy that they are so troubling to so many people.

However, this is not the first time that the economies have been through such a large economic transformation involving a dramatic geographic expansion of markets. The same process of

7. Ibid., 83.

geographical expansion and reordering occurred before, albeit at the national level. The last major technology-led economic transformation – the emergence of the corporate mass production economy after WWII – also led to a dramatic expansion of the scope of most markets and led to a shifting spatial locus of economies.

In the United States, companies that had largely bought and sold from suppliers and customers in a particular region, now did so throughout the entire nation. The U.S. West and South, which had hitherto served as peripheral regions supplying natural resource inputs to the Midwest and East, were transformed into thriving and competitive industrial economic regions. As a result, factories that were once concentrated in the Midwest and Northeast began to migrate to the South and West. National corporations could now more easily manage a nationally dispersed production network (being able to fly to the plants, communicate by telephone, and more easily ship products to markets throughout the nation), they moved facilities that didn't require the more skilled labour of the North and Midwest to the South and West. Whole industries decamped from the core to the periphery.

Just as today's globalisation is enabled by ICT, that era's "nationalization" was enabled by new technologies. Air travel, long-distance communications, and truck transport began to recast regional relationships, allowing interlinked economic activities to spread. With the building of interstate highways, metropolitan regions and finally the entire nation were tied together.

Widespread electrification allowed industry much greater locational freedom. The development of air conditioning made living and working in hot southern and western climates more tolerable.

Additionally, the spread of mechanization and "chemicalization" to the farm, drove agricultural productivity.

And just like today, these changes were driven, at least in part, by wage differentials. In 1938, the richest state in the South was poorer than any state outside the South. Even by 1960, the per-capita income in the South (\$1,754) was significantly lower than in the United States as a whole (\$2,223). And just like today, there were widespread calls to develop national, as opposed to regional, labour standards, so that the firms would have less incentive to decamp the North and Midwest in search of low wages in the South and West.

Could this post-war transformation from a regional to national markets be stopped? Surely, just as today's transformation to global markets cannot be stopped, that transformation to national markets could not have been stopped. Even if Congress had made it easier to form unions, and if the South and West were unionized at the same rates as the rest of the nation, this would have only slowed the process of industrial migration and expansion, for non-labour factor costs (e.g., land, power) were lower and these regional markets were growing and would be served by national producers who sought the kind of scale economies serving a national market brought.

Just as the shift from regional to national markets was preordained by the developments of technology and by the forces of capitalist expansion, so today is the shift from national to global markets inevitable. As much as some might wish to slow down, contain, or even reverse globalisation, the trend is unstoppable. Travel and communications will continue to get faster and cheaper and supply-chains will be even more tied together by interoperable software. And

linking it all together is what will become an even more interoperable operating system, the English language.

Is Globalisation the Cause or the Result?

Given the pervasiveness of globalisation it is easy to view it as the major driver of the changes of good and bad that have transformed developed nations. But if this is true, these changes should be largely concentrated in sectors of the economy exposed most to globalisation. But this is not the case, and points to broader causes for the changes we see.

Let us start with changes in total jobs. Some critics of globalisation in general, and trade agreements in specific, argue that globalisation leads to fewer jobs for the United States. In contrast, globalisation advocates often argue the opposite. That trade creates jobs. The *Washington Post*, for example, asserts that NAFTA was responsible for the creation of several hundred thousand U.S. jobs. Either can actually be right in the short term.⁸ In the short run, growth (decline) in a nation's trade deficit can have a negative (positive) effect on employment.

If imports grow faster than exports and all else is constant, GDP falls. But while there can be employment effects (growth or decline) in the short run, in the moderate and long run, trade has no effect on employment. Employment levels are determined by the supply of labour on the one hand, and the demand for it on the other. The demand for labour or in other words, full employment is determined largely by macro-economic factors like interest rates, and micro-economic factors like whether nations pay able-bodied individuals to not work.

8. Editorial, "Trade Distortions," *The Washington Post* (3 Dec. 2007), A16: <www.washingtonpost.com/wp-dyn/content/article/2007/12/02/AR2007120201588.html>.

Hence, if trade has no effect on the total number of jobs, it may have an effect on the sectoral composition of the economy. Perhaps the fact that most point to highlight the impact of globalisation is the decline in manufacturing employment. From its high water mark of 21 million workers (23 percent of the workforce) in 1979, U.S. factory employment has fallen to just 14.3 million workers (10.8 percent) in 2004.⁹ But the United States is not the only country facing such a decline. Japan lost more than 2 million manufacturing jobs in the 1990s, as their economy shifted more to services, while manufacturing's share of GDP in Germany fell from 33 percent in 1990 to 24 percent. For the EU15, of 26 industrial sectors, only one, rubber and plastics, had greater employment in 2001 than in 1979.¹⁰

Is globalisation the culprit? For a nation like Germany with an increase in its goods trade surplus (or in the case of Japan, a small decrease), globalisation cannot be the cause. Globalisation has meant more, not less, manufacturing production.¹¹ The United States to be sure, however, is in a class by itself. It is running unprecedented goods deficits at over 5 percent of GDP, up sharply

9. Between 1992 and 2003 manufacturing employment declined by 2.6 million. About half of this decline was due to the fact that manufacturing productivity was higher than non-manufacturing sectors, meaning manufacturing could produce more with fewer workers. For example, jobs in the steel industry dropped from 400,000 to 180,000 between 1980 and 1992, yet we make about the same amount of steel today as we did then. About 25 percent was due to slower growth in domestic demand for manufactured products relative to services. As we get richer, we tend to buy more services (e.g., health care, education, entertainment). Finally, one-quarter was due to an increasing trade deficit in goods. Robert Atkinson, "The Bush Manufacturing Crisis," (Washington, DC: Progressive Policy Institute, 2003).

10. European Commission, "Fostering Industrial Change: An Industrial Policy for an Enlarged Europe," (Brussels: COM, 2004), tables 3 and 4: <eur-lex.europa.eu/LexUriServ/site/en/com/2004/com2004_0274en01.pdf>.

11. "EU, Euro Area and Member States Trade with the Rest of the World," (Eurostat, accessed Dec. 2007): <epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=Yearlies_new_external_trade_external_trade_by_products&deph=2>.

from the 1980s. However, even in the United States, the growth in the goods trade deficit has not been the principal cause in manufacturing job loss. Differential productivity growth has been. Since 1997 manufacturing productivity has grown approximately 75 percent faster than the overall economy. This means that manufacturers can produce the same amount of output with fewer workers. The same process has been at work in Europe, where EU-15 manufacturing productivity grew approximately 50 percent faster than the overall economy from 1979 to 2001.¹²

As a result, even if the U.S. trade deficit had not increased, manufacturing's share of jobs would have declined. However, in contrast to some who claim that the increase in the trade deficit has not hurt U.S. manufacturing,¹³ this does not mean that a growing goods trade deficit has not played some role in the relative decline in manufacturing loss. Simple logic suggests that it had to. If a nation is satisfying its demand for consumption of goods by increasing its relative consumption of foreign products, and goods exports are not growing a commensurate amount means by definition that domestic goods production will be less than it would be otherwise.

The recent decline of the U.S. dollar vis-à-vis most other currencies is a natural and welcome development, given that economic theory dictates that currency levels should fall (rise) if a nation runs a large trade deficit (surplus) and is already leading the goods trade deficit to shrink

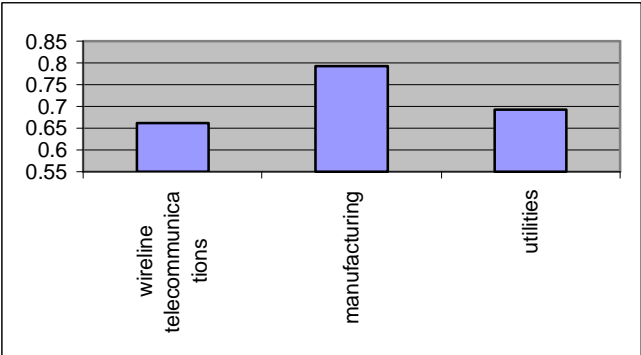
12. European Commission, "Fostering Structural Change: an Industrial Policy for an Enlarged Europe" COM (2004) 274 final, Table 2: <eur-lex.europa.eu/LexUriServ/site/en/com/2004/com2004_0274en01.pdf>.

13. Daniel J. Ikenson, "Thriving in a Global Economy: The Truth about U.S. Manufacturing and Trade," *Cato Institute Trade Policy Analysis* 35 (28 Aug. 2007): <www.freetrade.org/files/pubs/pas/tpa-035.pdf>. See also Laura D'Andrea Tyson, "Those Manufacturing Myths," *Business Week* (12 Dec. 2005): <www.businessweek.com/magazine/content/05_50/b3963177.htm>.

modestly and exports to grow. Continued decline in the dollar, especially against significantly overvalued Asian currencies, would lead to an even lower U.S. goods trade deficit and a slowdown in the rate of manufacturing job loss. However, even if the goods trade deficit declines significantly, manufacturing jobs will likely continue to fall as a share of total employment, at least for the next several decades, since it remains easier to boost productivity in manufacturing than in services.

If manufacturing were the only sector that saw job declines, and if the job declines from the increased trade deficit were large, the case for globalisation's impact would be stronger. But other sectors that are not traded internationally, such as electricity and gas services and telecommunications, actually had greater job losses than did manufacturing from 1990 to 2007 (see figure 1). Likewise, between 2000 and 2006 travel agent jobs declined by 36,000, or 30 percent, not because of trade, but because of the rise of online travel sites. Telemarketing jobs fell by 77,000, or 17 percent, largely because of passage of the national "do not call" legislation.

Figure 1: Jobs loss by sector, 1990 to 2007



While trade is not the major cause of job loss at the major industry sector level, it has had greater impacts on particular industries, with some sectors seeing job gains and others losses. A case in point is textiles and apparel. While manufacturing jobs fell 20 percent from 1998 to 2006, textile and apparel jobs fell by 46 percent, a loss of almost 700,000 jobs. In contrast, jobs in the aircraft industry, one of the few manufacturing sectors where the United States runs a trade surplus, fell by just 22 percent over the same period. Regions and communities dependent on textile and apparel production have, not surprisingly, been hard hit by dislocations. For example, North Carolina, a home to textiles and apparel since after WWII, lost 27 percent of its manufacturing jobs since 2000, compared to a loss of 18 percent nationally.

Even if trade has not been the major cause of job loss in sectors, some argue that we have only experienced the tip of the globalisation iceberg and the worst is yet to come. Perhaps most widely known for this view is economist Alan Blinder, who presented a provocative and disturbing thesis: the offshoring of service sector jobs is not just a routine extension of international trade, but a "third industrial revolution" likely to lead to one of every three American jobs being shipped overseas.¹⁴

Yet Blinder's projections are vastly exaggerated. In overstating the number of jobs likely to be offshored (probably by a factor of 10) Blinder makes three critical errors.¹⁵ First, he overestimates the number of jobs that are tradable.¹⁶ Second, he overestimates the share of those

14. Alan Blinder, "Offshoring: The Next Industrial Revolution" *Foreign Affairs* (Mar./Apr. 2006), 126.

15. Robert D. Atkinson, "Apocalypse Soon? Why Alan Blinder Gets it Wrong on Offshoring" (Washington, D.C.: The Information Technology and Innovation Foundation, 2006): <www.itif.org/index.php?id=64>.

16. Atkinson and Wial, op. cit.

jobs likely to be offshored. And third, he omits the offsetting increase in service sector jobs from expanded exports. This last omission is particularly important since it's unlikely that the U.S. trade deficit would grow by a factor of 5 or more, which is the level implied by Blinder's dire warnings, since other nations would surely tire of providing us with that amount of goods and services and getting only Treasury notes in return.

Finally, even if trade were to have no impact overall on manufacturing employment or employment in particular sectors, trade could still lead to job losses (and gains) in particular companies and plants, leading to significant disruption for individual workers, and in some cases whole communities dependent on those plants. To be sure, such employment churning has increased. Overall, the rate of companies going out of business was at least three times greater in the boom years of the late 1990s than it was in the 1970s. And this risk is not just borne by workers (at least the risk of losing one's job). A CEO appointed after 1985 was three times more likely to be fired than one appointed before that date.¹⁷ However, it is not clear to what degree this has been caused by globalisation.

Historically comparable data on layoffs are limited. But recent data paint a mixed picture. For example, in the early 2000s the rate of layoffs and discharges as a share of total employment in retail trade and manufacturing were about comparable. However, since then the rate in retail trade has been about 25 percent higher than in manufacturing, even though very little retail trade is "traded" internationally. Likewise, data on large layoffs paint a similarly mixed picture. In the second half of the 1990s (the most recent years data are available) mass layoffs were higher in

17. Rakesh Khurana, "Transitions at the Top: CEO Positions as Open and Closed to Competition," *MIT Working Paper* (Cambridge, MA: Sloan School of Management, 2000).

manufacturing than in retail. However, in the last several years they are on average about 20 percent lower in manufacturing, but about 20 percent higher in retail.

This suggests that while churning and risk have gone up, that the causes go beyond globalisation, and extend to other factors, particularly more competitive markets, more dynamic business environments, and rapidly changing technologies. These changes mean that firms' competitive advantage can be lost very quickly. Harvard's Clayton Christensen popularized this notion with his best-selling book *The Innovator's Dilemma* which showed how the new environment provided much less security for companies, even ones that did everything right.

If globalisation is not the major cause of increased risk and dynamism, surely it is at the root of declining wages. Many critics argue that the current process of globalisation drives down wages either in developing nations, developed nations, or even both. Former AFL-CIO economist Tom Palley argues, for instance, that globalisation and offshoring "have put U.S. workers in competition with two billion workers around the world, putting downward pressure on wages, benefits and working conditions."¹⁸ Statements like this lead many to believe that globalisation is reducing wages for everyone. In reality, this mistakes changes in distribution of wages for overall wages. It simply doesn't matter how many workers join the global labour market. There will be no effect on average U.S. (or European) wages or overall GDP for the simple reason that prices and wages are the flip side of the same coin.

18. Thomas Palley, "The Economics of Outsourcing: How Should Policy Respond?" (Silver City, NM and Washington, DC: Foreign Policy In Focus, 2 Mar. 2006): <fpif.org/fpiftxt/3134>.

While globalisation has not lowered average wages or output, it has contributed to growing income inequality. But the extent to which this has occurred is not clear. Some argue that globalisation is responsible for holding down wages of most workers, while allowing a new global elite of managers and professionals, coupled with capital investors, to be the big winners.¹⁹ Others have highlighted the stagnation of the middle class. Here, the starting point for relevant claims is the disjuncture between growth in productivity and growth in household income. Many point to the fact that GDP per person is up 63 percent from 1979 to 2005, but real median household income has inched up a mere 13 percent. If median household income had grown at the level of GDP per person growth, it would have been \$20,656 more than what actually happened. Surely this is rock solid evidence of the middle class squeeze, and it is not too far to the next step to lay the blame on globalisation.

Yet, upon closer examination, things are not quite that simple. Labour economist Stephen Rose has shown that one reason why the main reason for the large gap between productivity and median household income growth is that it is comparing apples to oranges.²⁰ While it might seem natural to use GDP per capita growth as the basis of productivity growth, this is not appropriate if the goal is to link it to changes in household income. This is because changes in household size can have big consequences for median household income.

In this context, it is important to note that some groups below the CEO level have fared reasonably well. As Rose notes, women did particularly well, at least compared to where they

19. Robert Kuttner, "Survival of the Richest," Boston Globe (24 Jun. 2006): <www.boston.com/news/globe/editorial_opinion/oped/articles/2006/06/24/survival_of_the_richest/>.

20. Stephen Rose, "Does Productivity Growth Still Benefit Working Americans?" (Washington, D.C.: The Information Technology and Innovation Foundation, 2007) : <www.itif.org/index.php?id=54>.

were before. While many point to the fact that real median wages for males in the United States are unchanged between 1979 and 2005, they conveniently overlook the fact that real median wages for women are up 54 percent. In fact, as recently as 1980, more than 60 percent of women workers were in the lowest pay category, and only 3 percent earned more than \$50,000 a year. By contrast, today more than 36 percent of new jobs for women pay more than \$50,000.²¹ Moreover, there was a significant rise in the share of male workers earning more than \$75,000, thanks to growth in managerial and professional sectors. The group that appears to have suffered the most is less educated men. Rose found that more than one-third of new jobs filled by men between 1979 and 2005 paid \$25,000 or less.

So what is the impact of globalisation on this still troubling growth in inequality? Like the story in employment change, it appears that a number of different factors have contributed to the growth in inequality. The consensus among most economists is that trade has had only a relatively small impact on the increase in inequality within the United States.²²

To the extent that trade contributed, it is seen, along with technology, as driving inequality through fostering a fall in the relative demand for unskilled labour and an increase in that of skilled labour. According to this theory, trade and technology have increased the skill level of jobs, while at the same time the share of the workforce with a college degree has not expanded as fast, resulting in a labour shortage and an increase in these wages. Yet, while the skill-based

21. Stephen J. Rose, "The Truth About Middle Class Jobs," (Washington, DC: Progressive Policy Institute, Oct. 2007): <www.ppionline.org/documents/MiddleClassJobs100207.pdf>.

22. David G. Blanchflower and M. Slaughter, "The Causes and Consequences of Changing Income Inequality: W(h)ither the Debate?" (Working Papers from Centre for Economic Performance & Institute of Economics, 1998): <econpapers.repec.org/paper/fthcepies/27.htm>.

explanation is appealing ó it leads to a solution virtually everyone supports, namely more education ó it alone cannot be the cause of the widening gap. If it were, then inequality among college-educated workers would not have increased.

But from 1974 to 1988 the 90/10 split among college educated workers grew and then stabilized, while the 90/50 wage gap continued its upward trend.²³ As Autor et al. note, changes in education levels played some role in the growth of 50/10 and 90/10 inequality, but almost no role in the rise of 90/50 inequality.²⁴ This is reflected in the fact that the earnings of the top 0.01 percent of taxpayers went from 50 times more than the average taxpayer's income in 1970 to 250 times by 1998.

An alternative and more satisfactory explanation is that changes in institutions and norms have played a bigger role.²⁵ The decline in private sector unionization, while albeit related to globalisation, is one factor.²⁶ But other factors have little or nothing to do with globalisation. For example, the failure of policy makers to increase the minimum wage as fast as inflation has

23. The 50-10 ratio compares the income of people in the 50th percentile of income to those in the 10th (the lowest). Likewise, the 90-10 compares the highest quintile to the lowest.

24. David H. Autor, Lawrence F. Katz, and Melissa S. Kearney, "Trends in U.S. Wage Inequality: Re-Assessing the Revisionists," (Washington, DC: Brookings Institution, September 2005): <www.brookings.edu/~media/Files/rc/papers/2005/09labor_autor/200509kearney.pdf>.

25. See for example, Ajit Singh, "Income Inequality in Advanced Economies: A Critical Examination of the Trade and Technology Theories and an Alternative Perspective," *Working Paper 219* (ESRC Centre for Business Research, University of Cambridge, Dec. 2001): <www.cbr.cam.ac.uk/pdf/WP219.pdf>.

26. Robert Atkinson, "Inequality in the New Knowledge Economy," in Anthony Giddens and Patrick Diamond, eds., *The New Egalitarianism* (Cambridge, England: Polity, 2005).

contributed to increased inequality. This shortcoming has had nothing to do with globalisation, as jobs exposed to foreign competition usually pay above the minimum wage.²⁷

Moreover, changes in social and institutional norms also seem to have played a more important role in this process than technology-based skill changes. In the old economy norms and practices limited large discrepancies in compensation, but these restraining norms diminished. What were once internal labour markets became external ones, with companies willing to hunt for the best talent and bid up their compensation to get them. Likewise, as the "organisation man" became replaced by the "free-agent man," individuals have become much more willing and likely to leave organisations in search of the best deal.²⁸ Globalisation may have increased the size of the prize, but norms and market conditions enable this phenomenon.

One of the implications of this is that the answer to modestly rising inequality is neither to limit globalisation and technology, nor is it to rely on the supposed silver bullet of education. In the 1990s, many progressives held out increased skills and education as the answer to inequality. While more education might help reduce the 50-10 split by helping the lowest income workers gain more skills, it is not likely to do much to reduce the 90-10 split. The reason top CEOs, lawyers, doctors, entertainers, etc. get such winner-take all salaries is not because there are too few college educated grads vying for their positions. It is because small differences in skill level result in large differences in performance and output and the market is willing to reward that.

27. Autor et al, report that a simple regression of the 90-10 log hourly wage gap for the years 1973 to 2003 on the real minimum wage yields an R-squared of .71, a strong and positive relationship. Autor et al., op cit., 17.

28. A recent study of California workers found that four out of ten workers have been at their jobs less than three years. Edward Yelin, "California Work and Health Survey," (San Francisco, CA: Field Institute, 1999).

Thus, looking to means such as a higher minimum wage and higher top marginal tax rates are likely to be much more effective at reducing inequality.

Moving from populist resistance to renewed progressive governance

As each transformation from an old economy and old society to a new one was underway, each spread confusion and conflict, but each ultimately led to vast improvements in the quality of life for Americans. Defying economic transformations is a dead end ó this insight remains true also today.

The rise of the new knowledge-based global economy has created both opportunities and challenges. Opposition and resistance to globalisation need to give way to a focus on managing it. Above all, the challenge is to shift to a progressive, rather than populist, agenda for the new global economy. While it is beyond the scope of this article to lay out in detail what this agenda should look like, it is worth highlighting two key components.

First, moving from new economy populism to new economy progressivism means abandoning the belief that globalisation is based on choices that individuals and organizations can make differently. John Kerry's attack on U.S. corporate CEO's as "Benedict Arnolds" in the 2004 presidential campaign was an example of this mistaken belief that individual choice is an important factor. While in theory CEO's have choices, the reality is that any CEO who does not take full advantage of global opportunities would be summarily dismissed by his or her board of directors. As a result, the issue is not about blaming individuals, companies, or the corporate community generally; it is about creating the kinds of incentives and environment that will bring

about the economic results that benefit nations. For developed nations this means putting in place a much more robust domestic innovation and competitiveness agenda, coupled with a real effort to help individuals and communities better manage this new and riskier economic environment.²⁹

Second, one reason why there is so much opposition to globalisation is the very real sense that there are no rules guiding the process. Indeed, globalisation will only work effectively if it produces the most increase in wealth and ensure that the most people benefit if all nations play by the right agreed-upon rules. Unfortunately, the global economy is increasingly characterized by zero-sum, or even negative-sum, beggar-thy-neighbour actions that lead to greater levels of disruption and lower levels of global growth, including tariff and non-tariff barriers to imports, subsidies to attract investment and promote exports, forced technology transfer, and theft of intellectual property, and tax policies, like border-adjustable value-added taxes, that subsidize exports.

However, the most prevalent and most damaging mercantilist practice is the rampant and widespread currency manipulation that many governments engage in today. In fact, currency manipulation is at the heart of the current problems with globalisation. One reason why ending currency manipulation is so important is that market-based currency adjustment is the way high wage nations compete with low wage ones. If a low wage nation has an absolute advantage over

29. Robert D. Atkinson, "Will We Build It and If We Do Will They Come: Is the U.S. Policy Response to the Competitiveness Challenge Adequate to the Task?" (Washington, D.C.: The Information Technology and Innovation Foundation, 2006): <www.itif.org/index.php?id=62>.

a high wage one, a falling currency in the high wage one is the natural adjustment mechanism. This makes imports more expensive and exports cheaper, restoring equilibrium.

If we are to maximize global growth, the flow of goods, services and capital should be determined on the basis of actual costs and prices, not on implicit or explicit subsidies.

Economists have long argued that subsidies produce inefficient results. Yet, mercantilist policies to keep currency prices below what market forces would dictate (either pegging to levels below true levels, as in the case of nations like China; or propping up currency by government purchases as in the case of many nations, including Japan) is as pure a subsidy as if the government wrote checks to exporters. Ending currency manipulation would go a long way in easing opposition to globalisation and maximizing its benefits, even for the nations currently propping up their currencies.

This is not to say that nations should not be allowed to manage currency transitions so that they are not overly abrupt. However, systematic manipulation to gain competitive advantage by beggaring their neighbour is a practice that violates International Monetary Fund rules³⁰ and needs to stop, and the only way this will happen is if the nations who engage in it less than others (particularly the United States, Canada and Europe) and international organizations, including but limited to the IMF, agree to cooperate to fight it.

30. Under rules established by the International Monetary Fund (IMF), each member country has agreed not to engage in "protracted, large-scale intervention in one direction in the exchange market." Unfortunately, the IMF has done next to nothing during the last two decades to enforce currency manipulation rules.

As destructive as currency manipulation is, it is but a symptom of a broader problem: a misguided economic philosophy that many nations still maintain: mercantilist policies that see exports in general, and high-value added exports in particular, as the holy grail to success. This new mercantilism stresses high savings rates, low labour costs, technology policies to shift to high-value added manufacturing output, and export-led growth. Even if this strategy might have worked for some smaller nations like Taiwan and Korea, in the past, it simply cannot work today. The markets of Europe and the United States are simply not large enough if nations like Brazil, China, India, Russia, and other Asian nations continue to promote exports while limiting imports as their primary path to prosperity.

But there is a more fundamental problem with mercantilism. While it might lead to higher wealth in a few relatively small export-based industries, it does nothing to raise productivity in the rest of the economy. While the Indian ICT sector has created new opportunities for India, it accounts for only around 3 percent of national value-added. But productivity in India is just 8 percent of U.S. rates while Chinese productivity is 14 percent. It is better but still problematic in more developed nations. Despite some extremely productive and innovative multinational firms, overall Japanese productivity is just 70 percent of U.S. rates and South Korea just 50 percent.³¹ Without higher productivity levels, it is impossible for these nations to raise their standards of living.

These anaemic levels of productivity in non-traded sectors do not occur by happenstance. They are a result in part of these nations concentrating their economic policies on supporting export

31. Dale W. Jorgenson and Khoung Vu, Information Technology and the World Growth Resurgence, *German Economic Review* 8.2 (2007): 125-145.

sectors, including engaging in a host of unfair and mercantilist trade practices that are designed to limit imports and spur exports. These policies win the favour of powerful constituents (e.g., domestic producers seeking protection from foreign IT competitors; consumers who don't want to pay for software and other digital products; workers seeking policies to protect their jobs from competition) and only risk alienating some WTO officials, who seldom act to stop such practices.

This is a much easier political lift than engaging in the hard struggle of driving productivity and dynamism in all sectors. Those policies risk the opposition of powerful interests: unions and workers who may be displaced; domestic producers, including small businesses, who enjoy cosy relationships and low levels of competition; able-bodied individuals who are paid for not working; and government bureaucrats whose top-down control is challenged. But it is only by spurring competition and the use of the best production tools ó often by increasing the use of information technology³² ó that these nations will see fast increases in standard of living.

As a result, over the last several decades the global economic system has become systematically distorted, with an increasing number of nations favouring beggar-thy-neighbor policies to attract and grow high wage industries. Yet, it is worse than this. It would be one thing if nations were focused on boosting and growing these technology-based industries through supportive policies like expanding funding for research, government adoption of IT and e-government, educating highly skilled workers, and developing broadband infrastructure. These policies are not only fair

32. Robert D. Atkinson and Andrew S. McKay, *Digital Prosperity: Understanding the Economic Benefits of the Information Technology Revolution* (Washington, D.C.: The Information Technology and Innovation Foundation, 2006): <www.itif.org/index.php?id=34>.

but they grow the global pie by increasing productivity and innovation. They could erode U.S. and European competitive advantage, but in our hyper-competitive global economy firms as well as nations routinely and legitimately compete to gain a competitive advantage. The real problem arises when countries resort to heavy-handed mercantilist negative-sum policies that end up lowering global economic productivity.

If export-led mercantilism is not the answer, what is? For most progressives the answer is to extend the post-war domestic demand-side Keynesian economic framework to the global arena. Just as progressives in the old economy saw the key economic threat as insufficient consumer demand, they see the problem of the global economy as one of too much production and too little demand. Accordingly, they favour a new global policy regime to boost demand in developed and developing countries alike. The Center for American Progress, for example, advocates an agenda of economic institution-building, including stronger safety nets and labour, environmental, consumer and investor laws and institutions that will enable the gains in national income brought by those countries' integration into the world economy to be shared more widely by their populations.³³

Progressives make a number of arguments for these reforms. The most important is that they claim that they are the key to raising living standards in developing nations. But a fairer distribution of a small pie, while often helpful, is not the answer to solving developing nation poverty; expanding the size of the pie is. Take the case of India. Any visitor to India cannot but be struck by the vast and desperate poverty. Yet, even if India pursued a radical redistribution

33. Thomas Kalil and John S. Irons, 'A National Innovation Agenda: Progressive Policies for Economic Growth and Opportunity Through Science and Technology,' (Washington, DC: Center for American Progress, 2007), 36.

program so that every person received the same income, the average Indian would make just \$3,800 (in purchasing power parity), compared to \$43,800 in the United States. The only sustainable answer for raising living standards for the vast majority of citizens in developing and developed nations is to raise productivity across the board, not by pushing exports or income redistribution.

Some progressives also argue that these redistributionist policies, including stronger enforcement of labour standards, won't just help developing nations; they will help developed ones as well. By raising wages and other business costs there, thereby reducing cost differential between developed and developing nations, these policies will supposedly reduce imports by developed nations and spur exports from them. But while stronger labour and environmental standards are important to helping developing nations, implementing these would raise business costs in these nations by only a small margin. In addition, if currency prices are allowed to be set by the market, then wage differentials become irrelevant to export performance and competitiveness.

Like neo-mercantilists, global Keynesians also mistakenly equate growth in exports with economic growth. They believe that expanded trade and investment with developing countries drive strong increase in their living standards and consumption, which in turn generate additional demand for our own products and services with the result of producing further improvements in our own living standards. But this is based on the view that living standards grow with more exports. Yet, as long as an economy is close to full employment, living standards are determined largely by domestic productivity rates, not by whether exports go up or down.

Conclusion: The need for ‘growth economics’

Fortunately, the choice is not a stark one between neo-mercantilism and global Keynesianism.

There is a progressive alternative which can be termed ‘growth economics’. Growth economics is based on the view that the path to higher incomes is by raising domestic productivity by all firms in all sectors. It is also based on the view that it is not the amount of capital (financial or human) that nations have that is most important, but how that capital is used.³⁴ And it is based on the view that it is micro-economic factors (e.g., product and labour market competition, technology policies, etc.) that are more important to growth than macro-economic ones.

Under a growth economics doctrine, the central task of global economic policy should be to encourage all nations to make raising domestic productivity a key priority. For example, Indian retail banking is just 9 percent as productive as U.S. levels and retail goods sector productivity is just 6 percent. If India could raise productivity in these two sectors to just 30 percent of U.S. levels, it would raise its standard of living by over 10 percent.

Doing this means working to develop a global consensus that domestic productivity growth should be the key focus on economic policy in every nation. Surprisingly, this is not the case, as many nations put redistribution or mercantilist trade policies first.³⁵ Global bodies like the WTO need to work more proactively against beggar-thy-neighbour mercantilist strategies.

International development organisations like the World Bank and the IMF, and national development organizations like the Agency for International Development, will have not only

34. Robert D. Atkinson, *Supply-Side Follies: Why Conservative Economics Fails, Liberal Economics Falters, and Innovation Economics is the Answer* (Lanham: Rowman & Littlefield Publishers, Inc., 2006), Chapter 9.

35. William W. Lewis, *The Power of Productivity: Wealth, Poverty, and the Threat to Global Stability* (Chicago: University of Chicago Press, 2004), xxiii.

stop promoting export-led growth as a key solution to development, they will have to tie their assistance to steps taken by developing nations to move away from such negative-sum mercantilist policies, thereby rewarding countries whose policies are focused on spurring domestic productivity, not on protecting the status quo.

Progressives should take heart, however, for that an effective growth economics agenda is quite different than the conservative's small government agenda. Indeed, relying on the market alone and consigning government to a role of enforcing contracts and protecting property is a path to sub-optimal growth. All else being equal, economies that forge smart public-private partnerships will always outperform economies in which government abdicates its role and leaves most actions up to private actors. Markets get many things right and if forced to choose between an economy with strong markets and limited government, or one with limited markets and strong government, we should choose the former.

But in contrast to what supply-siders warn, that is a false choice of we can walk and chew gum at the same time. In other words, we can have policies that are pro-market and pro-public policy intervention. And we can do this without defaulting to the supply-side mantra that lower taxes, especially on capital and the rich drive growth. Indeed, in an economy powered by innovation, indiscriminate tax cuts on capital and the rich have no impact on growth. Rather, among other items, growth economics agenda entails active public investments, especially in knowledge, both in the form of research and skills.

But even with this growth economics agenda, many progressives will still ask what about redistribution. But just as we can walk and chew gum at the same time by having policies that are pro-market and pro-public policy intervention, we can also have policies that are pro-growth and pro-fairness, or at least that are not contradictory of one another. There is no reason why intelligent policies to promote fairness—such as higher minimum wages, stronger rights for workers, a stronger safety net, and more progressive taxation—should harm growth, as long as they are reasonable and not excessive.

Yet, at the same time, progressives need to also embrace policies that explicitly seek to boost private sector growth, and not hide behind the cloak that needed redistribution policies, such as universal health care, is a growth policy. In short, it is a false choice to say that a nation's economic policy must choose between growth and fairness. But, having said that, it is all too easy for progressives to simply ignore growth and assume that "the market" will take care of that. It won't without smart growth economics policies.

Globalisation is a wonderful vision and can be an even more wonderful reality, but only if nations abandon negative-sum mercantilist policies and embrace growth economics policies focused on raising productivity for all sectors, and making sure that all individuals can benefit from this growth. If that happens, developed and developing nations will benefit greatly.

