

**IT AIN'T OVER TILL THE FAT LADY SINGS:  
THREE NARATIVES RELATING THE RISE AND POSSIBLE FALL OF THE  
SECOND WAVE OF GLOBALIZATION**

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Men make their own history, but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly encountered, given and transmitted from the past. The tradition of all the dead generations weighs like a nightmare on the brain of the living.<sup>1</sup>

From the Bretton Woods conference in 1944 to the present day the “nightmare” hovering over the world economy has been the collapse of the “first wave” of globalization in the Great Depression of the 1930s. World trade imploded after the United States implemented the Smoot Hawley tariff in 1930 and nation after nation followed suit. Cross-border flows of capital dried up and currencies became inconvertible with devolution into regional blocs: the open world economy slammed shut with a vengeance. What followed was a “bleak age” punctuated by disasters:<sup>2</sup> the Depression; the rise of fascism and communism; and the barbarity of the Second World War which led many to question the very viability of capitalism and liberal democracy. It took almost three decades for the world economy to reopen to flows of trade and investment in the late 1950s and early 1960s.

The icons of the “second wave” of globalization, which dates from the late 1980s, are the fall of the Berlin Wall and the dot.com revolution. Trade and particularly Foreign Direct Investment (FDI) rose dramatically (relative to output) during the 1990s as the world economy became more intensive in terms of the volume and velocity of cross border flows and extensive in terms of the number of countries significantly involved than ever before. Globalization may be a “hideous word of obscure meaning,”<sup>3</sup> but it is the mantra of our era.

The obvious question is whether history is going to “speak twice:” whether the narrative of the second wave of globalization will follow the course of the first. There are more than enough reasons to worry about the “tradition of dead generations.” The Doha round of trade talks under the auspices of the WTO is moribund and attempts to revive it appear futile. President Sarkozy has attacked free trade as a

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<sup>1</sup> Karl Marx, *The Eighteenth Brumaire of Louis Bonaparte* (New York: International Publishers, 1963), p.15

<sup>2</sup> Angus Madison, *Monitoring the World Economy, 1820-1995* (Paris: Development Centre, OECD, 1995).

<sup>3</sup> Martin Wolf, *Why Globalization Works* (New Haven: Yale University Press, 2004), p. 13

“policy of naivety” and promised to block foreign takeovers of French companies.<sup>4</sup> Attempts by CNOOC (a Chinese oil company) and Dubai Ports World to take over American firms were stymied and Congress appears increasingly hostile to acquisitions by foreign investors. Protectionist sentiment is clearly on the rise in countries ranging from South Korea, France, and Canada to the United States. Economic nationalism has reappeared with a vengeance as countries including Russia, Venezuela and Bolivia use the power of the state to increase control over natural resource investment.

It is too easy, however, to compare the present with the 1930s and cry “*déjà vu* all over again.” Every narrative has a beginning as well as an end and it makes little sense to try to predict the final act before the plot unfolds. In this essay I will develop three storylines accounting for the rise of the second wave of globalization, each with its own ending. Which one chooses-- how one sees the future -- depends on one’s judgment about the plausibility of the plot.

The rise of the second wave of globalization can be seen as *conjunctural*, a function of an unusual confluence of political and economic conditions in the 1990s; as *political*, reflecting ideology, the preferences of politicians and the interests of the dominant power; or as *structural*, a result of the technological revolution in transport and communication. How we will make history depends on where we have been: which conditions have been transmitted from the past and now affect current events.

The rise and fall of the first era of economic globalization is an oft-told tale and I will review it only briefly. I will then fill out the three plot lines accounting for the rise of the second wave and explore the implications of each. Last, I will attempt to reconcile the three narratives and hazard a guess as to the future course of a global world economy.

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<sup>4</sup> Martin Arnold, "Sarkozy Underlines Resolve to Block Foreign Takeovers," *Financial Times*, March 30 2007.

## The First Wave

By 1914, there was hardly a village or town anywhere on the globe whose prices were not influenced by distant foreign markets, whose infrastructure was not financed by foreign capital, whose engineering, manufacturing, and even business skills were not imported from abroad, or whose labor markets were not influenced by the absence of those who had emigrated or by the presence of strangers who had immigrated.<sup>5</sup>

To many observers the period from 1870 to 1914 was the “golden age” of international economic integration: “(T)he opening years of the twentieth century were the closest thing the world had ever seen to a free world market for goods, capital and labor.”<sup>6</sup> Trade, capital flows and migration all grew dramatically before being buried in the trenches of the Great War and finally imploding at the start of the Depression.

The volume of trade grew at about 3.4 percent per annum from 1870 to 1913.<sup>7</sup> World exports rose (in current prices) by almost three-fold from 1880 to 1913 and then by 78 percent more through 1929 (see chart 1). By 1913, exports accounted for almost 15 percent of Great Britain’s output (GDP), 12 percent of Germany’s, 15% of Holland’s, 18% of Belgium’s and 6 percent of France’s.<sup>8</sup>

Portfolio capital flowed copiously from the advanced economies in Europe to the new areas of settlement: by 1913 foreign investment accounted for 53 percent of domestic savings in the United Kingdom, and had reached a high point of about 20 percent in both Germany and France during the late 19<sup>th</sup> nineteenth century.<sup>9</sup> The late nineteenth and early twentieth centuries were an age of voluntary mass migration: 36 million people left Europe in the period from 1871 to 1915 alone.<sup>10</sup> While it may be

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<sup>5</sup> Kevin H. O'Rourke and Jeffrey G. Williamson, *Globalization and History : The Evolution of a Nineteenth-Century Atlantic Economy* (Cambridge, Mass.: MIT Press, 1999), p. 2. For a more detailed discussion of the first age of globalization see also Jeffrey A. Frieden, *Global Capitalism: Its Fall and Rise in the Twentieth Century* (New York: W.W. Norton and Company, 2006), Harold James, *The End of Globalization: Lessons from the Great Depression* (Cambridge: Harvard University Press, 2001).

<sup>6</sup> Frieden, *Global Capitalism.*, p. 16.

<sup>7</sup> Paul Q. Hirst and Grahame Thompson, *Globalization in Question : The International Economy and the Possibilities of Governance* (Cambridge, Mass.: Polity Press in association Blackwell, 1996).

<sup>8</sup> O'Rourke and Williamson, *Globalization and History.*, p.30.

<sup>9</sup> *Ibid.*, p. 209.

<sup>10</sup> Hirst and Thompson, *Globalization in Question*, James, *End of Globalization.*

anachronistic to describe this era as the first wave of “globalization” -- the term was first used in the 1960s -- the description none-the-less fits.

While most national economies and international economic activity recovered from the Great War by the mid-1920s, after a series of shocks the first global economy came to an end with the crash of 1929 and the onset of the Depression. The underlying belief system privileging international economic transactions collapsed and what had been a very open world economy slammed shut. World trade spiraled inwards, flows of investment dried up and the world economy devolved into blocs organized around currencies: the Depression destroyed the established world order.<sup>11</sup>

The disastrous consequences of Smoot-Hawley, however, were obvious almost immediately and the process of reducing American tariff levels began with the Reciprocal Trade Agreement of 1934; post-War multilateral trade negotiations were initiated under the auspices of the GATT (General Agreement on Tariffs and Trade) in Havana in 1948. While the reemergence of convertible European currencies in 1959 and the Kennedy round of trade negotiations in the mid-1960s marked the reopening of the world economy, world trade did not regain its pre-1914 level of relative importance in most of the advanced countries until the 1970s or even the 1980s.<sup>12</sup>

Charts 2 and 3 trace the development of exports and outflows of foreign direct investment (FDI) over the last five decades (FDI data is only available from 1975). World exports recovered to about 12 percent of output by 1960 and stayed relatively flat through most of that decade. Exports then grew to about 19 percent of output by 1982 and then fell slightly in the 1980s, increasing steadily over the next decade and a half, reaching 26% of output by 2004.

The backbone of the second wave of economic globalization is direct investment rather than trade. FDI outflows exploded in the 1990s reaching almost 4.5% of world GDP in 2000, before

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<sup>11</sup> Frieden, *Global Capitalism*.

<sup>12</sup> O'Rourke and Williamson, *Globalization and History*, p. 30.

declining precipitously with the dot.com crash of that year. By 2006 FDI outflows had recovered and were close to the record level set in 2000. While much of the exponential increase in FDI during the late 1990s was accounted for by the boom in mergers and acquisition, the increased was none-the-less stark and dramatic. By 2006 there were over 78,000 transnational corporations with 780,000 foreign subsidiaries which accounted for over \$25 trillion in sales, over one and three quarters times the value of world exports.<sup>13</sup>

The question is whether the global economy now faces another inflection point, whether recent events herald a turn inward towards more limited cross-border flows of goods, services, capital and people. The answer depends on how one interprets recent history, how one explains the rise of the second wave of globalization during the last two decades.

### **Globalization as conjunctional**

Cycles in economic life have been known about at least since the time of Joseph, the Keynes of his day, who introduced countercyclical measures to the pharaohs of Ancient Egypt.<sup>14</sup>

The Atlantic economy has been characterized in terms of three historical regimes: the *belle époque* of the late nineteenth century; the dark middle ages from the First World War to 1950 and the renaissance of the late twentieth century.<sup>15</sup> There is no reason to privilege any of these three regimes, to assume that either a relatively open or relatively closed world economy represents the “normal” state of affairs.

Paul Hirst and Grahame Thompson’s warning is pertinent here: “...we should be cautious in a wider sense of ascribing structural significance to what may be conjunctural and temporary changes, dramatic though some of them have been.”<sup>16</sup> The question is what conjunctures account for the rise of

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<sup>13</sup> UNCTAD, *World Investment Report: 2007* (New York and Geneva: United Nations, 2007).

<sup>14</sup> Graham Searjean, "We Need New Economic Cycle to Understand Changing World," *Times*, April 27 2007.

<sup>15</sup> O'Rourke and Williamson, *Globalization and History*.

<sup>16</sup> Hirst and Thompson, *Globalization in Question*., p. 15.

globalization, what confluence of specific economic and political conditions is likely to result in an open global economy, in the maintenance of relatively free cross-border flows of goods, services, and capital?

The first era of globalization took place under unusual political and economic circumstances. After the defeat of Napoleon in 1815, both rising British supremacy and the European balance of power resulted in a period of *relative* peace through 1914.<sup>17</sup> Perhaps more important, the “golden age” of economic integration reflected the industrial revolution and the dramatic increases in productivity and output over the nineteenth century: World GDP increased slightly over twice as fast from 1870 to 1913 than from 1820 to 1870.<sup>18</sup>

The history of the second wave of globalization can certainly be written as another unusual conjunction of political and economic conditions: the fall of the Berlin Wall and the end of the Cold War; the devolution of the Soviet Union; the dot.com inspired boom; and the transformation – at varying rates – of a relatively large number of socialist states into market economies. The 1990s was a decade of prosperity and peace – at least among the major powers – with the emphasis on economics and wealth generation rather than military threats or geopolitics.

During the dot.com revolution anyone with a plausible – or even not so plausible – idea could find venture capital to develop it and “irrational exuberance” was widespread. It was a boom period of economic growth: U.S. real output grew 34% between 1992 and 2000<sup>19</sup> and Europe, East Asia and Latin America all experienced positive growth trends. Importantly, during this period China became an important factor in the world economy, averaging 10.1% annual growth in GDP over the decade.<sup>20</sup>

While causality flows in both directions, one would expect that increased levels of economic activity would result in increased levels of trade and investment. All else equal, in a strong economy

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<sup>17</sup> Frieden, *Global Capitalism*.

<sup>18</sup> Madison, *Monitoring the World Economy, 1820-1995*, pp. 59-61.

<sup>19</sup> <http://www.bea.gov/national/>

<sup>20</sup> <http://www.chinability.com/GDP.htm>

many expanding firms with ample amounts of investment capital at hand are likely to seek markets and investment opportunities abroad. Furthermore, many of the new technological developments of the 1990s were exploited outside of their home markets almost immediately: the concept “born global” dates from this period.<sup>21</sup>

While the end of the Cold War did not result in the Eden-like period of peace and tranquility that some expected, it virtually eliminated conflict among the major powers and threats to national security, and geo-political concerns in general, receded to the “back burner.” American defense spending fell from an average of \$438.5 billion over fiscal years 1986-1990, to \$371.9 between 1991 and 1995 and \$321.4 from 1996 to 2000.<sup>22</sup>

As one would expect, concerns about globalization and an open international economy were relatively quiescent under these conditions: for many in the workforce in the United States and Europe, job security was not an overriding concern. During most of the 1990s the anti-globalization movement was still nascent as the first major anti-globalization demonstration did not occur until the “battle of Seattle” of 1999 during the attempt to open a new round of trade negotiations under the auspices of the World Trade Organization.

The end of the Cold War had a direct impact on trade and investment. While it opened new markets in Central and Eastern Europe, more important was the reduced concern about trade and investment as a threat to national security. The U.S. government, for example, became considerably more permissive about allowing trade in technologies that could have some military or strategic value as the decade wore on. For example, in January of 2000 the Clinton Administration announced the

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<sup>21</sup> The phrase was coined by McKinsey in 1993. Erik S. Rasmussen and Tage Koed Madsen, "The Born Global Concept," (Odense, Denmark: University of Southern Denmark, 2002).

<sup>22</sup> Marcus Corbin, "U.S. Military Spending Fiscal Years 1945-2008," in *CDI Defense Monitor* (Center For Defense Information, 2003).



relaxation of regulations limiting the export of encryption technology. Commerce Secretary Daley noted that the policy represented an adjustment to “market place realities.”<sup>23</sup>

It is reasonable to argue that the conjunction of an innovation-driven economic boom, the suppression of concerns about national security and geopolitics, and the emergence of a relatively large number of new markets (and new workers) give birth to the second wave of globalization. The question is whether the final act contains an inflection point marking a second retreat from globalization. However, before I get to the last act, I need to develop the political and structural narratives.

### **Globalization as Political**

Politics thus determined trade, but trade also helped to determine politics...<sup>24</sup>

There is a reciprocal relationship between politics and economics: while political decisions reflect economic conditions, they also are influenced by ideology and belief systems. It is political officials, elected or appointed, who raise or lower tariffs, impose or remove restrictions on capital flows and allow or inhibit direct investment by multinational firms. Furthermore, power and influence matter in international politics: any international economic regime reflects the interests of the dominant power.

The United Kingdom’s repeal of the Corn Laws in 1846 symbolized that country’s unilateral move toward free trade and the “dawn of a new liberal international order.”<sup>25</sup> The first wave of globalization reflected the triumph, albeit gradually, of liberal ideas: the comparative advantage of Ricardo over mercantilism. It was also a result of the increasing political influence of urban manufacturing over rural agricultural interests as a result of the industrial revolution. Last, an open international economy was in the the interest of the dominant power: at least for a time, the United

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<sup>23</sup> Mararet Johnston, "U.S. Relaxes Encryption Export Policy," *PC World* (2000), <http://www.pcworld.com/article/id,14768-page,1/article.html?RSS=RSS>.

<sup>24</sup> Ronald Findlay and Kevin O'Rourke, *Power and Plenty: Trade, War, and the World Economy in the Second Millennium* (Princeton: Princeton University Press, 2007)., xxvii

<sup>25</sup> O'Rourke and Williamson, *Globalization and History.*, p.77.

Kingdom would have topped the rankings in any 19<sup>th</sup> century Global Competitiveness Report. It is not for nothing that the first wave of globalization has been referred to as the “imperialism of free trade.”<sup>26</sup>

It is not difficult to write the story of the second wave of globalization as politics. While tariff reductions are never an easy sell, especially in the U.S. Congress, there is less opposition to lowering barriers and less pressure for protectionism when the economy is strong and jobs are relatively secure. NAFTA was ratified by both the House and Senate in 1993 (after considerable effort expended by the Clinton Administration) and even during the peak of the cross-border merger and acquisition boom of the late 1990s there was no appreciable opposition to foreign direct investment in the United States. The Maastricht treaty leading to the formation of the European Union and the single market was signed in 1992 and steps leading to the replacement of national currencies by the Euro were formalized during the latter years of the decade.

Ideology certainly played a major role here. The idea of neoliberalism – the internationalization of the Reagan –Thatcher revolution -- swept through the world in the 1990s with the fall of the Wall and the “triumph” of capitalism. This was especially noticeable in many developing and transitional economies where there was a sharp turn-about from state-dominated, inward focused policies towards privatization, deregulation and openness to the world economy, a turn-about described by the World Bank as a “sea change.”<sup>27</sup> Developing countries removed restrictions on FDI with a vengeance: ninety-five percent of changes in law and regulation relating to FDI in developing countries from 1992-2001 were liberalizing.<sup>28</sup>

While the United States may no longer have been a hegemon during the 1990s, it remained the dominant power in the world economy. As a result of both Silicon Valley’s history of technological

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<sup>26</sup> John Gallagher and Ronald Robinson, "The Imperialism of Free Trade," *The Economic History Review* VI, no. 1 (1953).

<sup>27</sup> World Bank, *World Development Report 1991: The Challenge of Development* (New York: Oxford University Press, 1991).

<sup>28</sup> Stephen J. Kobrin and Xun Wu, "The Liberalization of Fdi Policy in the Developing Countries," (Wharton School, University of Pennsylvania, 2006).

development and the uniquely American system of financing venture capital, the U.S. was the technological leader in the information technology that mattered. An open international economy was in its interest and it pressed the case for free flows of trade and investment directly and through international institutions such as the World Bank and IMF.

While manufacturing and low-skilled jobs had been relocating off-shore for some time, during the 1990s there was an assumption that trade theory worked, that while the rust belt was a problem the entire economy would benefit from a shift to more technologically and capital intensive endeavors in the longer run. Challenges to America's economic and technological leadership, lurking over the horizon, were not yet widely recognized.

Politics provides a persuasive plot line for the second wave of globalization. The spread of neo-liberal ideology – the Washington Consensus, combined with the ebbing of protectionist pressures during the boom and the interests of the dominant economic power led to the removal of barriers to cross-border flows of trade, investment and technology, to a global world economy.

### **Globalization as structural**

Reading recently a batch of rather shallowly optimistic “progressive” books, I was struck by the automatic way in which people go on repeating certain phrases which were fashionable before 1914. Two great favourites are “the abolition of distance” and the “disappearance of frontiers.” I do not know how often I have met with the statements that “the aeroplane and the radio have abolished distance” and “all parts of the world are now interdependent.”<sup>29</sup>

As George Orwell observes, a narrative relating globalization and interdependence to technology is not new: the transport and communications revolution of the 19<sup>th</sup> century was one of the primary, if not *the* primary, drivers of the first wave of globalization. As railroads and steamships replaced horse-drawn carriages and sail, and the telephone and telegraph messengers and carrier pigeons, the reach of integrated markets extended first to the regional and national and then to the “global” world economy.

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<sup>29</sup> George Orwell, "As I Please 24, Tribune 12 May 1944," in *George Orwell, Essays*, ed. John Carey (New York: Everyman's Library, Alfred A. Knopf, 2002), 598.

The development of the steam ship not only sped up the trans-Atlantic voyage – from over a month in 1816 to less than a week by the end of the century,<sup>30</sup> it allowed for scheduled deliveries within a reasonable margin of error; a merchant in New York could order goods from London and have confidence about both the certainty and timing of their arrival. Steam-ships reduced the price of transport dramatically resulting in a marked increase in international trade and price convergence across markets. The premium for Liverpool wheat prices compared to Chicago, for example, dropped from 57.6% in 1870 to 15.6% in 1913.<sup>31</sup>

Developments in communications had even more far-reaching impacts. Within thirty years of Samuel Morse's first telegraph in 1844, the "global" network included over 650,000 miles of wire and 30,000 miles of submarine cable, by 1866 a permanent trans-Atlantic link was in place.<sup>32</sup> The direct connection between London and New York had an immediate impact on financial markets. After the cable was operational, investors could obtain prices and execute orders with a one day delay.<sup>33</sup> As a result, the mean absolute difference in bond prices between New York and London fell from \$4.118 in 1866 to \$1.208 by October-November of 1871.<sup>34</sup>

Norman Angell observed in 1910 that the complex financial interdependence of the capitals of the world is "the result of the daily use of those contrivances of civilization which date from yesterday – the rapid post, the instantaneous dissemination of financial and commercial information by means of telegraphy, and generally the incredible progress of rapidity in communication..."<sup>35</sup> Similarly, the

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<sup>30</sup> Frieden, *Global Capitalism*., p5.

<sup>31</sup> O'Rourke and Williamson, *Globalization and History*., 43.

<sup>32</sup> Tom Standage, *The Victorian Internet* (New York: Walker and Company, 1998).

<sup>33</sup> Kenneth D Garbade and William L. Silber, "Technology, Communication and the Performance of Financial Markets: 1840-1975," *Journal of Finance* 33, no. 3 (1978).

<sup>34</sup> *Ibid.*, p 825.

<sup>35</sup> Norman Angell, *The Great Illusion; a Study of the Relation of Military Power in Nations to Their Economic and Social Advantage* (New York and London: G.P. Putnam's sons, 1910)., 52.

second wave of globalization is rooted in “contrivances of civilization that date from yesterday:” email, the Internet, cell phones and transport developments such as jet aircraft and container shipping.

While both 19<sup>th</sup> and 20<sup>th</sup> century technological developments were critical drivers of their respective waves of globalization, I will argue that the relationship is more complex and deeply seated this time around. Both the telegraph and the internet, and the steam ship and container ship, facilitated international trade and investment in their time. However, late 20<sup>th</sup> century technological developments not only facilitate integration but they also increase the cost of devolution to the point where national autonomy and autarky may no longer be sustainable over all but the very short run.

The exponential increase in FDI, a proxy for the activities of multinational companies, over the 1990s (chart 3) is in large part a function of new technologies of transport and communication. While multinational firms expanded internationally over the 1970s and 80s, it was difficult if not impossible for them to function as coordinated global entities managing integrated operations. The development of the fax, internet, email, and cell phones broke down the barriers posed by distance allowing firms to operate as coordinated global networks for the first time. The impact of the information revolution on financial markets has been equally dramatic. The advent of instant communications and electronic trading resulted in cross-border mergers and the development of mega-exchanges such as the New York Stock Exchange – Euronext. One indication of the impact on international finance is the sharp increase in global foreign exchange trading over the 1990s, from \$620 billion in 1989 to \$1,200 in 2001.<sup>36</sup>

The rise of global production networks and the explosion of trade in services are emblematic of the transformative impact of late 20<sup>th</sup> century technology. Globalization has been described in terms of two “unbundlings,” the separation of production from consumption – which is not new --and the

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<sup>36</sup> Monetary and Economic Department, "Triennial Central Bank Survey of Foreign Exchange and Derivatives Market," (Basel: Bank for International Settlements, 2007).

geographic dispersion or disaggregation of stages in the value chain which certainly is.<sup>37</sup> Global production networks, which are made possible by the combination of information technology and container shipping and/or jet transport, are a manifestation of a seismic reorganization of the global economy from geographically-bounded national markets and discrete cross-border flows to transnational production and networked value chains.<sup>38</sup>

The information revolution has enabled the development of electronically networked service delivery eliminating the need for geographic proximity in many instances. Software development, call centers, back-office operations and the like can be located anywhere high speed communications and the requisite personnel are available. For example, it is increasingly common for CAT scans or MRIs obtained after the normal working day to be read by groups of radiologists located in India or Australia. With the advent of digital imaging devices and the internet, a service, that in the recent past required a patient and doctor in immediate physical proximity (reading an X-ray) now can be preformed anyplace in the wired world.<sup>39</sup>

While technology has facilitated the current wave of economic globalization, perhaps more importantly, it has transformed the nature of integration markedly increasing the difficulty and cost of devolution to protected and relatively independent national markets. Technology now functions as a constraint limiting the range of feasible modes of organization of the world economy. This time around integration is deep rather than shallow: arms length trade and portfolio investment have been superseded by 780,000 subsidiaries of MNCs, high levels of intra-firm trade and global production networks. Furthermore, in a number of strategic industries, research and development has become inherently

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<sup>37</sup> Richard Baldwin, "Globalization: The Great Unbundling," (Helsinki: Economic Council of Finland, 2006).

<sup>38</sup> Gary Gereffi, "The New Offshoring of Jobs and Global Development," in *ILO Social Policy Lectures* (Jamaica: International Institute for Labor Studies, 2005).

<sup>39</sup> William R. Brody, "Nighthawks: Global Outsourcing Comes to Radiology," *Crossroads* (2004), [http://www.hopkinsmedicine.org/about/Crossroads/09\\_09\\_04.html](http://www.hopkinsmedicine.org/about/Crossroads/09_09_04.html).

global. Unraveling any or all of those would be difficult and costly, if not impossible. A few examples will suffice.

Technology is now global in terms of both scale and expertise. For example, a recent estimate of the cost of bringing a new drug to market (including failures along the way) is over \$800 million dollars;<sup>40</sup> Pfizer spent over \$8 billion on R&D in 2006.<sup>41</sup> A competitive research and development budget in pharmaceuticals, or aerospace, telecommunications or information systems, cannot be supported by sales in even the largest national market: firms in these industries must sell their products in at least the major markets of the world to survive. Furthermore, research and development has become internationalized: it requires inputs from scientists and engineers in more than one region of the world and may well require development efforts in multiple time zones allowing round-the-clock work on new products. Under these circumstances devolution into relatively closed national markets would amount to a technological disaster and it is far from clear that the citizens of most countries would be willing to bear the costs in terms of a significantly slowed development of new drugs or even cell phones or computers.

While the Smoot-Hawley tariff may well have exacerbated the Great Depression, countries were able to raise prohibitive barriers at their borders and either substitute less efficient local production or do without. However, the disaggregation of the value chain and the geographic dispersion of both development and production now not only makes it prohibitively expensive to attempt to substitute local for international products, but it may make it impossible to do so. Laptop computers, for example, are comprised of components developed and produced in a relatively large number of countries. It would be

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<sup>40</sup> Congressional Budget Office, "Research and Development in the Pharmaceutical Industry," (Washington: Congress of the United States, 2006).

<sup>41</sup> Sarah Laitner and Clive Cookson, "Drug Makers Top R&D Spending Scoreboard," *Financial Times*, October 6 2007.

very difficult to replicate that global production network in any single country in the short to medium run and it would certainly increase the cost of the product dramatically.

The development of the Boeing 787 “Dreamliner” is relevant here. Boeing itself is responsible only for about 10% of the value added; the other 90%, which includes technological development as well as production, is shared by forty partners around the world. The idea voiced by some that Boeing could retain control over technology and build the entire airplane in the U.S. has been called “pie in the sky.”<sup>42</sup> Despite the severe problems Boeing is encountering in getting this very complex and geographically dispersed production network to function,<sup>43</sup> it simply does not have either the technological capacity – carbon composite materials, for example – or the risk-taking capability to deal with the entire project on its own. The scale and scope of the 787 are such that is an inherently international undertaking: it simply would not be feasible in a world of closed and autonomous national markets.

The story of the current wave of globalization thus can be told as a structural narrative with technology both facilitating globalization and markedly increasing the cost of devolution to the point where it may not be feasible over the medium to long run. It is now time for the fat lady to sing.

### **The last act**

Everything, everything I know, all is now clear to me! I hear your ravens stirring too; with dreaded desired tidings I now send them both home. Rest, rest now, o god.

So Brünnhilde sings in the closing scene of Wagner’s *Götterdämmerung*. What are the tidings, desired or not, which flow from each of the three narratives of globalization: conjunctural, political and technological? How might the story end?

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<sup>42</sup> John Gapper, "A Cleverer Way to Build a Boeing," *Financial Times*, July 8 2007.

<sup>43</sup> J. Lynn Lunsford, "Jet Blues: Boeing Scrambles to Repair Problems with New Plane," *Financial Times*, December 7 2007.



If the second wave of globalization was a function of an unusual conjunction of supportive economic and political conditions – the dot.com boom and the end of the Cold War – then the stock market crash of 2000 and the events of September 11<sup>th</sup>, 2001 brought that era to a close. The S&P 500 index reached a high of 1518 in August of 2000 and then fell to 841 by February of 2003, a drop of 45%; the NASDAQ composite index fell even faster and further, from a high of 4206 in August of 2000 to a low of 1172 two years later, a drop of close to 100%.<sup>44</sup>

Similarly, the attack on the World Trade Center, the declaration of the “War on Terror,” and the invasions of Afghanistan and Iraq transformed the geopolitical environment, moving military-security affairs back to the front burner. The very benign environment of the 1990s (for the major powers) was transformed: it was no longer markets *über alles*. The post 9/11 imposition of border controls and security restrictions made cross-border travel much more difficult and increased transaction costs for international shipments.

The impact on the world economy was obvious: while exports fell only slightly in 2001 and then recovered, FDI inflows declined precipitously after 2000 and did not begin to recover until 2004 and 2005. Global FDI inflows fell from \$15.2 billion in 2000, to \$8.0 billion in 2001, \$7.3 billion in 2002 and \$6.4 billion in 2003, a decline of almost 60% over the three year period.<sup>45</sup>

Conditions in 2008 do not appear supportive of continued economic openness. The U.S. sub-prime problem has spread to other countries and the resulting credit crisis, combined with the fall of the dollar, threatens the underpinnings of the financial system. Oil has exceeded \$100 per barrel and food prices have increased dramatically. Tensions between Russia and the West are rising and conflict in the mid-East has not abated.

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<sup>44</sup> Data were obtained from Yahoo Finance, <http://finance.yahoo.com/>

<sup>45</sup> The World Bank Group, World Development Indicators, WDI Online.

It is not hard to argue that the 1990s were a very unusual decade and that the significant changes in the international economic and political environment in the early 21<sup>st</sup> century make maintenance of an open, integrated global economy more difficult. The window which opened in the late 1980s may be about to slide, or perhaps slam, shut.

The development of the political narrative in the early 21<sup>st</sup> century also does not bode well for globalization. In December of 2007, Hillary Clinton – a leading contender for the Democratic Presidential nomination – called for a “time out” on new trade deals including Doha, noting that theories “underpinning” free trade may no longer “hold true in an era of globalization.” She argued, “with Doha and with these large global agreements, again we have to see what works and what doesn’t” and called for a review of NAFTA, one of the hallmarks of her husband’s administration.<sup>46</sup>

Ms. Clinton’s remarks, and those of other Presidential candidates, reflect increasing public concern about open economic borders and increasing economic insecurity. The percentage of Americans who believe that globalization has been “good” because it opened new markets and created jobs dropped from 42% in June of 1997 to 28% in December of 2007; the percentage who felt it has been bad due to unfair competition and cheap labor rose from 48% to 58% over the same period.<sup>47</sup> Another 2007 survey of public opinion concluded that “Openness to trade, investment, immigration, and global engagement through foreign assistance are in question in the United States and Europe.”<sup>48</sup>

Concern about trade and particularly FDI has risen in countries ranging from the U.S. and France to South Korea. This has been exacerbated by the attention given to Sovereign Wealth Funds in the second half of 2007 with high profile investments in companies such as Citigroup, UBS and Dow

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<sup>46</sup> Edward Luce, "Full Transcript: Hillary Clinton Interview," *Financial Times*, no. December 3 (2007), <http://www.ft.com/cms/s/0/fec8e7ba-a0e4-11dc-9f34-0000779fd2ac.html>.

<sup>47</sup> NBC News/WSJ Study #6078, December 2007.

<http://online.wsj.com/public/resources/documents/wsjnbcpoll20071219.pdf>

<sup>48</sup> Economic Policy Program, "Perspectives on Trade and Poverty Reduction: Key Findings Report," (Washington: German Marshall Fund, 2007), p4.

Chemical. Opening or closing economic borders is a political act undertaken by elected or appointed officials. Given the nature of the political process – especially in a federal system – lowering barriers to trade and investment is a difficult task in the best of circumstances. With increasing economic insecurity and softening support for an open world economy, that task could well become Herculean.

Although it is too soon to argue that there has been a wide-spread rejection of neoliberal ideology, there are certainly cracks in the edifice. Resource producers such as Venezuela, Bolivia and perhaps most important, Russia have re-nationalized firms and appear to be returning to the era when economic nationalism was ascendant. The trend towards increasingly liberal policies towards foreign direct investment has slowed and, in fact, been reversed in some instances. From 1992 to 2001 UNCTAD reported a total of 1318 changes in national regulatory policy towards FDI of which only 88 or 6.7% were unfavorable or de-liberalizing. By 2004 that figure had climbed to 15% and in 2005 and 2006 one-quarter of the changes were unfavorable to direct investors.<sup>49</sup> While UCTAD notes that this trend appears to be confined to a relatively small number of countries and industries, it none the less may indicate a retreat from the high-water mark of neoliberalism.

Mark Thirlwell notes the irony of second thoughts about globalization emerging most visibly in the country that has been the strongest proponent of the current global economy and the “biggest winner” from globalization: the United States. He labels this phenomenon “scared by success” and attributes it to the challenges posed by the “globalization powered rise” of China and India.<sup>50</sup>

Chinese exports grew almost four-fold from 1990 to 1999 and then again three-fold from 2000 to 2005.<sup>51</sup> Perhaps more important, both China and India are now viewed as potential technological competitors. Both IBM and Microsoft have located research and development operations in China and

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<sup>49</sup> UNCTAD, *World Investment Report: 2007.*, 10.

<sup>50</sup> Mark Thirlwell, "Second Thoughts on Globalization," (Double Bay, New South Wales: Lowey Institute for International Policy, 2007)., p5.

<sup>51</sup> WDI Online, World Development Indicators accessed through <http://proxy.library.upenn.edu> on December 17, 2007.

the Chinese firm Lenovo has successfully taken over the ThinkPad line of laptop computers from IBM. China has accumulated an enormous surplus and has begun to shift from portfolio investments in U.S. Treasuries to direct stakes in American and European companies. While the United States may still be the dominant economic power, it is a lot less secure in that position than it was during the 1990s. The assumption that globalization is bound to benefit America, that an open world economy is in the American interest, is no longer taken for granted.

Globalization's political narrative is written in terms of lowered pressures for protectionism, the internationalization of neoliberalism and the interests of America as the dominant economic power of the 1990s. A concluding chapter for this story that assumes increased pressures for protectionism and a corresponding difficulty in reaching new trade agreements, some serious questioning of neoliberal assumptions and the United States recalibrating its interests vis-à-vis an open global economy would certainly be consistent with the unfolding of events during the first decade of the 21<sup>st</sup> century.

The denouement of the structural or technological narrative is inconsistent with the other two. The pace of technological development has increased during the current decade and, security considerations aside, both communications and transport technology continue to facilitate globalization. More importantly, the technologically-based opportunity costs of economic independence have, if anything increased. It would be difficult, if not impossible, to maintain a competitive research and development budget without a global footprint or replicate the output of global production networks domestically. The costs of devolution, of a retreat to even relatively independent national markets, may be too high to bear. Regardless of the outcomes of the conjunctural and political narratives, technology places limits on the restructuring of the world economy.

## Reconciling the narratives

That machines make history in some sense – that the level of technology has a direct bearing on the human drama – is of course obvious. That they do not make all of history, however that word be defined, is equally clear. The challenge, then, is to see if one can say something systematic about the matter, to see whether one can order the problem so that it becomes intellectually manageable.<sup>52</sup>

Reality does not separate itself neatly into self-contained narratives. The challenge is to combine the conjunctural and political narratives with the structural while avoiding the perils of technological determinism.

The story of globalization in the medium term future is likely to be complex. To some extent machines make history: the information revolution cannot be reversed and devolution would be very costly. The internet, global production networks and the internationalization of technological development are permanent changes in the economic landscape. For better or worse, technology has locked us into an integrated world economy from which there is no feasible retreat.

That said, the conjunctural and political stories are still very relevant. The context of globalization has changed and the political-economic environment is no longer as supportive of an open world economy: protectionist pressures have reappeared; neoliberal ideology is being challenged; and opposition to free flows of trade and investment is rising. Where does that leave us?

I believe that the answer is an integrated world economy from which we can neither escape nor manage effectively. We live in an age of geographic incongruity. The world economy and economic actors are global while politics, law, regulation as well as society and culture are still largely national and local. The institutions necessary to manage global economy have not been developed, and at this point, the political will to do so is far from obvious. For the foreseeable future, measured in decades, we

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<sup>52</sup> Robert L. Heilbroner, "Do Machines Make History?," in *Does Technology Drive History: The Dilemma of Technological Determinism.*, ed. Merritt Roe Smith and Leo Marx (Cambridge: MIT Press, 1994), p. 54.

are likely to be stuck with a dysfunctional world economy. Angst, anxiety and uncertainty will be abroad in the land for some time to come.

Economic and political conditions supportive of globalization will continue to wax and wane. There will be periods, such as the present, when the environment will become much less “globalization-friendly,”<sup>53</sup> and the economic and political context will make it difficult to conclude new multilateral agreements and protectionist pressures will rise. There may well be some retreat towards independence of national markets. The range of policy options, however, will be limited by technologically imposed structural conditions. The costs of even partial devolution toward independent national markets will become obvious relatively quickly in terms of the inability to dismantle production networks or support technological development efforts within a limited market. It is increasingly difficult to raise barriers at the border in a digital world. The pendulum will swing back towards open and integrated markets. The resulting instability, attempts at closure thwarted by the underlying technological reality, will be with us for some time to come.

We are in the midst of a deep-seated transition, a reordering of the organization of both economic and politics. The Westphalian international order rooted in mutually exclusive territoriality and geographic sovereignty is no longer consistent with the transnational reality of the early 21<sup>st</sup> century. We may well be at a point comparable to the evolution of the modern international world order from European medievalism in the 16<sup>th</sup> and 17<sup>th</sup> centuries. Change of that magnitude does not occur quickly or easily. The international economic environment will be characterized by volatility, risk, oscillating pressures for openness and closure, and uncertainty well into the future. Until the institutions necessary

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<sup>53</sup> Thirlwell, "Second Thoughts on Globalization."

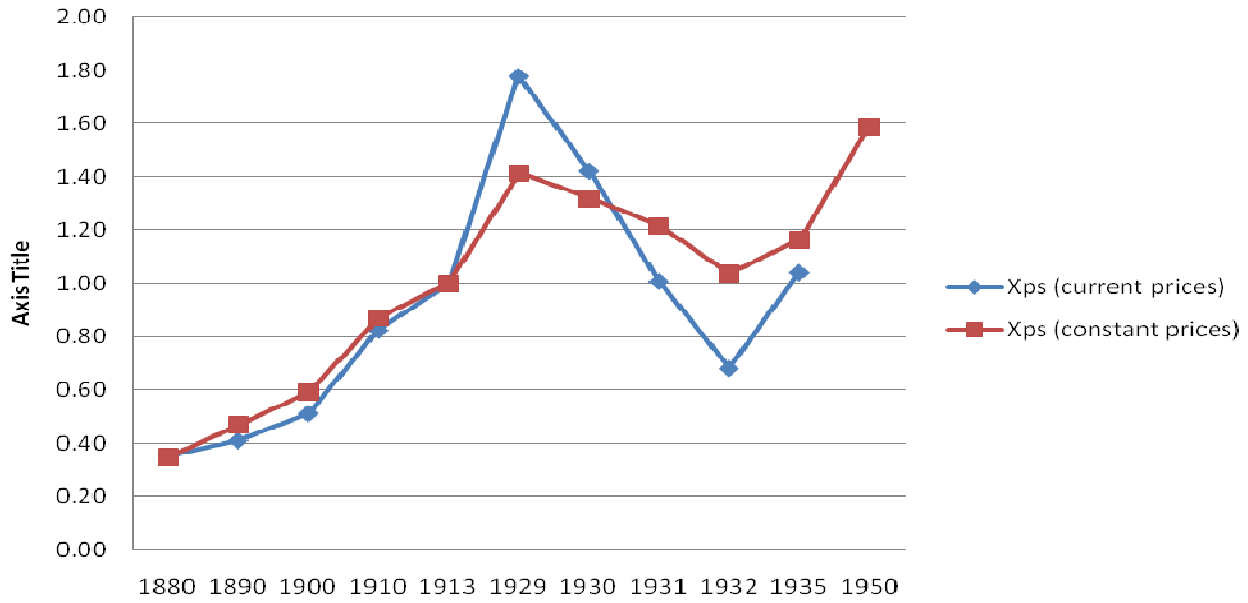
to manage an integrated world economy effectively evolve, until politics catches up with economics,<sup>54</sup> globalization is likely to be messy, uncertain and difficult.

That said, the nightmare weighing on the brains of the living, the collapse of the first wave of globalization in the 1930s is unlikely to reoccur. Conditions have changed and the technological conditions underlying the emerging global world order make devolution into even relatively independent national markets very unlikely.

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<sup>54</sup> Jurgen Habermas, *The Postnational Coalition: Political Essays* (Cambridge: MIT Press, 2001).

**Chart 1**  
**World Exports**  
**1913=100**



**Chart 2**  
**Exports of Goods and Services/GDP**

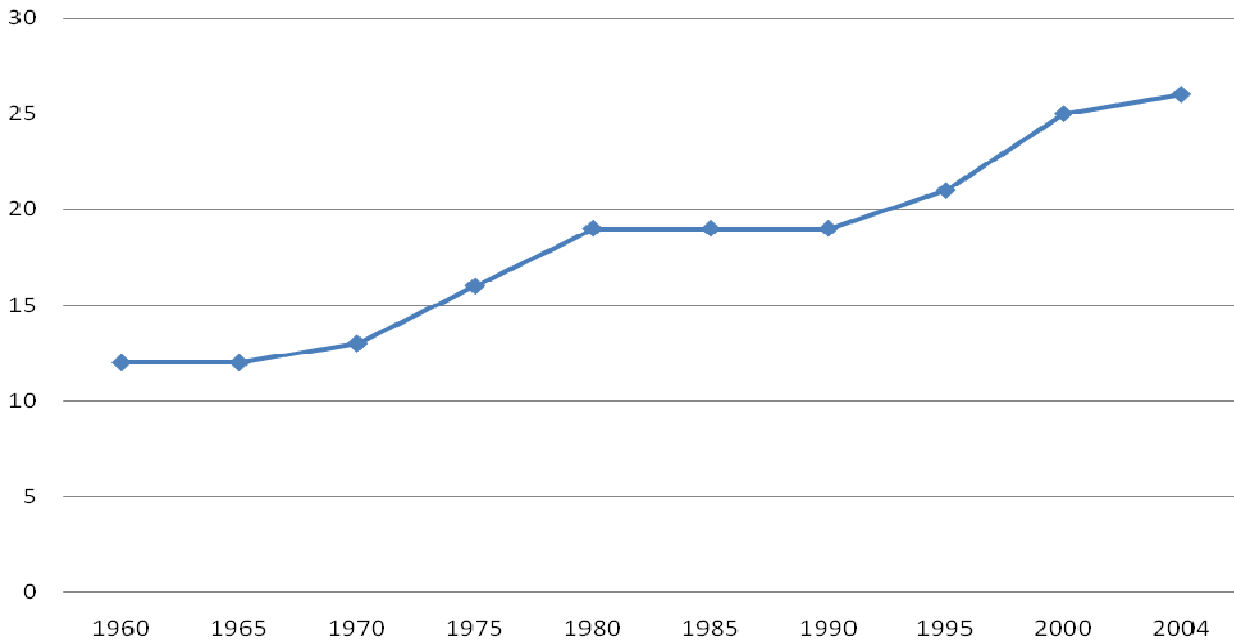




Chart 3  
FDI Outflows/GDP

