



## The Globalization of Markets

The term “globalization” first appeared in a dictionary of (American) English in 1951, and its roots can be traced back to the terms “global” (which took on the meaning of ‘world scale’ in the late 19<sup>th</sup> century) and “globalize” (which appeared in the 1940s).<sup>1,2</sup> Globalization came to prominence in popular discourse in the late 1990s and early 2000s, concurrent with a surge in publications on the topic. In the early 1990s, the U.S. Library of Congress catalog listed less than 50 publications per year related to globalization – from 2002 to 2008 there were more than 1100 every year.<sup>3</sup>

Their popularity notwithstanding, such works were seldom grounded in broad-based and rigorous examinations of the relevant data. Most were of the genre exemplified by Thomas Friedman’s bestseller *The World is Flat*,<sup>4</sup> which may be termed “apocalyptic” in that they draw from a limited set of examples to describe or predict a future where national borders no longer matter at all. This note is intended to address the gap between globalization data and rhetoric, providing evidence on the globalization of markets, including historical evidence, where available to put the present level of globalization into perspective. The recent wave of publications on globalization has also stretched the term’s definition to a degree that scholars have bemoaned its lack of useful precision. Globalization has been used – mainly by writers with political agendas – to denote liberalization, Westernization, homogenization, economic growth *and* decline, equality *and* inequality, and so on. This note applies the much more limited (and non-controversial) definition of globalization simply as cross-border integration, i.e. the building up of various kinds of connections across national borders.

As this note will elaborate, the actual data do not support the apocalyptic writers’ assertions that the world is approaching anything close to complete globalization. Rather, the data describe a *semiglobalized* world that conforms broadly to what I call the *10% presumption*. If one has to guess the level of internationalization of some kind of economic activity, it is safer to assume it to be much closer to 10% than 100%. While examples cited in this note such as trade and some kinds of investment exceed the 10% level of internationalization, they are worthy of emphasis here specifically for that reason, and these few at most reach 20-30% – still closer to 10% (and 0%) than 100%.

This note is structured around four types of activities for which cross-border integration is evaluated. Primary emphasis is placed on (1) Products (and Services) Trade and (2) Foreign Direct Investment and other Capital Flows. Secondary emphasis is given to cross-border flows of (3) People and (4) Information. In each section, the bulk of the evidence presented is in the form of quantity measures to address the following questions: How much of a given type of activity happens across borders? How has that amount varied over time? And how much does the level of internationalization vary from country to country? Where available, price measures are also presented because economic theory teaches that rising levels of cross-border integration between markets should, all else equal, result in declining levels of price dispersion across countries. This note treats markets as the locus of cross-border integration and focuses primarily on economic evidence for their integration. Thus, it complements the next note in this series which addresses the globalization of firms. The structure of this note is summarized in **Table 1** below.

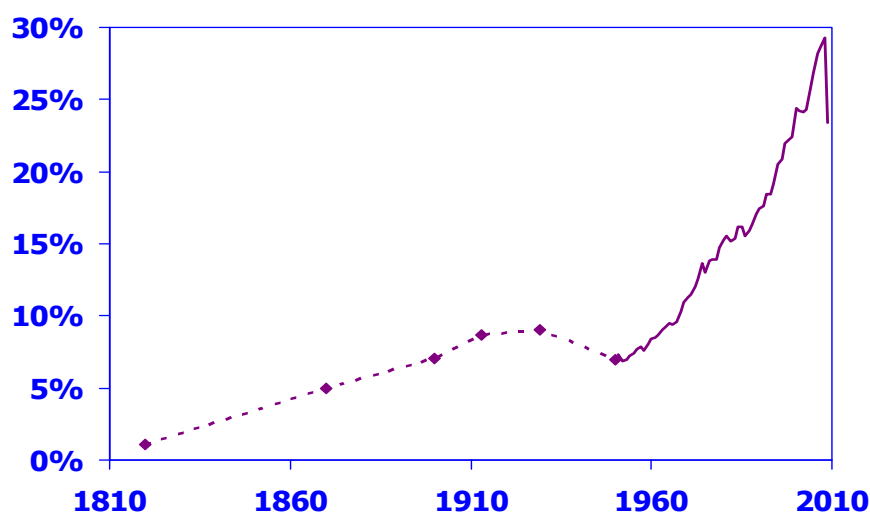
**Table 1** Dimensions of Integration (Structure of this Note)

Dimension	Primary Emphasis	Secondary Emphasis
Type of Flows	-Products (and Services) Trade -Foreign Direct Investment and other Capital Flows	Other Resources -People -Information
Criteria for Evaluating Integration	Economic	Noneconomic
Key Boundaries	Countries	Regions
Locus of Integration	Markets	Firms (Covered in Subsequent Note)
Outcome Variables	Quantities	Prices

## I. Products (and Services) Trade

Trade flows are the most obvious quantity measure of product market integration. **Figure 1** presents the long term trend of world exports divided by Gross World Product or World GDP (the usual normalization in this context), as far back as the early 1800s. The proportion of world output traded across borders reached its first peak of roughly 9% immediately before the Great Depression and then retreated back to about 7% during the period between World War I and World War II. After World War II, this metric soared through its previous peak and continued growing with few interruptions until reaching the unprecedented level of 29% in 2008. While the recent financial crisis and macroeconomic downturn led to a steep drop-off in 2009 to 23%, the ratio of trade to GDP remained near its all-time high as of this writing, reflecting significant gains in the cross-border integration of product markets, at least by this measure, particularly during the last half-century.

**Figure 1** World Exports as Percentage of GDP, 1820 to 2009



Source: Angus Maddison, World Bank World Development Indicators.

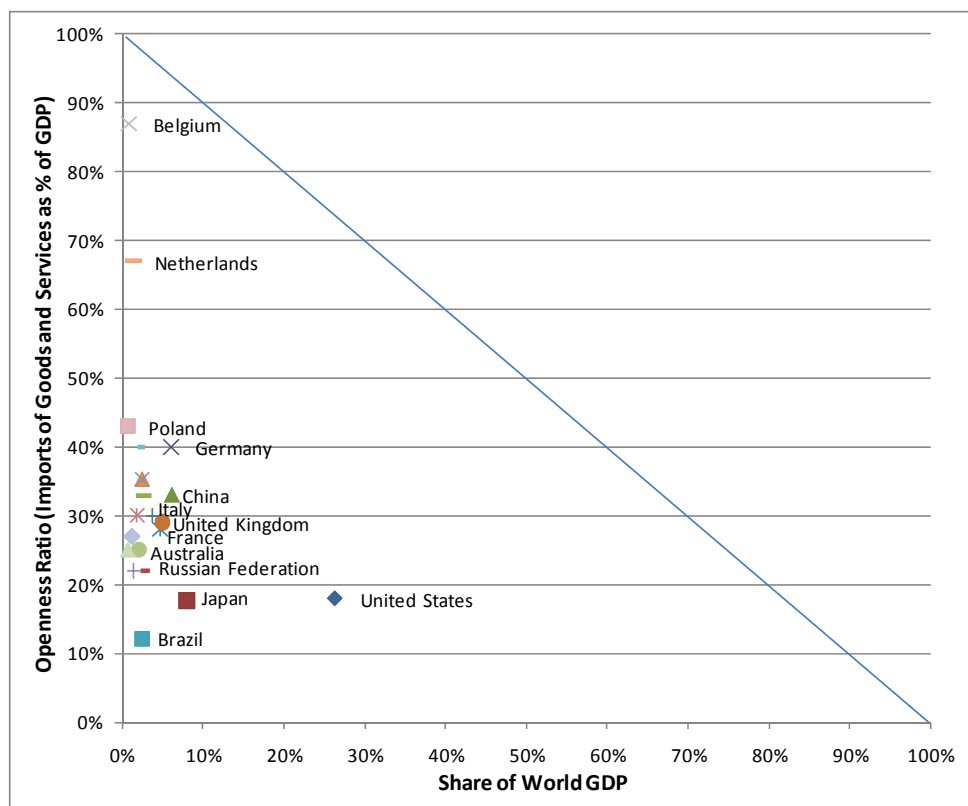
The growth of international trade as a proportion of GDP is even more remarkable when one accounts for the increasing share of GDP contributed, especially in developed countries, by two sectors that account for relatively little trade—services and government. Over the course of the 20<sup>th</sup> century, merchandise trade as a proportion of merchandise value added grew much more rapidly than the broader trade to GDP ratio.<sup>5</sup> Without elaborating the specific data, the general pattern has been an evolution over time from trade occurring mainly in primary materials to manufactured products (and now to a more limited extent) to services. Trade took off in many commodities before the beginning of the 20<sup>th</sup> century, there were substantial increases in the trade of manufactures over the course of the 20<sup>th</sup> century - particularly its second half, and the service sector continues to lag with respect to the proportion of value added traded across borders even though trade in services is now growing.

To economists who study international trade, however, the issue of why there isn't even more of it is more interesting than the higher and higher records being set. To see the room for increase, consider a hypothetical benchmark in which national borders didn't affect buying patterns at all. In such a situation, buyers in a particular nation would be as prone to obtain goods and services from foreign producers as domestic ones, and the share of imports in total domestic consumption would equal 1 minus the nation's share of world product.<sup>6</sup> For example, since the U.S. economy accounts for about one-quarter of Gross World Product, the U.S. import/GDP ratio would, at this benchmark, equal 1 minus the U.S. share of world production, or .75, as would, under the first-order assumption of balanced trade, the U.S. export/GDP ratio. However, the actual ratios are less than one-quarter of these hypothetical ratios!

The line with slope -1 in **Figure 2** traces out this hypothetical benchmark of perfect product market integration as national shares of world product vary, with the world's twenty largest economies by GDP in U.S. dollars (not adjusted for purchasing power parity) plotted on the chart. Notice that most of the nations cluster close to the origin and all fall well below the hypothetical maximum—including the relatively small and open economy of Belgium, the highest example shown on the chart.<sup>7</sup> The main

exceptions to this rule are trading hubs such as Hong Kong and Singapore, which have imports of nearly double their GDP, but re-export a large proportion of their imports.

**Figure 2** Actual vs. Perfect Product Market Integration, 20 Largest Economies, 2007



Source: World Bank World Development Indicators (WDI), except for United States data from United States Bureau of Economic Analysis (BEA), Japan data from JETRO, and Canada data from Foreign Affairs and International Trade Canada

While the hypothetical benchmark suggests significant barriers to cross-border product flows, it also embodies a number of extreme assumptions. Real examples point to the same conclusion. Consider Spain: 89% of Spain's output is destined for its own national market, 8% for other EU markets, and 3% for the rest of the world. In addition to underlining the predominance of production for local markets, the Spanish example also illustrates the regionalization of trade patterns that is typical of advanced economies.

The proportion of trade that occurs within regions has increased steadily since the 1950s and by 2000 comprised the majority of trade for countries in Western Europe (65%), North America (62%), and Asia and Oceania (51%). This reflects both the results of intentional efforts to build up regional trade blocs such as the European Union and NAFTA, as well as the more general effects of distance (broadly construed) as an inhibitor to trade. Thus, regionalization is not a poor a man's version of globalization. In fact, policymakers in the regions with low proportions of intra-regional trade, Middle East (9.6%) and Africa (8.5%), see regional integration as an important development tool and are actively working to build up regional trade networks.

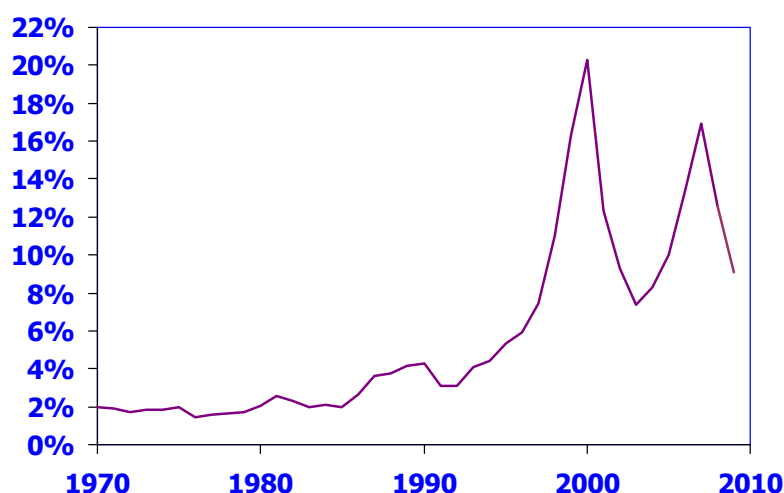
Viewed in terms of prices rather than quantities, the ultimate in market integration is achieved when two (or more) markets are yoked together by the so-called Law of One Price (LOP), i.e., prices equalize across them. Implicit in LOP is a (strong) zero-arbitrage-profits principle. Note that the degree of price integration of product markets can be high even when the quantity flows across them are limited, e.g., for some commodities whose local prices are pegged to world benchmark prices, particularly ones with high value-to-weight ratios. Except for (nearly) perfect commodities, however, tests of price integration are generally hampered by the lack of data on local currency prices of identical products across countries. Studies that have been conducted to test LOP, however, generally conclude that cross-country price dispersions tend to be large and to die down at a slow pace, and there is little evidence of recent movement toward smaller dispersions or speedier dampening.<sup>8</sup> Thus, the evidence is murky but it

is not possible to conclude that price measures indicate increasing (or decreasing) integration or globalization of product markets.

## II. Foreign Direct Investment and Other Capital Flows

Trade isn't the only way in which the cross-border integration of product markets is accomplished: foreign direct investment (FDI), which involves product-specific investment across borders, is an obvious alternative. My own preferred normalization is to look at how large total FDI flows are in relation to gross global fixed capital formation because this permits a (rough) answer to the question of how much of all the capital being invested around the world is being deployed by companies outside of their home countries. **Figure 3** tracks the evolution of this ratio over four decades. While FDI (like trade) soared to unprecedented levels after World War II, the ratio of FDI to gross capital formation peaked in 2000 amid a wave of cross-border mergers and then declined again. Current levels, as of this writing, are depressed due to macroeconomic conditions, but forecast to rise again with a broader recovery.

**Figure 3** FDI Flows as % of Gross Fixed Capital Formation



Source: UNCTAD, World Bank World Development Indicators.

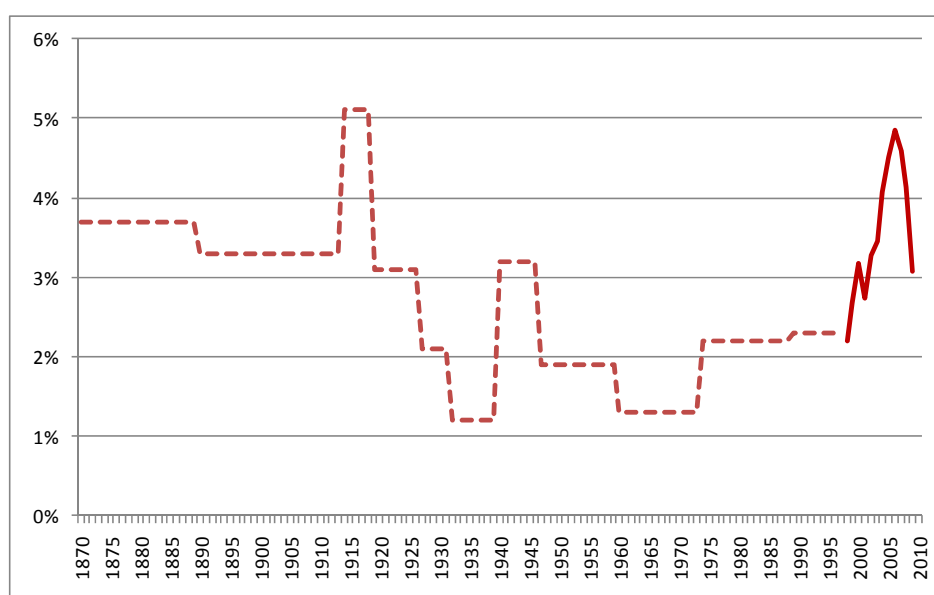
While such long-term trend data are not available for most other forms of cross-border investment, the general pattern remains one of partial integration. There has been substantial study on cross-border equity investment, though as in the case of trade, the professional curiosity of economists has focused on smaller-than-expected flows (or stocks). Probably the most famous “anomaly” of this sort is the one uncovered by Martin Feldstein and Charles Horioka (1980), who calculated a 90% correlation between domestic savings and domestic investment across a panel of countries, much higher than benchmark models which assume perfect capital mobility would lead us to expect. Another anomaly that points in the same direction concerns what is called home-country bias: investors in each country hold much larger proportions of their wealth in the form of domestic securities than they would with internationally well-diversified portfolios. Thus, by one estimate, U.S. investors should have held more than half their wealth in foreign equities in the 1980s, instead of the less than 10% that they actually held.<sup>9</sup> Broader studies of cross-border equity investment vary based on the countries and time periods considered (along with source data and methodological differences). Data from one fairly broad study suggests that the cross-border proportion of equity investment was roughly 20% as of 2005.<sup>10</sup>

Data on other forms of cross-border investment are spotty but fit with the general pattern outlined above. Available data indicate external (foreign owned) government debt as a proportion of total government debt rose from 27% in 2003 to 34% in 2008, though due to anomalies in some of the raw data for this calculation, is it probably best simply to think of this ratio as roughly 30% in recent years.<sup>11</sup> The data on cross-border ownership of bank deposits are also hard to pin down, but one estimate puts the proportion of bank assets held by foreign owners at about 27%.<sup>12</sup> Venture capital investment is more

localized, even within countries. Between 15% and 20% of venture capital funds were estimated to have been invested across borders as of the mid-2000s.<sup>13</sup>

All of the investment flows discussed here reflect partial views of the cross-border integration of capital markets.<sup>14</sup> Because of identities in national income accounting, countries' net capital flows can be measured as the reverse of their current account balances to get a more complete view on cross-border integration of capital markets. Data on net capital flows divided by GDPs for 12 countries suggest that this index of capital mobility has increased in recent decades but was higher still around the beginning of the 20<sup>th</sup> century (see **Figure 4**). Note that the impressive performance 100 years ago was accomplished in spite of informational and contracting problems that were probably much more severe back then given the lack of generally accepted accounting principles and commensurately weak reporting requirements.

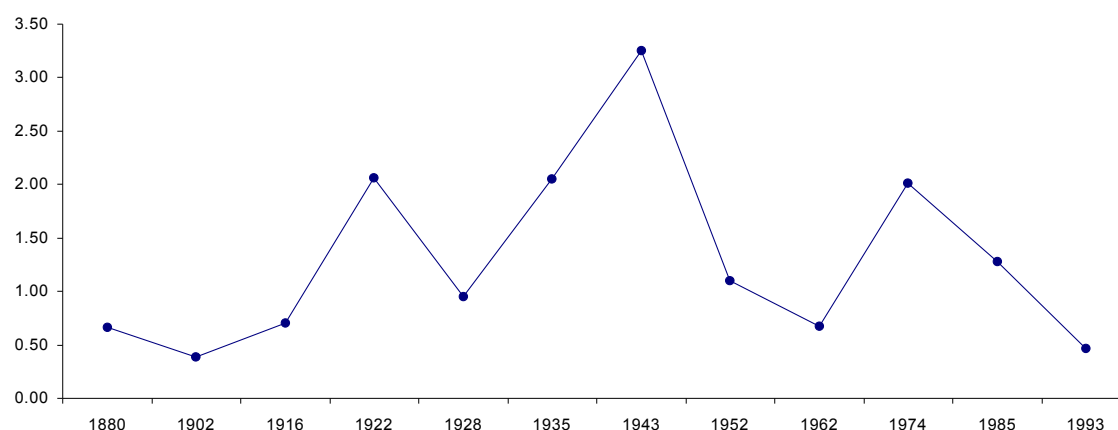
**Figure 4** Size of Net Capital Flows since 1870, for Selected Countries\* (sum of absolute values of current account balances as percent of sum of GDPs) (dashed horizontal lines represent averages over periods from which year-by-year data were unavailable)



\* Countries Covered: Argentina, Australia, Canada, Denmark, France, Germany, Italy, Japan, Norway, Sweden, United Kingdom, and United States.

Sources: Maurice Obstfeld and Alan Taylor, "The Great Depression As A Watershed: International Capital Mobility Over the Long Run," NBER Working Paper 5960, March 1997 (before 1997), World Bank World Development Indicators (WDI) and Australian Bureau of Statistics (after 1997)

Price-based measures of capital market integration—with price integration reinterpreted in terms of the equalization of rates of return on common or comparable securities across national boundaries—supply additional evidence about the continued segmentation of capital markets. One benchmark example is provided by a comparison of one-year interest rates on sterling-denominated assets sold in London and in New York over a roughly 100 year period.<sup>15</sup> **Figure 5** tracks the standard deviation of differences in returns in the two cities as an inverse measure of capital market integration. The data indicate significant cross-border integration of capital markets prior to 1914, the breakdown of that integration in the interwar period, and its slow restoration in the postwar period. Qualitatively similar conclusions are suggested by comparing real rather than nominal returns, although that does increase the standard deviation of the dispersion of returns, presumably reflecting the effects of currency risk, both nominal and real.<sup>16</sup>

**Figure 5** Standard Deviation of Nominal Return Differentials

Source: Maurice Obstfeld and Alan Taylor, "The Great Depression as A Watershed: International Capital Mobility Over the Long Run," NBER Working Paper 5960, March 1997.

### III. People

While data on cross-border flows of people (migration) are sparser than data on product and capital market flows, they generally suggest both that such flows have increased significantly in recent decades *and* that they remain smaller, as percentages of the relevant populations, than they were 100 years ago. The most systematic time series for 100+ years pertains to immigrants in the United States, by far the largest single receiver of immigrants in the world. While official U.S. immigration levels surged to all time highs in absolute terms in the 1990s and 2000s, their size relative to the U.S. population is still lower than it was about 100 years ago. While global data are only available since 1960, they also indicate an upward trend. From a low point of 2.1% in 1970, immigrants as a percentage of the world population reached 3.1% in 2008.<sup>17</sup>

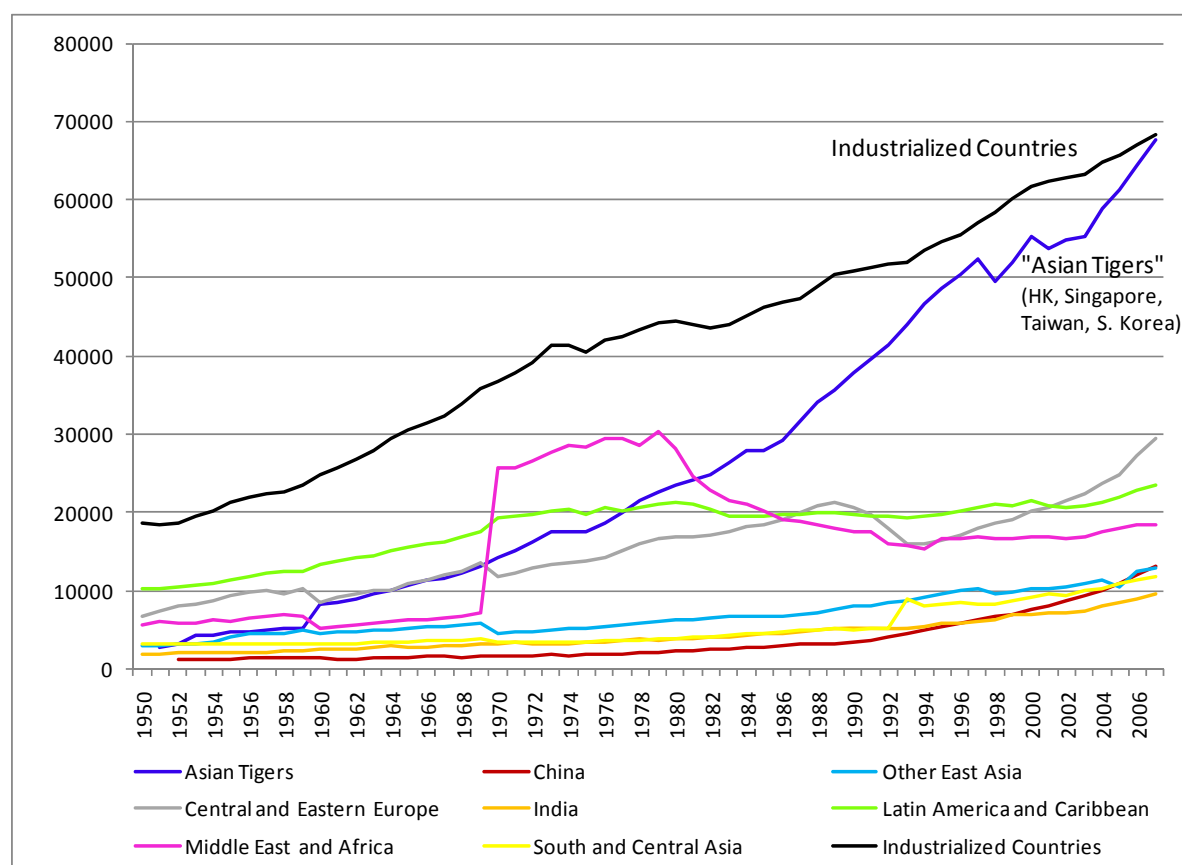
While data on the proportion of immigrants in the world population are unavailable for earlier time periods, the years from 1880 to 1915 seem to have been the heyday of international migration, particularly from Europe to "receiver" countries in the Americas and Australia, as displacement of people from the land in industrializing "senders" combined with declines in transportation costs, growing wealth, and remittances from earlier emigrants to lead to large cross-border labor flows.<sup>18</sup> Over this period, 32 million people migrated from Europe, most of them to the United States, compared to about 12 million such migrants between 1820 and 1880, and much smaller numbers earlier on.<sup>19</sup> In addition, there were perhaps 12 million net migrants—mostly "coolie" or indentured labor—from India, China, and other Asian countries to the rest of the world between 1820 and 1915; once again, the period after 1880 accounted for the bulk of these flows.<sup>20</sup> The transatlantic slave trade accounted for the transportation of about 12 million people as well, but was earlier in its timing, with significant flows starting in the 16<sup>th</sup> century and peaking in the 18<sup>th</sup> century, which accounted for more than half the total.<sup>21</sup>

Migration patterns reflect the persistence of economic gains as a motivator of immigration. At the continent level, Europe hosted as of the most recent data the largest number of migrants (about 30% of the world total), just ahead of Asia and North America. The United States is expected to host the largest number of international migrants in 2010, followed by the Russian Federation, Germany, Saudi Arabia, and Canada. Migrants comprised 40% of the workforce in countries in the Gulf region with the United Arab Emirates a particularly notable example with the nearly 80% of its population made up of foreigners. The top three origin countries for migrants globally as of this writing were China, India, and the Philippines.<sup>22</sup>

Turning from quantity to price-based measures, the obvious indicator to consider with respect to migration is cross-border convergence of wages as a measure of the integration of labor markets. Data on the evolution of average GDP per Worker adjusted for Purchasing Power Parity (PPP) – a rough and ready proxy for average wages – across countries indicate that while incomes in industrialized countries have tended to converge, a few Asian "tigers" have been the only countries able to break away from the rest of the developing world and catch up with industrialized world (see **Figure 6**).<sup>23</sup> More sophisticated

tests confirm this conclusion and indicate that the failure of most developing countries to catch up can be reconciled only with a weaker notion of convergence, conditional convergence.<sup>24</sup> Conditional convergence allows for differences in the steady state incomes toward which different economies are trending based on differences along dimensions such as investment, education, and population growth. Human capital turns out, in attempts to fit conditional convergence models to the data, to have a particularly marked effect on the predicted extent of convergence.

**Figure 6** Convergence? Real GDP per Worker, PPP Adjusted, in Constant 2005 International Dollars (Chain Series), 1950 to 2006



Source: Penn World Tables, version 6.3

Notes: Series "rgdpwok" with "version 2" of China data. Industrialized Countries classification includes Western Europe, U.S., Canada, Australia, and New Zealand.

In addition to migration, other more focused indicators of cross-border movements of people can also be examined. In 2006, 5% of university students in the OECD countries were international or foreign students (excluding Mexico, Luxembourg, and Ireland for which data were unavailable).<sup>25</sup> More broadly, about 2% of all university students study outside of their home countries.<sup>26</sup> International travel and tourism flows have increased significantly over the past decade from a total of 700 million visitor arrivals in 1988 to roughly 2 billion in 2009.<sup>27</sup>

#### IV. Information

The cross-border flows that have already been discussed can carry knowledge across national borders as well since it can be congealed in products, embedded in capital equipment, vested in skilled personnel, *et cetera*. Given the topics already covered in this note, the coverage in this section will focus on cross-border flows of information in pure, disembodied form. In addition to rounding out the coverage, this focus has the advantage of offering a relatively simple benchmark: since disembodied knowledge has a "nonrival" character—i.e., since its use in one market, whether defined in geographic or product-related terms, should not preclude its application to others—perfect cross-border integration in this context should imply that information or knowledge, once developed anywhere in the world, is available everywhere else as well.



The conceptual simplicity of focusing on disembodied knowledge flows does, however, exact an empirical price: because of their intrinsic intangibility, such flows are particularly hard to measure. The evidence available to be presented in this subsection is correspondingly sketchy. It tentatively suggests, however, that there have been substantial increases in cross-border knowledge flows over time and, a bit more definitely, that cross-border integration in this regard nevertheless remains very incomplete. Consider these inferences in turn.

International telephone calling minutes more than doubled from about 80 billion in 1997 to over 180 billion in 2006. Over the same period, the cost of making international phone calls plummeted. The average retail revenue per minute of international telephone calling fell from about 65 U.S. cents to less than 20 cents.<sup>28</sup> However, cross-border telecommunication remains very much the exception rather than the rule. Based on data reported to the International Telecommunications Union (ITU) by 47 countries, only 1.6% of all telephone calling minutes were international. This metric is dragged down by the large proportion of domestic minutes reported by the United States. The mean and median by country were 5.5% and 3.5% respectively. All of these figures take the average of inbound and outbound call data, which in some cases vary significantly, i.e. some countries place more international calls than they receive and vice versa.

The internet has been celebrated for making distance (and borders) irrelevant, but internet use also remains primarily domestic. There are some technical issues involved with measuring the proportion of internet traffic that crosses international borders, but one estimate puts it at 17-18% during the period from 2006 to 2008.<sup>29</sup>

With respect to general awareness about developments in other countries, it is useful to consider the (mainly national) media's coverage of foreign stories. Across all types of media in the United States, 10% of coverage dealt with foreign (non-U.S.) topics in 2009 and an additional 11% addressed U.S. foreign affairs – a category including topics such as U.S. involvement in international conflicts and U.S. diplomatic efforts overseas.<sup>30</sup> In Europe, approximately 38% of news coverage was international based on recent data from Switzerland, Austria, Germany, UK, and Italy, but of this amount 46% related to coverage of news stories in other countries within Europe. Applying the general rule that about one-third of international coverage relates to a home country's foreign affairs, topics unrelated to Europe comprised roughly 14% of European news coverage.<sup>31</sup>

As far as technological knowledge is concerned, one indicator that supports the inference of increased cross-border knowledge flows over time is provided by cross-border licensing. While such licensing is not new – international royalties accounted for a significant component of James Watt's receipts from his steam engine patents in the early 19<sup>th</sup> century, for example – the available data, along with informational and contracting problems that were even more acute early on than they are now, suggest that the voluntary transfer of knowledge across national borders takes place to a much greater extent than used to be the case. Concerning more general managerial knowledge, the post-World War II period, in particular, has seen the development of new types of organizations and organizational forms that have facilitated knowledge transfer as well. Franchising, which really emerged in its modern form in the United States in the 1950s, is one example. And management consulting firms, which began their international expansion at roughly the same time, are regarded as having evolved into major channels for the international diffusion of new managerial techniques.<sup>32</sup> Of course, the spread of multinational enterprises, intent on applying the same technological and managerial knowledge to more and more markets points in the same direction.

These increases in cross-border knowledge flows notwithstanding, there are also numerous indications of the continued geographical localization of knowledge. The direct evidence on the size of knowledge transfer costs, while fragmentary, is suggestive: one influential study concluded that transfer costs accounted for an average of 19% of total project costs – and ranged from 2% to 59% – in a sample of technology transfers in the chemicals, petroleum refining, and machinery sectors.<sup>33</sup> Patent citations supply a more outcome-based perspective: thus, a study of five large industrialized countries concludes that patents whose inventors reside in the same country are typically 30 to 80% more likely to cite each other than inventors from other countries, and that on average, these citations come one year sooner.<sup>34</sup> Yet another outcome-based perspective that points in the same direction is supplied by the observation that location matters for international competitiveness in large part because of locally-dense information



flows, as exemplified most vividly by internationally successful clusters.<sup>35</sup> While it would be an exaggeration to say that location is destiny, such perspectives do serve as a reminder that the availability of notional information transmission capacity may be necessary for knowledge to travel, but is far from sufficient.

## Conclusions

One plausible reading of the evidence presented in the previous sections of this note is that the dynamics of economic globalization have paralleled each other in different types of markets. Most measures of the international integration of markets have increased dramatically in recent decades, with a few shattering previous records, typically set in the late 19<sup>th</sup> or early 20<sup>th</sup> century. Yet the absolute level of cross-border integration of such markets remained seriously incomplete, or *semiglobalized*. This last conclusion seems to apply to regional and even local borders as well as national ones, although this note focused, for brevity, on nation-states rather than regions or cities as the unit of analysis.

The obvious rejoinder to the previous conclusion is that if the world isn't completely globalized yet, it soon will be. But the fact that nearly all of the metrics of cross-border integration presented here fall below 30% indicates, in a very rough way, that today's *semiglobalized* world is very far from a state of complete globalization, so far that it is hard to envision a scenario in which it would reach that state within the any reasonable business planning horizon. Conversely, some observers have seen in the recent declines in trade and FDI flows signs of de-globalization, also very unlikely to lead to the extreme case in which cross-border integration can be ignored. Thus, *semiglobalized* is not only an appropriate description of the world today, but one may reasonably assume it will also be the right description for the foreseeable future.

The conclusion that the world is *semiglobalized* may or may not strike the average reader as very definite, but it is worth pointing out that it does have very definite, and favorable, implications for the added value of thinking explicitly about globalization and strategy. With either totally segmented or totally integrated country markets, we would effectively be back to the single-country base case that is implicit in much of strategic thinking, negating the value of adding the globalization angle to strategic analysis. *Semiglobalization*, with partial integration across country markets, is *the* state of the world in which it can pay to work with a more complex model than the single-country one.

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<sup>1</sup> Jan Aart Scholte, "What is Globalization? The Definitional Issue - Again," CSGR Working Paper No. 109/02, December 2002.

<sup>2</sup> globalization. (2010). In *Merriam-Webster Online Dictionary*.

Retrieved January 6, 2010, from <http://www.merriam-webster.com/dictionary/globalization>

<sup>3</sup> Keyword search of Library of Congress Catalog, January 2010.

<sup>4</sup> Thomas Friedman, *The World is Flat*, (New York: Farrar, Straus and Giroux, 2005). For a specific response to this book, see my article, "Why the World Isn't Flat," *Foreign Policy* (March-April 2007) as well as the exchange of letters with Friedman and others in the May-June 2007 issue of *Foreign Policy*.

<sup>5</sup> Feenstra, Robert C. 1998. Integration of Trade and Disintegration of Production in the Global Economy. *Journal of Economic Perspectives*, 12(4): 31-50.

<sup>6</sup> Jeffrey A. Frankel, "Assessing the Efficiency Gain from Further Liberalization," Conference on *Efficiency, Equity and Legitimacy: The Multilateral Trading System at the Millennium*, June 2000.

<sup>7</sup> The disparity is even greater if one recognizes that the denominator of the ratio should really be a measure of gross sales rather than a value-added measure like GDP.

<sup>8</sup> For a survey of the literature, see Kenneth Rogoff, "The Purchasing Power Parity Puzzle," *Journal of Economic Literature*, Vol. 3 Issue 2 (June 1996):647.

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- <sup>9</sup> Karen K. Lewis, "Puzzles in International Financial Markets," Chapter 37 in *Handbook of International Economics*, vol. III, ed. By G. Grossman and K. Rogoff, (Amsterdam: Elsevier Science, 1995).
- <sup>10</sup> Calculation is a weighted average based on market capitalization for 42 countries based on data presented in Piet Sercu and Rosanne Vanpee, "Home Bias in International Equity Portfolios: A Review (August 2007).
- <sup>11</sup> Numerator (Gross External Public Debt) is from World Bank *Quarterly External Debt Database* and Denominator (Total Public Debt) is from the Economist Intelligence Unit (EIU). 48 countries were covered for calculation of this metric (based on data availability).
- <sup>12</sup> This calculation is a weighted average of regional estimates of the proportion of bank assets held by foreign owners. Regional estimates are from the IBM Institute for Business Value's report, "No Bank is an Island." The proportion of bank assets from each region is from International Monetary Fund (IMF) "Global Financial Stability Report, Market Development and Issues: Statistical Appendix", p. 95 (September 2006). Estimates were made to fill in data gaps.
- <sup>13</sup> Estimate based on data presented in Joshua Aizenman and Jake Kendall, "Internationalization of Venture Capital and Private Equity," NBER Working Paper 14344, September 2008.
- <sup>14</sup> Foreign direct investment currently accounts for roughly one-half of total foreign investment, but its share was significantly smaller at the start of the 20<sup>th</sup> century. See Bloomfield (1968), pp. 3-4: cited in Bordo et al.
- <sup>15</sup> Maurice Obstfeld and Alan Taylor, "The Great Depression As A Watershed: International Capital Mobility Over the Long Run," NBER Working Paper 5960, March 1997.
- <sup>16</sup> Obstfeld and Taylor. For further discussion of currency risk, see Jeffrey A. Frankel, "Measuring International Capital Mobility: A Review," *American Economic Review*, Vol. 82 No. 2 (May 1992):197.
- <sup>17</sup> International Organization on Migration (IOM)
- <sup>18</sup> Subsequent stagnation and decline reflected tightening of what had previously been very liberal immigration policies by receivers, particularly the United States. See O'Rourke and Williamson, p. 187.
- <sup>19</sup> A. G. Kenwood and A. L. Lougheed, *The Growth of the International Economy, 1920-1960*, (London: Allen & Unwin, 1989).
- <sup>20</sup> David Held, Anthony G. McGrew, David Goldblatt and Jonathan Perraton, *Global Transformations: Politics, Economics, and Culture*, (Stanford: Stanford University Press, 1999), pp. 293-295, 311.
- <sup>21</sup> P. Curtin, "Africa and Global Patterns of Migration," in *Global History and Migrations*, edited by Wang Gungwu, (Boulder, Colo.: Westview Press, 1997).
- <sup>22</sup> International Organization on Migration (IOM) website, <http://www.iom.int/jahia/Jahia/about-migration/facts-and-figures/regional-and-country-figures>
- <sup>23</sup> Note the caveat that the extent of catch-up by the Asian tigers would look somewhat less remarkable if the data in Figure 7 were updated to take account of the Asian currency crisis.
- <sup>24</sup> Robert J. Barro and Xavier Sala-i-Martin, *Economic Growth*, (New York: McGraw-Hill, 1995).
- <sup>25</sup> OECD Education Database accessed via Stat.OECD online on January 8, 2010.
- <sup>26</sup> UNESCO Global Education Digest, 2009
- <sup>27</sup> World Travel and Tourism Council (WTTC) website, accessed on January 8, 2010. [http://www.wttc.org/eng/Tourism\\_Research/Tourism\\_Impact\\_Data\\_and\\_Forecast\\_Tool/](http://www.wttc.org/eng/Tourism_Research/Tourism_Impact_Data_and_Forecast_Tool/)
- <sup>28</sup> Based on data from International Telecommunications Union website accessed December 9, 2009. [http://www.itu.int/ITU-D/ict/statistics/at\\_glance/KeyTelecom99.html](http://www.itu.int/ITU-D/ict/statistics/at_glance/KeyTelecom99.html)
- <sup>29</sup> This estimate was generated by dividing the Average International Internet Traffic reported by Telegeography by Cisco's estimate of the Total Internet IP Traffic as reported in the various editions of Cisco's Visual Networking Index forecasts.
- <sup>30</sup> Pew Project for Excellence in Journalism, *The State of the News Media*, 2010.

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- <sup>31</sup> MediaTenor, "Different Perspectives: Locations, Protagonists, and Topic Structures in International TV News," March-April, 2006
- <sup>32</sup> John Micklethwait and Adrian Wooldridge, *A Future Perfect: The Challenge and Hidden Promise of Globalization*, (New York: Crown Business, 2000).
- <sup>33</sup> D. J. Teece, "Technology Transfer by Multinational Firms: The Resource Cost of Transferring Technological Know-How," *The Economic Journal*, Vol. 87, No. 346. (June 1977), pp. 242-261.
- <sup>34</sup> Adam B. Jaffe and Manuel Trajtenberg, "International Knowledge Flows: Evidence from Patent Citations," *Economics of Innovation and New Technology*, Vol. 8, pp. 105-136.
- <sup>35</sup> The other (overlapping) reasons for the localization of international competitiveness identified by Porter (1990) are sophisticated local demand and the local availability of specialized inputs and complements as well as basic factors of production.