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Publication Date

2002-08-14

Waves of Structural Globalization since 1800: New Results on Investment Globalization

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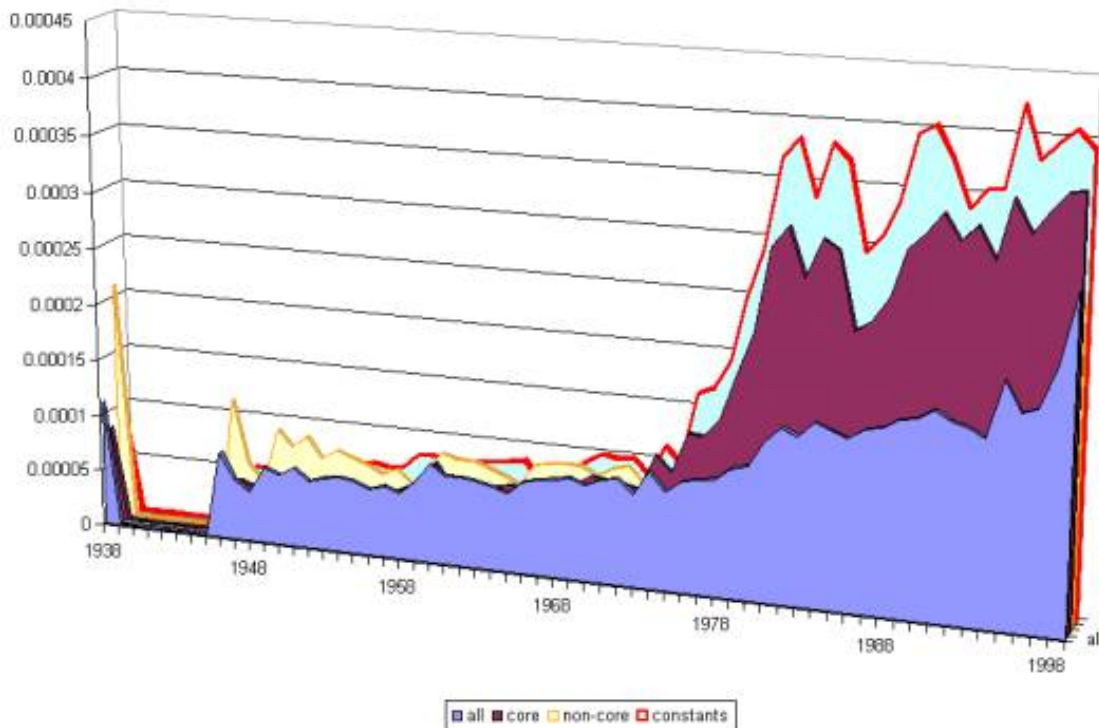
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Weighted Investment Income Debits 1938-1999



To

be presented at the annual meetings of the American Sociological Association, August 16-19, 2002, Chicago. This research is supported by the National Science Foundation, Sociology Program. Draft v. 8-14-02. words=8153. Thanks to Carol Bank and Siobhan Tuthill for their help with this research. This paper is available at <http://irows.ucr.edu/papers/irows10/irows10.htm>

This paper discusses research that is designed to examine the historical trajectory of structural globalization as an attribute of the whole world-system. Did the globalized world economy arrive all at once in a rapid and recent transition from national to global economic networks? Or is the process of international integration a long-term trend that has been going up for centuries only to be noticed recently because it has reached such a high peak? Or, alternatively, is globalization a cyclical

phenomenon in which the world-system alternates between periods of national autarchy followed by periods of international economic and political integration?

We propose a conceptualization of structural globalization as several inter-related dimensions of the expansion and intensification of interaction networks. The real trajectories of different kinds of globalization over the last two centuries are knowable only if we gather comparable data over time. Studies of recent decades do not answer the question of the shape of long-term trajectories. Our project improves upon data for the nineteenth century and splices earlier, cruder measures with later, more refined and more complete data series.

The two main objectives of our research are:

- to determine the trajectories of trade and investment globalization; and
- to empirically examine the relationship between these and several other world-system variables that have been hypothesized to cause international economic integration.

The trajectories of different types of globalization have important implications for our understanding of the processes of development in the modern world-system. In this paper we present new results on the trajectory of investment globalization.

Both the popular and the academic discourses about globalization contain great confusion and disagreement regarding the meaning and connotations of this contested term. We contend that the scientific study of globalization can move forward by making a clear distinction between globalization as greater integration and interdependence of the world-system, on the one hand, and the political discourses that employ ideas about global integration and competition to justify actions and policies on the other. Our research will distinguish between:

- globalization as ideology, and
- globalization as objective structural trends of spatial integration.

Our main focus is on different types of structural globalization, but we are also interested in understanding changes in the ideologies that are used to legitimate the actions of the powerful. Giovanni Arrighi is researching the transition from Keynesian theories of national development to the neo-liberal “Washington Consensus.” Phillip McMichael (1996) describes the emergence of what he calls the “globalization project” – a revitalized glorification of market mechanisms as allegedly efficient antidotes to rent seeking and the “vampire state.” The “globalization project” emerged with Thatcherism and Reaganism in the 1980s, and has swept around the world as a justification for attacking and dismantling welfare states and labor unions following the demise of the Soviet Union. While this is an interesting and consequential phenomenon, it is not to be the main focus of the research here proposed.

Rather we intend to determine the real temporal trajectories of structural dimensions of global integration over the past two hundred years. We understand structural globalization as composed of different inter-related dimensions of expanding and intensifying interaction networks – especially political, economic and cultural globalization (Chase-Dunn 1999). We specifically reject the notion that these dimensions constitute completely different aspects of social reality that should be studied separately by different academic disciplines, but we contend that it is useful to distinguish between them in order to understand how they have affected one another.

Our research has already shown that trade globalization is primarily a cyclical phenomenon, though the most recent upsurge has reached a level that is significantly higher than the level reached at earlier peaks (Chase-Dunn, Kawano and Brewer 2000). In the future we propose to determine the trajectories of:

- investment globalization – the extent to which international capital flows and investments increase (or decrease) in relationship to the size of the world economy; and
- political globalization -- the degree to which the multicentric international system has moves toward centralization, integration and hierarchy.

The quantification of political globalization will require measures of the relationship between the power and sizes of large and small political and military organizations in the world-system. We propose to operationalize these characteristics of the whole world-system over the past 200 years in order to compare their temporal trajectories with that of trade globalization, and to examine their hypothesized causes.

We define structural globalization as the increasing spatial scale and intensity of interaction networks. Charles Tilly (1995:1-2) proposes a similar definition of globalization as "an increase in the geographic range of locally consequential social interactions, especially when that increase stretches a significant proportion of all interactions across international or intercontinental limits." If both national level and global networks increase in intensity at the same rate, this approach would not see an increase in the globalization of interaction. Globalization in the structural sense is increasing integration and interdependence. As with other efforts to measure globalization (e.g. Chase-Dunn, Kawano, and Brewer 2000), the estimation of a global characteristic needs to take account of the changing size of the system as a whole. Of course there are more transnational interactions now than there were in the nineteenth century. There are also more within-nation interactions because the world population and the world economy have become larger. It is the ratio of these that must be studied.

Human interaction networks have been increasing in scale and intensity for millennia as transportation and communications technologies have made regular trade and interaction over greater distances possible. It is obvious that the railroad and the steam ship facilitated a massive increase in the spatial scale of interaction networks. Ideally we would like to trace the relative degrees of interaction integration at several levels. Households exchange goods and ideas with other households. Neighborhoods and towns exchange with other neighborhoods and towns, cities with cities and etc. But such a study is not feasible at the present for two reasons: our unit of analysis is the world-system as a whole – meaning all the countries of the world; and we want to examine trends over the past 200 years. It might be possible to examine local and regional interaction networks for a particular country or for a few core countries in recent decades. But in order to study the whole system over two centuries we must necessarily use data on the units that have been the main data-gatherers in this period of human history – the national states.

By this decision we do not mean to imply that national states are the only, or even the most important, actors in the world-system. We recognize the importance of transnational relations emphasized by political scientists thirty years ago (Keohane and Nye 1970; and more recently by Sklair (1995, 2001). The world-systems perspective has long pointed out that the interstate system – the system of sovereign national states -- is only one institutional structure of the global political economy. The world-system is composed of individuals, households, towns, cities, regions, firms,

classes, states, and other non-governmental and international organizations. It is not simply a matter of “international relations.” The world-system is the whole system, not just relations among states. Transnational relations occurring across state boundaries between all these social actors are not a new, or a recent, phenomenon. Intersocietal migrations and trade among individuals, families and firms have been important aspects of small, medium and large world-systems for thousands of years. There was never a time in which the members of different societies did not importantly interact with one another (Chase-Dunn and Hall 1997). But the spatial scale of both societies and intersocietal interactions has grown. And intersocietal integration only became global in the sense of linking every region of the Earth into a single network in the nineteenth century. The unit of analysis we will study in this research is the modern Europe-centered system as bounded by the system of allying and conflicting states. It was during the nineteenth century that the states systems of East Asia and Europe became linked by political/military interaction, though they had long been linked by the exchange of prestige goods..

If we think of the world economy as a system the phenomenon of globalization should represent increases in the intensity of global interaction networks relative to the intensity of local interaction networks. If both local and global interactions increase at the same rate it would be mistaken to say that the system is becoming more globalized. It is when global interactions increase at a greater rate than local interactions that the system *qua* system is more integrated at the global level. In order to study globalization in this sense we need to measure the intensity of both global and local interactions.

This study will focus on variable characteristics of the world-system as a whole. The questions we are asking here are about the continuities and changes at the level of the whole system, and so our empirical strategy will be to construct measures of how this single larger system changes over time. For this reason we have only one “case,” though we can utilize the method of time series analysis to test propositions about the relationships among variables in this single case (Chase-Dunn 1998: Chapter 15).

Internationalization of finance and investment, the growth of international trade as a proportion of all economic interaction, and the organization of production on a global scale by transnational corporations have undoubtedly increased in the last two decades. There are potentially a large number of different indicators of economic globalization and they may or may not exhibit similar patterns with respect to change over time.

Trajectories of Trade and Investment Globalization

We have constructed an improved measure that shows that there have been three waves of trade globalization since the early nineteenth century. Our new measure of trade globalization extends yearly data further back in time and greatly improves the time resolution relative to the widely spaced estimates that had been previously available. Our new measure of “average openness” trade globalization estimates the world level based on averages of country ratios of GDP to imports. Because both GDP and imports are available in country currencies (e.g. francs, pesos, etc.) we are able to estimate trade globalization without resorting to the problematic assumptions involved in converting country currencies into a single currency (e.g. U.S. dollars), and we did not have to convert the current values into constant values using estimates of inflation and deflation. The results of our study was published in the *American Sociological Review* (Chase-Dunn, Kawano and Brewer 2000).

[\[1\]](#) Our study of trade globalization shows that it is a cyclical phenomenon, as well as containing a

long-term upward trend based on the comparison of the peaks of the cycles (see Figure 1).

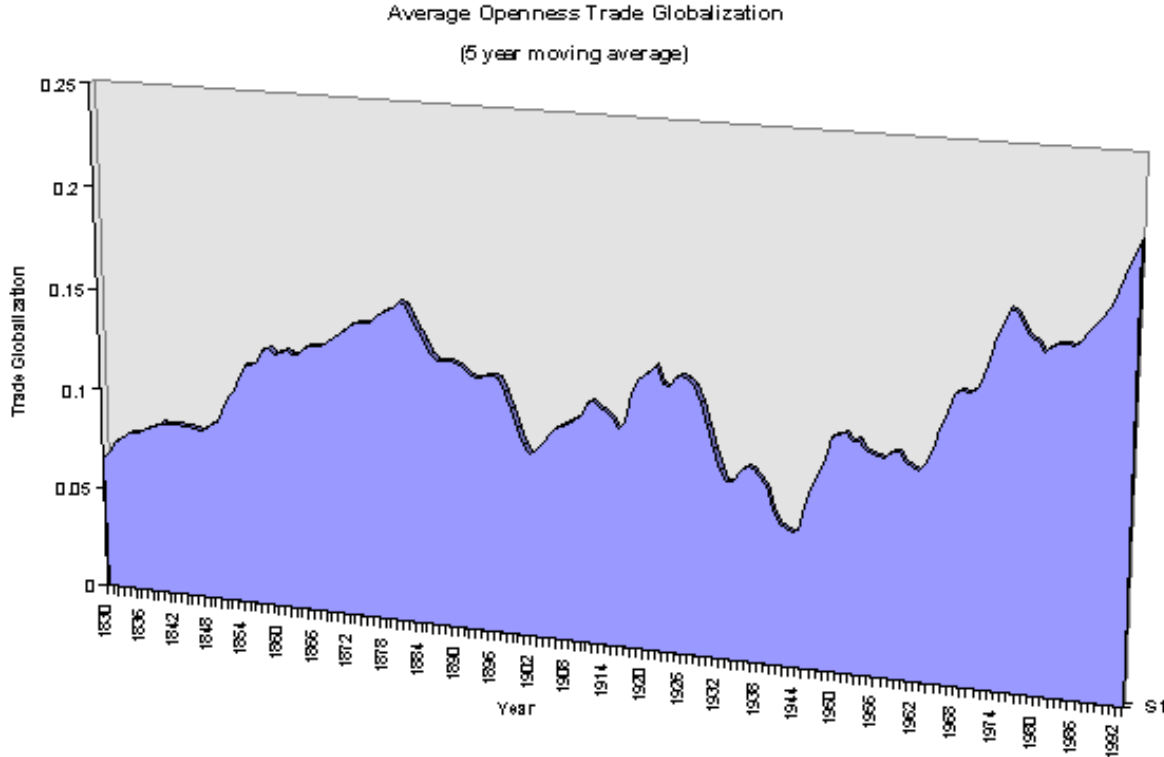


Figure 1: Average Openness Trade Globalization, 1830-1992 (Weighted)

It is possible that investment globalization behaves in a similar way, but we do not know for sure. Existing estimates of investment globalization (e.g. Bairoch 1996) are even more intermittent than estimates of trade globalization were before we undertook our *ASR* study. It would be desirable to have a better understanding of the relationship between investment and trade globalization and to be able to study the causes of both.

The Trajectory of Political Globalization

We conceptualize political globalization analogously to our understanding of economic globalization as the relative strength and density of larger versus smaller interaction networks and organizational structures. Much has been written about the emergence and development of global governance and many see an uneven and halting upward trend in the transitions from the Concert of Europe to the League of Nations and the United Nations toward the formation of a proto-world state. The emergence of the Bretton Woods institutions (the International Monetary Fund and the World Bank) and the more recent restructuring of the General Agreement of Tariffs and Trade as the World Trade Organization, and the visibility of other international fora (the Trilateral Commission, The Group of Seven [Eight]; the Davos meetings, etc.) support the idea of emerging global governance. The geometric growth of international non-governmental organizations (INGOs) is also an important phenomenon of global governance and the emergence of global civil society (Murphy 1994; Boli and Thomas 1999).

All world-systems go through cycles of political centralization and decentralization with

occasional leaps toward new and higher levels of political integration (Chase-Dunn and Hall 1997). In the modern world-system the cycle for the last 400 years has taken the form of the rise and fall of hegemonic core states. Some claim that this hegemonic sequence is now morphing into a new structure of core condominium (Goldfrank 1999). We intend to study both the hegemonic sequence and emerging global governance. While these might be combined into a more general concept of political globalization, we contend that it is important to keep them separate because hegemonic rise and fall is an old feature of the world-system, whereas political globalization is arguably much more recent. Political globalization can be analytically reduced to the question of the relative strength of larger vs. smaller political and military organizations (including also the functionally “economic” ones

(IMF, World Bank, WTO) mentioned above.^[2]

There is a single size distribution of political/military organizations in the world-system. We plan to operationalize three different parts of this size distribution, as well as the whole thing. Our conceptualization of political globalization will be analogous to our understanding of economic globalization – a ratio of the size and importance of global and international organizations vs. the sum of size and importance of national (and multinational) states. But we will also operationalize the hegemonic sequence by examining changes in the distribution of economic and military power among the core states using the research of Modelski and Thompson (1996). And we will study the changing shape of the whole system of states as well, taking into account the processes of colonization and decolonization (Bergesen and Schoenberg 1980), the incorporation of the peripheral and semiperipheral regions into the interstate system, and changes in the distribution of economic and political/military power in the whole system of states. We will also combine political globalization, hegemonic rise and fall, and state power stratification into a single overall measure of the distribution of power among state and proto-state institutions. This latter we will call “overall global political/military inequality.”

Measuring Investment Globalization

We have assembled an annotated bibliography on sources of information about international

investments since 1800.^[3] In principle, investment globalization is the proportion of all invested capital in the world that is owned by non-nationals (i.e. “foreigners”). In practice we cannot easily measure the sum total of all invested or loaned capital (or the amount of domestically owned capital) over the desired time period, so we use the total of all the national GDPs to estimate the economic size of the world economy. World GDP will serve as the denominator of our “world totals” estimate of investment globalization.

The numerator will include most, but not all, international capital flows, ownership claims and debts. We will not include transfer payments made by individuals to their families in other countries because these are not economic investments of the kind we want to study. We do not include payments for imported or exported goods -- these are the basis of our measure of trade globalization. Nor do we include foreign reserves held by central banks in order to support their currencies in the world money market. But we do include loans and direct equity investment, profits (repatriated or not) and intrafirm transfers that cross state boundaries regardless of whom the parties to the transactions are. The transacting parties may be individuals, firms, banks or governments. In principle we want to measure all of the international financial transactions that involve claims of ownership, control or debt irrespective of who the parties are. And ideally we would like to systematically distinguish among these different kinds of international capital flows and obligations to

see how they are similar or different in their geographical and temporal distributions. This latter desideratum will only be possible for the period after World War II. Before that we will find different combinations of the several types of international capital flows and obligations in the available data and we will need to be careful about how we combine and splice data series that contain different components. For example, for early periods it will be easier to get data on loans made to governments, than to find information on loans made to private firms or individuals within a country. Whenever possible we will continue the less inclusive measures into periods in which more comprehensive and decomposable information is available and we will overlap less complete indicators with more complete ones. This will enable us to splice different data series in a more sophisticated way than simply switching from one to another as more complete data become available.^[4]

We also need to pay close attention to the important distinction in international capital data between stocks and flows. Stocks are the total accumulation of debts or the book value of foreign investments at a particular point in time, while flows are the amount of moneys that flowed in (or out) over a short period, usually one year.

We are pursuing two different strategies for constructing long-term measures of investment globalization. These are loosely analogous to the “world totals” and “average openness” strategies that we describe in our *ASR* study of trade globalization. The first will involve gathering data on the main investing countries, (e.g. Britain, France, Germany, the United States, the Netherlands, Belgium and Switzerland) on both the outflows and the accumulated values of foreign loans and investments. This is the strategy that has been employed in earlier studies. It assumes that the great bulk of foreign capital comes from these countries and so efforts are concentrated where they reap the greatest informational returns. The disadvantage is that the number of countries with significant capital outflows increases over time and it is difficult to know how the missing cases might be affecting the estimate of the value of international capital. This method also requires the problematic assumptions involved in converting values into a single currency unit for purposes of comparison of different countries, and converting current into constant units for comparing over time. Nevertheless we propose to upgrade the currently available estimates that use this approach by adding data from more investing countries. Suter [1992:Appendix (f)] has compiled the most complete long-run data series on the value of international capital holdings. We propose to improve upon Suter’s compilation by adding data from additional investing countries and splicing the early series to a series compiled from more complete data after 1950. We will also disaggregate the “net” figures used by Suter whenever possible for the countries that he did cover. Net figures are the balance of credits and debits. In most previous studies of changes in the level of foreign investment net values have been used (e.g. Suter 1992). The problem here is that a country may have large amounts of capital invested abroad and large investments from abroad and these will cancel each other when net values are used.^[5]

Our second strategy is similar to the “average openness” approach we developed for studying trade globalization. This will involve estimating “investment dependence” for each country -- the ratio of the foreign debt to the national income (GDP), and then taking the weighted average of these as our indicator of world investment globalization. The advantage of this approach is that it does not require converting into a single currency and computing constant from current values. We already have the country currency GDPs (national income estimates) from Mitchell (1992,1993,1995) that we used for our measure of average openness trade globalization. For our new “average

investment dependence” measure of investment globalization we will need to collect estimates of inflows and accumulated stocks and debts of foreign capital in country currencies for each country.

[6] With complete data these indicators would be equivalent to the total sum of international capital flows and obligations divided by the world GDP. But as with average openness, we will not have complete data for the years before 1950. This will be a “sampling” problem in which the sample is biased because we will have more core countries than peripheral countries. This indicator will be compared with the results of our first strategy discussed above.

Analyses

The first task of analysis will be to use the new data we have coded on international capital flows and obligations to construct several new indicators of investment globalization. Then we will see how these relate to one another and study their temporal trajectories in comparison to what we have found for trade globalization. We expect that investment globalization will show a similar cyclical pattern, but it may not. We also will consider the question of a long-term trend in investment globalization, much as we did in our study of trade.

At the time of this writing, August 2002, we have coded and analyzed data on non-net British foreign investment flows from 1865 to 1914 that were not available to Suter (Stone 1999), and we have coded several measures of investment globalization from 1938 to 1999. Some preliminary results and discussion of British foreign investment flows in the nineteenth century are included in Appendix below.

Investment Globalization, 1938-1999

These measures are based on credits and debits on investment income coded from the International Monetary Fund *Balance of Payments Yearbooks*. Investment income includes the repatriated profits on direct investment and dividends on portfolio investment. Credits means that such was earned from abroad. Debits means that investors abroad were paid profits and dividends by their holdings in the

[7] country. In principle, if we had data on the whole world, the sum of credits should equal the sum of debits. But of course we do not have complete data until very recent years, so it is useful to compare credits with debits to see how our “sample” of countries may be biasing our estimates of this variable characteristic of the whole world economy (investment globalization).

Investment income has been used as a proxy for estimating the total book value of foreign investment, because there is a general profit rate that averages around 10% and so the profit can be

[8] used as a proxy. And the amount of profit and dividends produced by foreign investment are also of interest in their own right.

We coded investment income debits and credits for all available countries from the IMF *Balance of Payments Yearbooks* from 1938 to 1999. We found that the CD ROM datasets made available from the IMF do not always include all the information that was published in the original *Balance of Payments Yearbooks* and so it is important to use both the printed volumes and the CD ROM.

Our new measures of “average investment dependence/dominance” investment globalization estimate the world level based on averages of country ratios of GDP to credits and debits of investment income. Because both GDP and investment income are available in country currencies (e. g. francs, pesos, etc.) for many countries we are able to estimate investment globalization without resorting to the problematic assumptions involved in converting country currencies into a single

currency (e.g. U.S. dollars). Exchange rates vary because of monetary regulation regimes such as the Bretton Woods agreements, and because of speculative activities of money traders. And we do not need to convert the current values into constant values using estimates of inflation and deflation. Removal of the error introduced by exchange and inflation rates provides superior estimation of

investment globalization. ^[9] Another advantage of using the IMF *Balance of Payments Yearbook* data is the avoidance of net values. In our analysis of Balance of Payments data we examine both credits (the returns received by a country for investments abroad), and debits (the amounts paid out to foreign investors).

In order to estimate the world level of investment globalization we need to weight the country values. Treating large and small countries equally produces an average that overvalues the information from small countries. We weighted the investment ratios for each country by the ratio of the country's population size to the world population. The weighted and unweighted averages were compared to make sure that our weighting did not produce strange results. The problem is that the "sample" of countries upon which we are estimating the world level of investment globalization changes over time. Most usually we have more complete data on core countries than on non-core countries in

earlier time periods, ^[10] but the number of countries does not rise in a nice even trend. Figure 2 shows the changes in the number of countries for which we have estimates for debits of investment income since 1938.

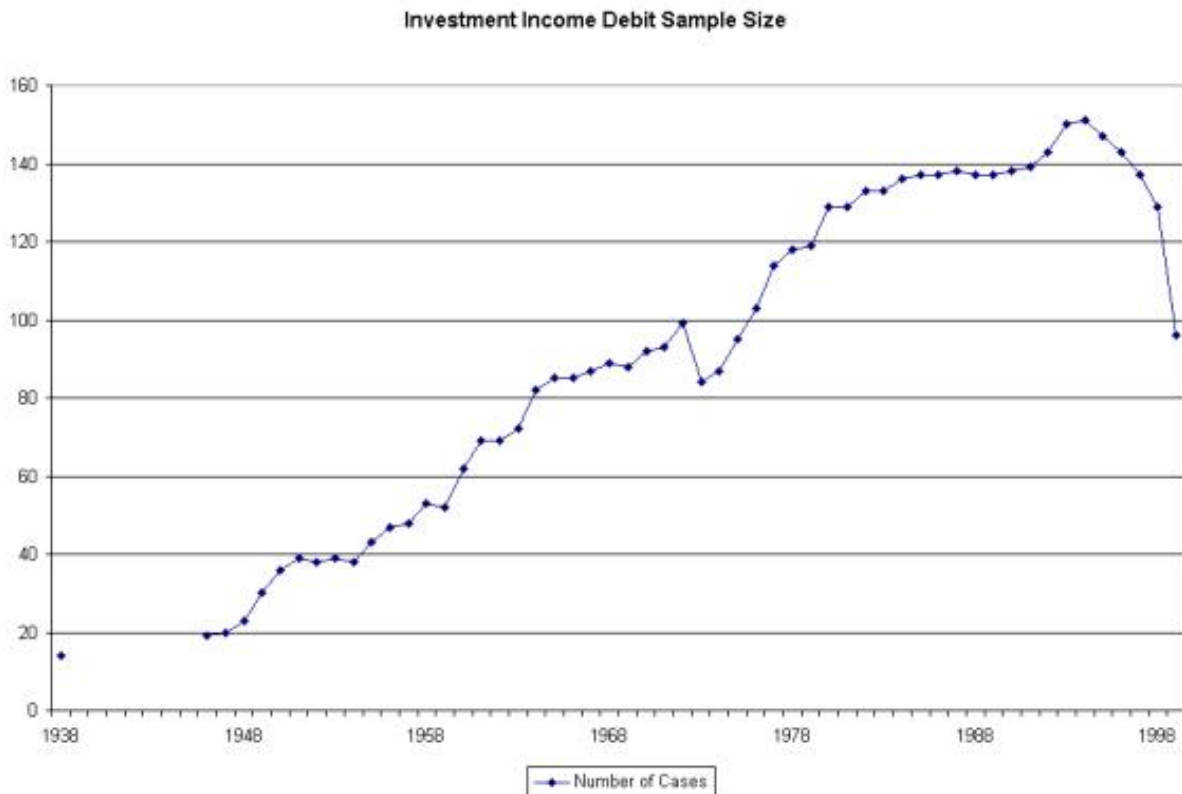


Figure 2: Number of Countries with Debits on Investment Income Data, 1938-1999

Notice that in Figure 2 the number of countries for which we have information on debits on investment income decreases during the 1970s. Researchers at the IMF have been unable to explain

to us why the availability of data decreases in that period. Notice also that the data availability decreases after 1995. This is because some countries are tardy in reporting their international financial statistics. The pattern of availability is almost exactly the same for Investment Income Credits.

We present the results of our study using three different indicators from the IMF *Balance of Payments Yearbooks* – total investment income; direct investment income and portfolio investment income. Total investment income is the sum of direct investment income, portfolio investment income, and “other” investment income. The definitions of these current account items are as follows:

Investment income covers receipts and payments of income associated, respectively, with holdings of external financial assets by residents and with liabilities to nonresidents.

Investment income consists of direct investment income, portfolio investment income, and other investment income. The direct investment component is broken down into income on equity (dividends, branch profits, and reinvested earnings) and income on debt (interest); portfolio investment income is broken down into income on equity (dividends) and income on debt (interest); other investment income covers interest earned on other capital (loans, etc) and, in principle, imputed income to households from net equity in life insurance reserves and in pension funds (Balance of Payments Statistics Yearbook, 2001).

[\[11\]](#)

We have coded the three subcategories of Investment Income because we are interested in the differences between foreign direct investment and portfolio investment. Direct investment involves organizational control, as when a transnational corporation invests in its subsidiary. Portfolio investment does not involve direct organizational control. The purchase of stocks of firms or of bonds by foreigners is considered portfolio investment. The subcategories are available for many fewer cases and for only recent years. Nevertheless we shall be interested in comparing direct and portfolio investment globalization.

Figure 3 shows the weighted average investment income debit ratios for 1938-1999. Recall that investment income debits include the profits, interest, and dividends earned by foreigners within a national economy. Not surprisingly this estimate of worldwide investment globalization goes up over this forty-year period. But the yearly data enable us to examine the exact temporality of the rise.

Weighted Investment Income Debits 1938-1999

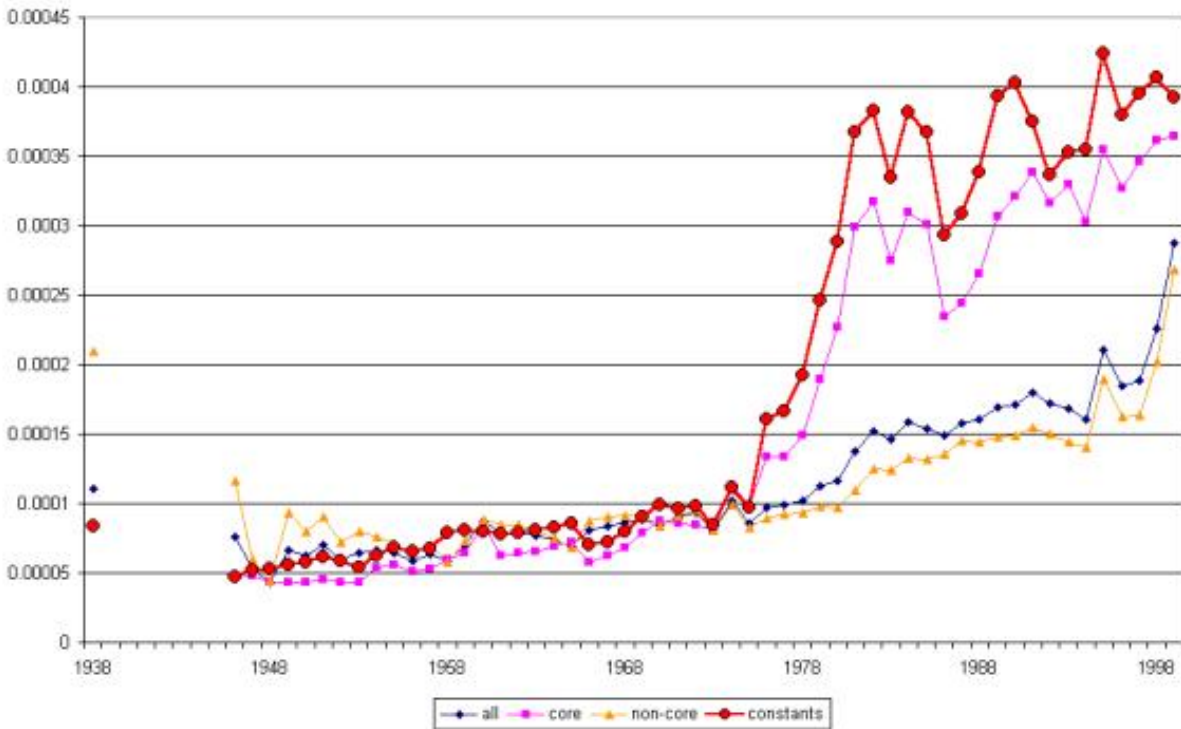


Figure 3: Weighted Total Investment Income Debits, 1938-1999

The results in Figure 3 show the averages for all the countries for which we have data (the number of which increases greatly over time as shown in Figure 2), for just the core countries and for the non-core countries. The changes in Figure 3 are partly due to changes in the level of worldwide investment globalization and partly due to changes in the availability of data over time. In order to take out the part due to changing N we use the method of constant groups, looking at a set of countries for which we have data over the whole span of time. In Figure 3 the constant group includes eleven countries (Australia, Canada, Denmark, Finland, Ireland, Italy, Netherlands, Norway, Sweden, United Kingdom and the United States). The close similarity between the results for the constant group and for the core is due to the fact that the core countries are the ones for which we have the most data further back in time.

The trajectory of investment globalization indicated by including all the countries for which we have data on debits on investment income shows that there was a decrease between 1938 and 1946, and that was followed by a slowly accelerating upward trend. The 1938 level was not reached again until 1979, but the level reached by 1999 was almost three times higher than the 1938 level. Thus the perception that the world economy experienced a wave of investment globalization in recent decades is confirmed by our results using our new “average investment dependence” estimator based on debits on investment income.

Figure 3 also shows that the trajectory has been rather different for the core and the non-core. In 1938 the non-core countries were more than twice as dependent on foreign investment as were the core countries and the non-core declined from this high level until the late 1950s, while the core began a new ascent from 1946 on. In 1975 the core began a sharp upturn in payments out on investment income, whereas the non-core was experiencing a much slower increase. This indicates

that investment globalization occurred much earlier and to a much greater extent for the core countries than for the non-core.

Now let us examine the credit component of investment income. This is composed of the profits, interest and dividends taken in by countries as a result of their investments abroad, a feature we call “average investment dominance.” Figure 4 shows the weighted trends since 1938 for the same groups studied Figure 3.

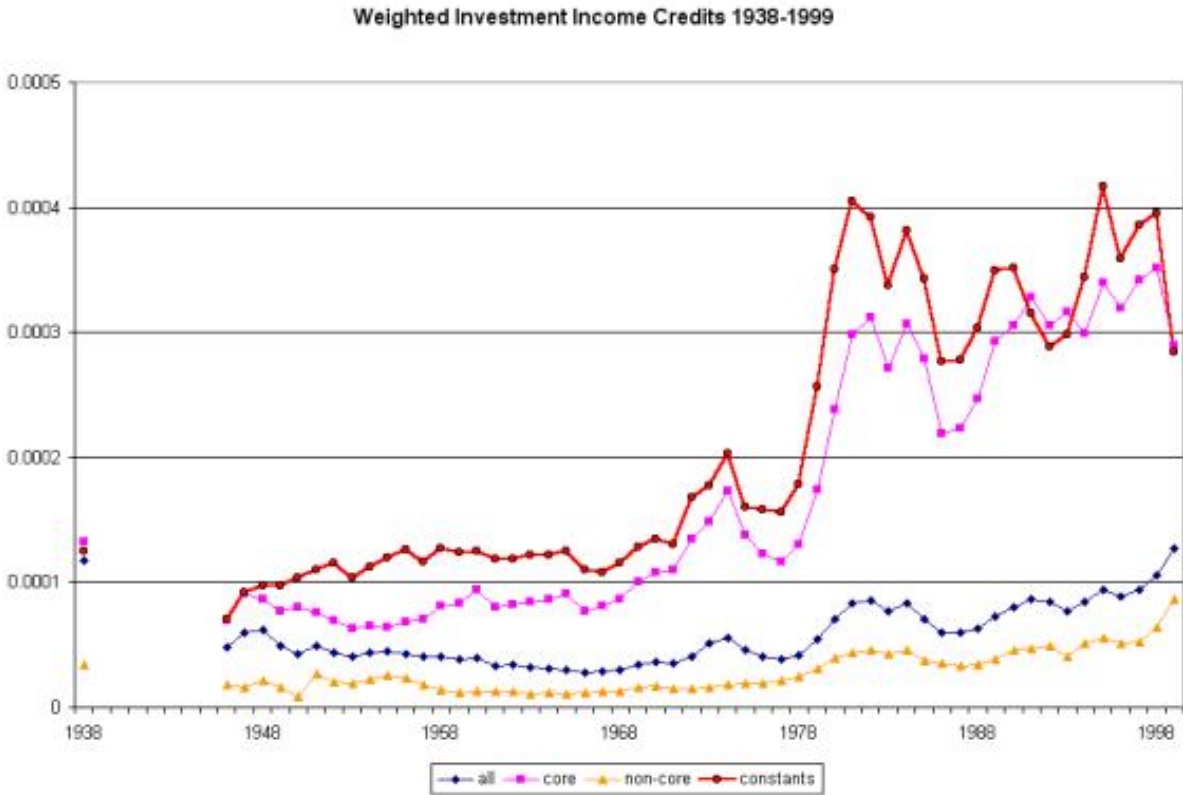


Figure 4: Credits on Total Investment Income, 1938-1999

The results in Figure 4 are similar in most respects to Figure 3, except that the upward trend for the whole world and for the non-core countries is much weaker. Credits on investment income have gone up mainly for the core, and this acceleration is temporally similar to the results for core debits shown in Figure 3. The other difference is that core credits were already higher than non-core credits in 1938. This is just the opposite of the pattern for debits. Core countries are the main global investors and this difference between core and non-core has increased over time despite all the talk of emerging markets and transnational corporations based in the semiperiphery.

Figure 5 compares two of the components of investment income debits with the total investment income debits for the core countries.

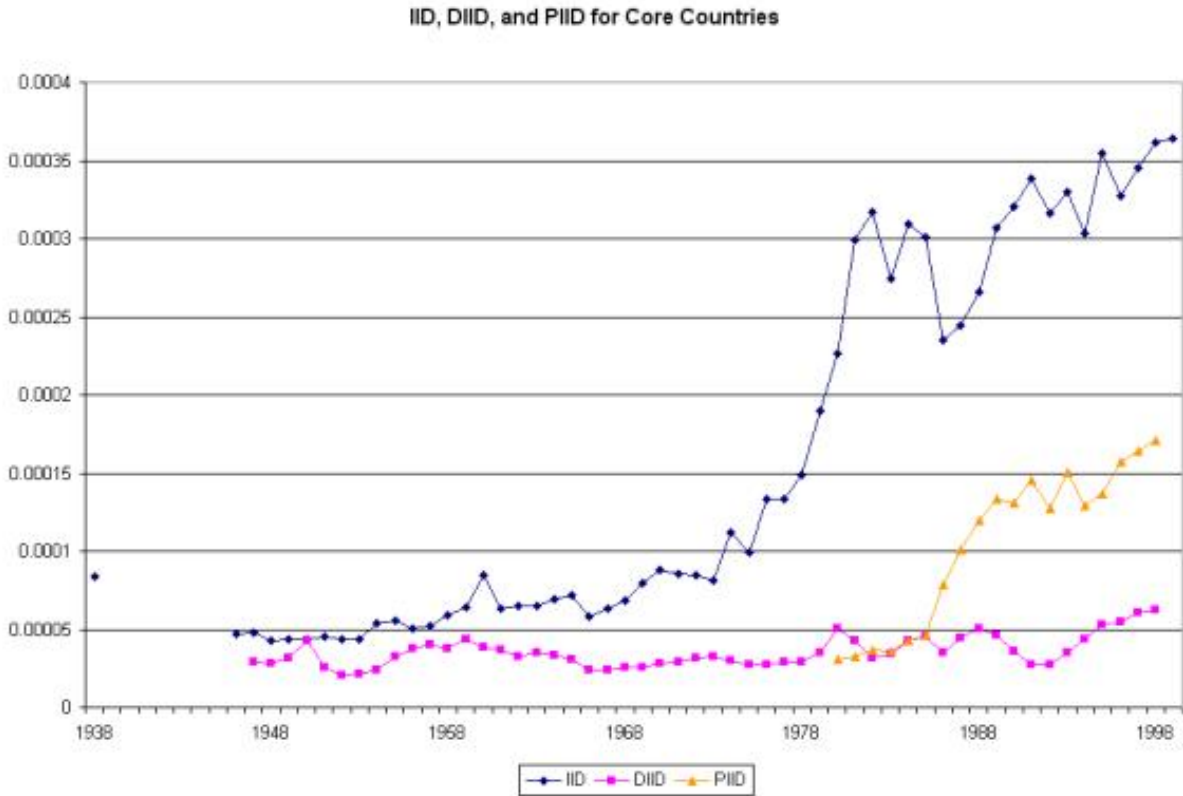


Figure 5: Total, Direct and Portfolio Investment Income Debts, Core Countries

Figure 5 shows some interesting differences for the core countries across different kinds of investment income debits. The total investment income trajectory is the same as that shown in Figure 3 above. Average weighted **direct** investment income debits for the core countries do not show an upward trend. The upward trajectory shown by total investment income debits is entirely due to the increase of payments out on portfolio investment and on “other” investment income (not shown). [13] “Other” investment income primarily includes items that can be considered as

parts of international investment. [14] Thus the increase in core investment globalization as indicated by debits on investment income appears to be largely due to the rise of portfolio investments corresponding to the financialization of the world economy that has accompanied the ideological hegemony of neoliberalism since the 1970s. Debts on direct investment income in the core appear to have remained flat relative to the size of the world economy in this period, meaning that the amount of profit paid out by core countries resulting from the activities of subsidiaries of transnational corporations has apparently not increased.

Let us now examine the trends for the subtypes of credits on investment income. Figure 6 shows the corresponding credits categories to those shown in Figure 5.

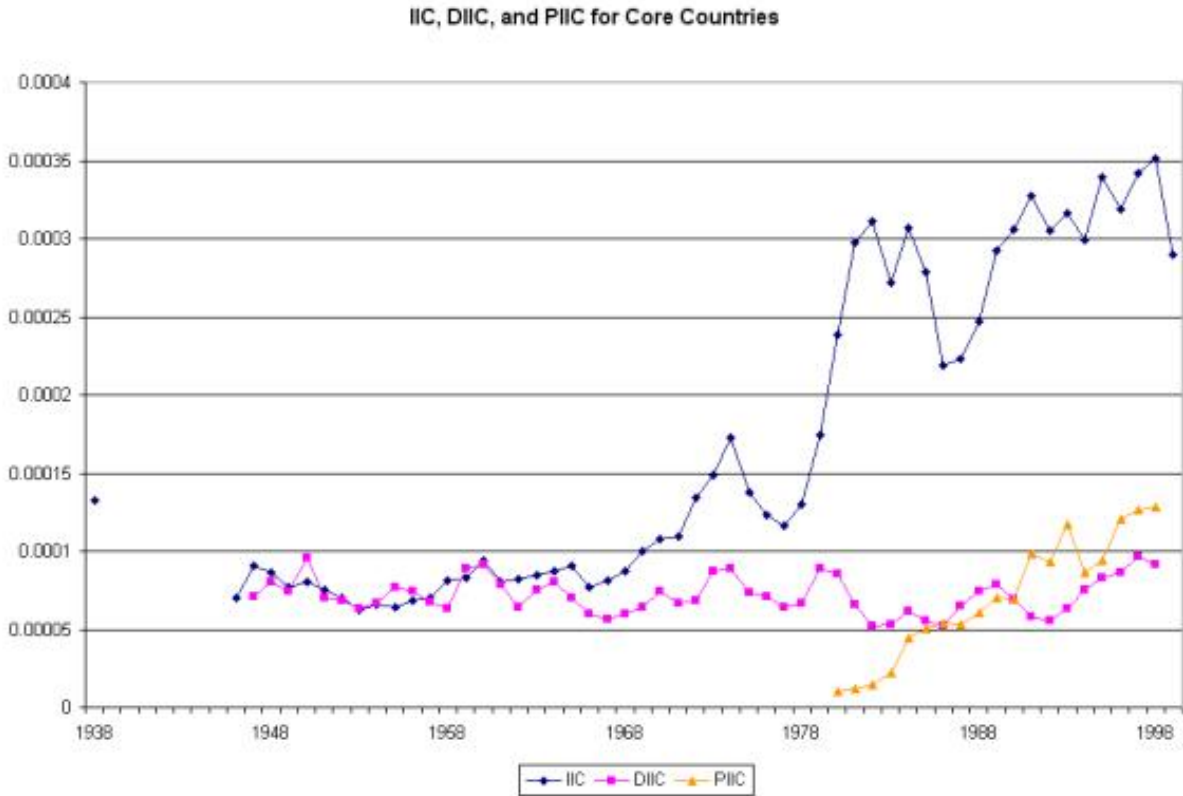


Figure 6: Total, Direct and Portfolio Investment Income Credits, Core Countries

Figure 6 shows a very similar pattern as Figure 5. The trend in total investment income credits for core countries is the same as in Figure 4 above. As in Figure 5, direct investment globalization is flat, while portfolio investment globalization shows a strong rise since the late 1970s. But some of the trend in Figure 6 is due to **changes in the cases**. Figure 7 shows the results when we hold the cases constant for each of the subtypes.

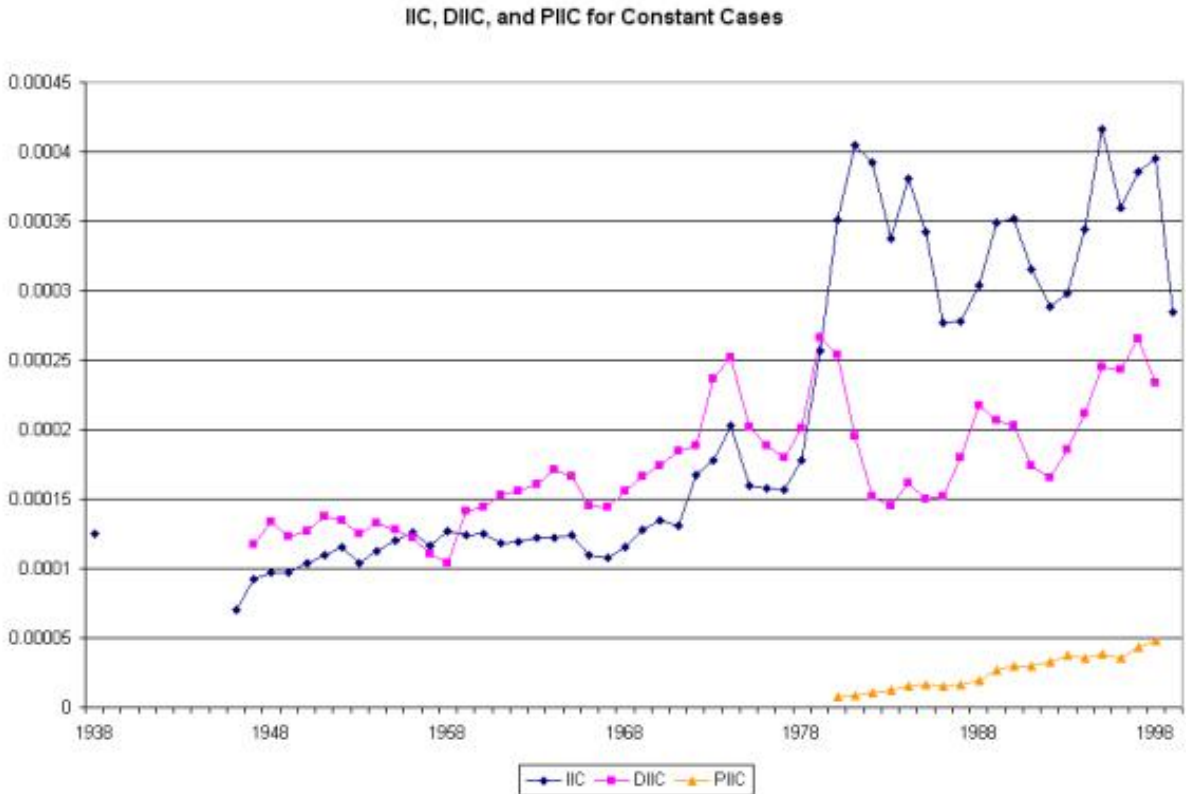


Figure 7: Credits on Total, Direct and Portfolio Investment Income for Constant Cases

Figure 7 indicates that the flatness of the trend in direct investment credits shown in Figure 6 may be due to the addition of cases as we move through time. When we hold the cases constant, direct investment credits show a modest upward trend. [\[15\]](#)

The conclusions suggested by our study of investment globalization from 1938 to 1999 are as follows: there was indeed an upward trend of investment globalization during this period but it began after a decline during World War II. The big rise began in the late 1970s corresponding with the abandonment of the Bretton Woods regulations over international investment and the deregulation of international monetary arrangements. There were important differences between the core and the non-core with regard to investment globalization. The core did it earlier and rose to a much higher peak. Portfolio investment was a major contributor to the big wave of investment globalization that occurred after the late 1970s. This corresponded to the shift of capital accumulation away from investment in production and trade and into finance capital.

What remains to be done for this part of our study of trends in investment globalization is to compare our “average investment dependence/dominance” measures with world totals measures, and to compare our results for investment globalization with yearly trade globalization figures and with other types of globalization. We also need to finish linking our study of nineteenth century investment globalization with the post-1938 measures, splicing the series in a way that permits us to address the questions of cycles and long-term trends that motivate our comparison of the nineteenth century wave of globalization with the twentieth century wave. How big is the upward trend? What is the precise temporality of investment globalization and how does it relate temporally with other types of global integration? Which kinds of integration lead and which ones lag? What causes global integration and what does it cause? And how can our study of global integration help us lower the probability of future conflicts and increase the probability of global cooperation, stability, democracy and equality.

Appendix A: Yearly Non-net British Foreign Investment Flows, 1862-1914

Our best yearly estimate so far of investment globalization in the nineteenth century comes from Irving Stone’s (1999) new study. This is a much-improved basis for estimating the trajectory of

investment globalization in the nineteenth century because it does not rely on net figures. We have used Stone's estimates of total private capital exports (flows) from the United Kingdom to thirteen countries (Argentina, Australia, Canada, Chile, Germany, Spain, France, India, Italy, Japan, Mexico, United States and South Africa) in pounds sterling and national income estimates in country currencies (converted into British pounds using exchange rates). These have then been weighted by the ratio of the country's population to the world population and then the average for all the countries available for each year have been calculated with Figure 8 as the result.

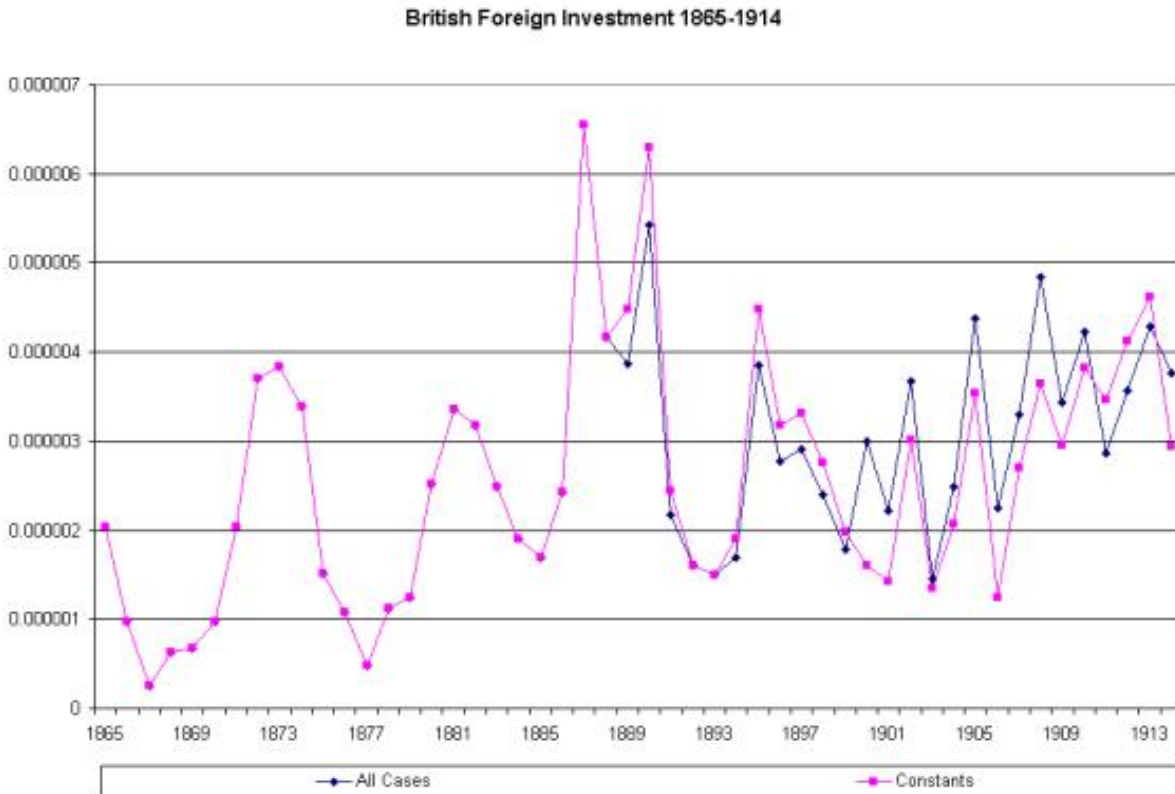


Figure 8: Investment Globalization Based on British Private Capital Exports, 1865-1914

The method used in Figure 8 to produce yearly estimates of investment globalization is based on flows, the average amount of capital exported from Britain each year rather than on estimates of the total book value of British capital within each country. This may contribute to the volatility of the values, but the upward and downward trends seem to track the ten-year business cycle fairly closely. Interestingly the Great Depression that began in 1873 initiated a fall of capital exports that was no deeper than the previous decadal downturn, and in 1885 a steep ascent began that reached the highest peak of the whole period. From these data it appears that investment globalization has a similar trajectory to that of trade globalization in the nineteenth century. Recall that the trajectory of trade globalization in Figure 1 above has been transformed by a five-year moving average that smooths out short-term variations.

We are not satisfied with this measure of nineteenth century investment globalization for several reasons. First, the United Kingdom was perhaps the most important investing country, but rather important foreign investments were also flowing from France, Belgium, Germany, and after 1900 from the United States. The other big problem is that these yearly export flows do not provide good estimates of the total value of foreign-held assets in the countries to which they are flowing.

The way to estimate the total value of capital is to sum current investments over a period of years depreciating the earlier years with an amortization schedule. This is our next step for the British flow figures, and these will need to be weighted by estimates of world GDP. To accomplish this latter we will need to transform Maddison's (1995, 2001) estimates from 1998 Geary-Khamis U.S. dollars into current British pounds for the nineteenth century (or transform current pounds into 1998 Geary-Khamis U.S. dollars). This will provide a better estimate of nineteenth century investment globalization than the flows numbers shown in Figure 8.

Appendix B: List of Core and Non-core Countries Studied with IMF Balance of Payments Data.

Core Countries

AUSTRALIA
AUSTRIA
BELGIUM
CANADA
DENMARK
FINLAND
FRANCE
GERMANY
IRELAND
ITALY
JAPAN
NETHERLANDS
NEW ZEALAND
NORWAY
PORTUGAL
SPAIN
SWEDEN
SWITZERL
UNITED KINGDOM
UNITED STATES

Non-Core

AFGHANISTAN
ALBANIA
ALGERIA
ANGOLA
ANTIGUA
ARGENTINA
ARMENIA
AZERBAIJAN
BAHAMAS
BAHRAIN
BANGLADE
BARBADOS
BELARUS
BELIZE
BENIN
BOLIVIA

BOTSWANA
BRAZIL
BULGARIA
BURKINA FASO
BURUNDI
CAMBODIA
CAMEROON
CAPE VERDE
CENTRAL AFR
REP
CHAD
CHILE
CHINA
COLOMBIA
COMOROS
CONGO DEM REP
CONGO REP
COSTA RICA
COTE D'IVORE
CROATIA
CUBA
CYPRUS
CZECH REP
DJIBOUTI
DOMINIC1
DOMINICA
EGYPT
EL
SALVADORE
EQUADOR
EQUATORIAL
GUINEA
ESTONIA
ETHIOPIA
FIJI
GABON
GAMBIA
GEORGIA
GHANA
GREECE
GRENADA
GUATEMAL
GUINEA
GUINEA
BISSAU
GUYANA
HAITI
HONDURAS
HONG KONG
HUNGARY
ICELAND

INDIA
INDONESI
IRAN
IRAQ
ISRAEL
JAMAICA
JORDAN
KAZAKHSTAN
KENYA
KIRIBATI
KOREA
KUWAIT
KYRGYZ
LAO PDR
LATVIA
LEBANON
LESOTHO
LIBERIA
LIBYA
LITHUANIA
LUXEMBOURG
MACEDONIA
MADAGASCAR
MALAWI
MALAYSIA
MALDIVES
MALI
MALTA
MAURITANIA
MAURITIUS
MEXICO
MOLDOVA
MONGOLIA
MOROCCO
MOZAMBIQE
MYANMAR
NAMIBIA
NEPAL
NETHERLANDS
NICARAGUA
NIGER
NIGERIA
OMAN
PAKISTAN
PANAMA
PAPUA NEW
GUINEA
PARAGUAY
PERU
PHILIPPI
POLAND

PUERTO RICO
ROMANIA
RUSSIAN
RWANDA
SAMOA

SAUDI ARABIA
SENEGAL
SEYCHELL
SIERRA
LEONNE
SINGAPORE
SLOVAK REP
SLOVENIA
SOLOMON
SOMALIA
SOUTH AFRICA
SRI LANKA
ST KITTS
ST LUCIA
ST VINCENT
SUDAN
SURINAME
SWAZILAND
SYRIAN ARAB
REP
TANZANIA
THAILAND
TOGO
TONGA
TRINIDAD
TUNISIA
TURKEY
TURKMENI
UGANDA
UKRAINE
URUGUAY
VANUATU
VENEZUEL
VIETNAM
YEMEN REP
YUGOSLAVIA
ZAMBIA
ZIMBABWE

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[1] The Appendix to our ASR article contains the aggregate trade globalization data as well as the results of comparison of our average openness measure with the traditional world totals approach. This is available at <http://www.irows.ucr.edu/cd/appendices/asr00/asr00app.htm>

[2] Our conceptualization of political globalization needs to include regional international organizations such as NATO, the Warsaw Pact, COMECON, the European Community, NAFTA, ASEAN, MERCOSUR and etc.

[3] Our investment globalization annotated bibliography is available at [<http://irows.ucr.edu/research/globres/globbib.htm>] We want to thank Carol Bank for her work on this.

[4] Economists typically assume that the slopes of least squares regression lines of two data series are the same in order to merge one series with the other. This would be a risky approach when we are dealing with variables that are known to be cyclical in nature. We will use a measurement error strategy that weights the different indicators according to our best guesses of how closely they measure the underlying concept. In practice this will usually mean that the more recent series will be given greater weight than the earlier series.

[5] Whenever possible we will compare the net figures with the credit figures to estimate how much error there is in the net figures. Christian Suter is serving as a consultant to our project. We also intend to improve our measures of trade globalization by adding information on East Asian interstate trade during the nineteenth century (Hamashita 1994).

[6] This means collecting data on country debits. We will also collect data on credits in country currencies and construct an analogous “average investment dominance” measure based on these.

[7] Investment Income is the major component of Net Factor Income Paid Abroad, which is the difference between Gross National Product (GNP) and Gross Domestic Product (GDP). GNP is calculated by deducting (or adding) Net Factor Income from GDP.

[8] Of the course the profit rate varies over time and across countries, so the proxy is problematic. Economists contend that the profit rate in non-core foreign investments is higher than in the core because of additional risks.

[9] Unfortunately, country currency values were not available for some countries, especially in more recent years as the IMF began reporting in U.S. dollars.

[10] Our division of countries into core and non-core categories for the IMF data analysis is shown in Appendix B.

[11] IMF accounting conventions have changed over the period we are studying. For an overview of these changes see <http://irows.ucr.edu/research/globres/definitions/accountdef.html>

[12] The constant cases for credits in Figure 4 are the same as in Figure 3 plus India.

[13] The sum of direct, portfolio and other investment income equals total investment income.

[14] “Other” investment income does not include transfer payments such as remittances of guest workers to their families back home.

[15] The constant cases for each of the subtypes in Figure 7 are different, depending on available data for each. This explains why the trajectories do not appear to add up to the total investment income credits.