

Financial globalization in historical perspective: old and new patterns

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ABSTRACT: The debate about financial globalization in historical perspective has produced an impressive amount of literature in recent years. Scholars have suggested that financial market integration from 1880s to today perform the so called U-shaped pattern. That means contemporary financial globalization has precedents in the Gold Standard era, then the current level of financial market integration is not unprecedented. In contrast to the widely-known U-shaped pattern, the data presented in this paper provides different evidence, precisely in the markets where scholars have found the U-pattern. The evidence presented here shows that today's financial integration has surpassed the pre-1914 period. This different historical perspective is called the J-curve. The major purpose of this article is to demonstrate the J-curve, which claims that the level of financial integration since the mid-1990s has been higher than the previous experience, so the second wave of financial globalization is historically unprecedented.

Key words: financial globalization, U-curve, J-curve

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Introduction

In recent globalization literature, economists and economic historians have been comparing the growth of world trade with the expansion of global financial transactions relative to the world GDP concluding that at particular times in history global financial activities have largely exceeded world trade. In fact, the growth of cross-border financial flows in certain markets during the last three decades of the 20th century has been much higher than other key macroeconomic aggregates, such as world GDP and world exports or imports. The increasing importance of international capital flows over much of the post-war period has brought the debate on the globalization of finance to a prominent place in current academic literature.

Recently, scholars such as Michel Bordo, Barry Eichengreen, Maurice Obstfeld, Alan Taylor, and Michael Twomey have studied financial globalization in a historical perspective, i.e., from the classical Gold Standard era until the 1990s - and have found the so-called U-shaped pattern. They have examined historical literature and data pertaining to global capital mobility and have identified that the degree of financial integration has oscillated in long waves since then. The empirical evidence of their investigation suggests a specific pattern of international market development, which corresponds to a U-shaped pattern. The main purpose of the article is to present empirically the J-curve as a more accurate way to interpret financial globalization in historical perspective.

1. The U-shaped pattern¹

According to the U-shaped pattern, financial markets presented high levels of integration during the forty years prior to WWI. This integration declined sharply in the years between the wars, recovering gradually after the Bretton Woods agreements until it reached again, in the 1990s, the comparably high levels of financial integration attained before 1914. Obstfeld and Taylor (2002) have applied statistical and/or econometric models to support their argumentation towards the U-curve. Most commonly, they have used data on current accounts relative to GDP ratios, real and nominal interest rate differentials (1998) and on the relationship between domestic savings and investment (Taylor 1996).

The U-shaped pattern has been considered a conventional wisdom on the evolution of international capital mobility since roughly half a century before WWI (Obstfeld & Taylor 2004:85). The U-shaped trend line points out two key messages: 1) The first era of financial globalization lasted from 1870 to 1914 and the second from the 1980s to the mid-1990s; and 2) The level of capital integration before 1914 was comparable to or even higher than that of the 1990s. In short, contemporary financial globalization is not unprecedented, therefore there is nothing new in the contemporary international financial scenario.

The U-shaped pattern (and also the J-curve) has not been represented in all financial indicators.² Maurice Obstfeld & Alan Taylor (2002, 2004) draw upon a range of indicators such as cross-border flows and stocks, saving-investment correlations, current account positions and asset price movements to describe financial globalization as a phenomenon performed by multiple indicators. Nevertheless they did not assert that a U-curve is achieved in all these indicators. Conversely, Obstfeld & Taylor (2002) compiled the data on the stocks of foreign assets and liabilities concerning world GDP at benchmark years over the period of 1825 to 1995, and found a U-shaped pattern for the period 1870-1995. Moreover, Michael Twomey (2000) claimed a U-shaped pattern for the ratio stock of outward FDI/GDP between the 1913 and 1995. Therefore, in most of the specialised literature, the data used to outline the U-curve does not include all of the 1990s, i.e. scholars have been arriving at the U-shaped trend using data from the late 19th century up to 1995.

Expanding these figures to 2000 or more, certain measures that had held the U-trend line assumed a J-shape format. Hence, the next section aims to present this statistical evidence that raises an argument for proposing an alternative interpretation of the historical course of global finance since the Gold Standard. I updated the figures from 1995 to the end of the 1990s in the markets where scholars have achieved the U-shaped pattern,

¹ The literature on the U-shaped pattern is widely known in academic circles, for this reason this section presented only a short review of its key aspects.

² There are key outstanding reasons for the paucity of financial data dated from the late 19th/early 20th centuries. Rajan & Zingales (2003) suggest three main difficulties in obtaining reliable sources of historical information on financial markets: 1. primary sources are often lost or inaccessible; 2. secondary sources are contradictory or uncritically repeat the same primary sources; and 3. the type of statistical information changed from the late 19th to the late 20th century.

(for the stock of outward FDI into the early years of the 21st century), and a different shape was found, closely related to the so-called J-curve. This empirical evidence suggests that financial integration of the contemporary financial markets is higher than in the past.

2. The J-shaped proposition

Several authors have agreed with the existence of the U-curve but not all of them have provided statistical evidence to demonstrate it (Eichengreen, 1996). This way, apart from the stock of foreign assets and outward FDI, I did not find in the literature another statistical demonstration of the U-shaped pattern. This is understandable since accurate financial data for the period of the Gold Standard is quite scarce (as mentioned in footnote 2). This section aims to present quantitative evidence challenging the U-shaped pattern in those two markets where the U-curve was found, i.e. stock of foreign assets and liabilities and stock of outward FDI. According to the data presented here, financial flows were bulkier from the 1990s onwards in those markets in comparison to the peak of the Gold Standard era. Therefore, instead of a U-curve, this new configuration resembles a J-shaped pattern.

The J-curve concerns a huge surge of financial activity during the 1990s and the early 21st century. The J-shaped pattern proposal could be described as follows: these markets were globally integrated during pre-1914 era; their activities collapsed in the period between the wars; after a gradual post-war recovery they reached a higher level of activity starting from the 1960s, reaching a peak from the second half of the 1990s and onwards. In contrast to the U-shaped pattern, the global financial flows during the contemporary era have been unprecedented and much more voluminous than they were in the classical Gold Standard period. In this case, the J-curve draws attention to a historical and unique stage of international financial integration in the late 20th and early 21st centuries.

The appearance of the J-curve is closely related to the fact that the data presented by Obstfeld & Taylor (2002) and Twomey (2000) is outdated. Their calculations included data up to 1995. I have piece together authoritative figures from 1995 to 2000 (stocks of foreign assets and liabilities), and to 2005 (stocks of outward FDI). As a result, the J-shaped curve appears to be more robust to indicate the historical trajectory of these markets. In the following section, I shall present an important piece of statistical evidence in order to establish the J-shape proposition.

2.1. Evidence of Foreign Assets and Liabilities

Obstfeld and Taylor have published (in partnership and individually) books and articles on international capital mobility starting from the classical Gold Standard until 2000. Their 2002 piece examined the stocks foreign investment to GDP between 1825 and 1995 in an attempt to assess the historical extent of global capital mobility in this market. Furthermore, in chapter two of their 2004 book, they presented the same

model but updated the data to 2000. In the 2002 article they achieved the U-curve but in 2004 nothing was asserted about it.

The results obtained by the calculations made in 2004 help to present a piece of empirical evidence for the J-curve. However, some preliminary considerations about the methodology of their model are important beforehand in order to make clear in which sense their figures provide evidence for the J-curve.

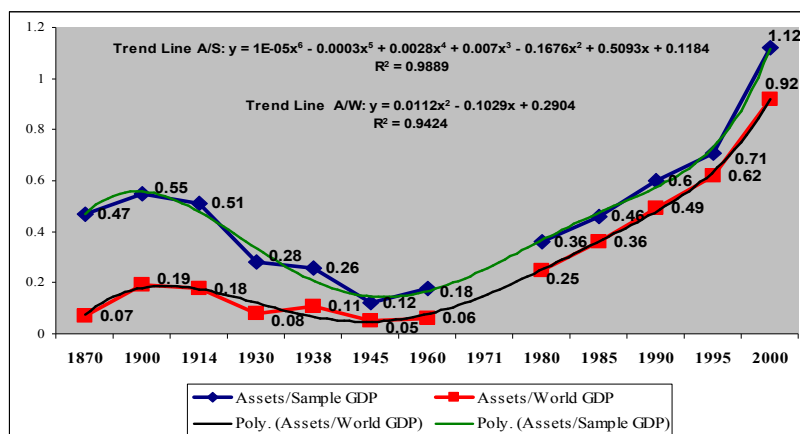
When they first presented the model, Obstfeld & Taylor (2002) intended to divide the stock of foreign-owned capital by the “seemingly ideal denominator”, which is the total stock of capital (financial or real) aiming to assess the size of global foreign investment. However, two major problems related to the denominator arose. First of all, the number of countries that have reliable data to estimate capital stocks is very limited for the pre-1914 time. In addition Obstfeld & Taylor (2002:19) claim that:

The problem with using financial capital measures is that they have greatly multiplied over the long run as financial development has expanded the number of balance sheets in the economy, thanks to the rise of numerous financial intermediaries. This trend, in principle, could happen at any point in time without any underlying change in the extent of foreign asset holdings.

Given these limitations, they chose a straightforward and available measure as a denominator, that is, the level of output calculated in current prices in US dollars. As a result, their equation comprises a measure capable of evaluating the variations of capital-output ratio throughout time. The nominal foreign data was classified into two categories: foreign assets and liabilities. Their results relating to the ratio of foreign assets and liabilities to the world GDP are especially noteworthy for the purpose of the J-curve and should be carefully examined.

The figure below is based on Obstfeld & Taylor (2004) and represents the foreign assets in the world economy between 1870 and 2000. It represents the best global indication for this sort of indicator achieved in the literature on financial globalization until 2004. As can be seen, the curve below resembles a “J” rather than a “U” curve, embodying the first piece of evidence towards the J-curve.

Figure 1. Foreign assets in world economy: 1870-2000



Source: Obstfeld & Taylor (2004:52, 53)

Focusing on the ratio of foreign assets to world GDP, one realises that during the classical Gold Standard era it rose from 7 per cent in 1870 to 18 per cent in 1914. As expected, the ratio fell sharply during the interwar period, reaching a mere 5 per cent in 1945, which was its lowest level during the interwar period. Only in 1980 did foreign assets regain a similar volume of transactions to that of 1914. In this year, 25 per cent of world output was invested in foreign assets, i.e. a mark comparable to the 18 per cent achieved in 1914. Then, a U-shaped pattern of foreign assets to world GDP is formed from 1870 to 1980.

However, from the mid-1980s until the end of the 1990s, the growth of the indicator was historically unprecedented. As figure 1 shows, foreign assets in 1985 were twice as high as the 1914 figure. In 1990, it was 49 per cent of world GDP, 62 per cent in 1995 and 92 per cent in 2000, which is five times higher than in 1914. In other words, in 1990 about half of world output was invested in foreign assets, conversely only ten years later, an impressive figure of 92 per cent of world GDP was invested in these assets. In comparison, this amount was only 19 per cent at the peak of the classical Gold Standard.

The exponential growth presented above could be considered an unprecedented historical event, and thus provides evidence of a J-curve in the foreign assets to world GDP ratio, nevertheless this evidence is not yet sufficiently robust. Obstfeld & Taylor (2002, 2004) recognise the existence of a problem in the numerator. According to them, for many countries there are no information about foreign investments, hence for several of them the authors add zero to the numerator but include their output in the denominator to compose the world GDP figure. Consequently, the estimation based on foreign assets to world output becomes underestimated. For this reason, they call it the “lower bound” of the true ratio.

An alternative to solve this problem is to include in the denominator the GDP of the same number of countries that have data for foreign investment. Thus, the sample from 1870 to 1960 was considerably reduced, including only seven major economies (UK, France, Germany, the Netherlands, US, Canada and Japan). Based on IMF calculations, after 1980 up to thirty countries that have both foreign investment and GDP data were included. By the year 2000, the sample was expanded to over 60 countries. It provides an alternative estimation called “foreign assets to sample GDP”. According to the authors, despite being more precise than the “lower bound” ratio, this measure is overestimated because not many countries were included throughout the analysed time period. This overestimation is higher between 1870 and 1960 because the sample includes only the seven “principal players”, i.e. countries that have more diversified foreign portfolios than the other economies of the world. For this reason, they called this estimation the “upper bound” of the true ratio.

As can be seen in Figure 1, the foreign assets to sample GDP (upper bound ratio) measure represents a higher but similar picture as that presented by the foreign assets to world GDP (lower bound ratio), also conforming more to the J-shape. The ratios presented are still much higher in the second globalization era than during

the first one. In 1870, the relative amount reached 47 per cent, rising to 55 in 1900 and falling slightly to 51 per cent in 1914. It collapsed to only 12 per cent in 1945, ascending gradually to 18 per cent in 1960, 36 per cent in 1980, and reached 60 per cent in 1990, similar to the circa 1914 figure. Therefore, a U-curve is formed in terms of foreign assets to sample GDP for the period 1870-1990. In 1995 this figure was 71 per cent, and in 2000 it reached 112 per cent. Again, the same unprecedented level of financial integration can be observed since the 2000 figure is twice as big as the figure reached at the zenith of the first era (55 per cent in 1900). This means an amount equivalent to more than the whole world output was invested in foreign assets in 2000 in comparison to 1900.

The data collected for foreign liabilities is much more fragmented than for foreign assets, so the chart was suppressed, but it is worthy to mention the figures for the sake of the argument. The foreign liabilities to world GDP in 1900 was 14 per cent, then reached its peak during the Gold Standard with 21 per cent in 1914, increasing slightly to 30 per cent in 1980, but sharply in 1995 (79 per cent). It reached the year 2000 presenting 95 per cent, four times bigger than the 1900 figure. In this case, a U-curve was formed from 1900 to 1980, earlier than the pattern observed above in the assets side. However, taking into account the period from 1900 to 2000, it can be seen that the picture resembles a J-curve. During the 1990s, the growth of foreign liabilities by world GDP was particularly faster and again unprecedented. Despite being fragmented, this could be another piece of evidence regarding the J-shape proposal.³

Obstfeld & Taylor (2002, 2004) already recognised the shortcomings of their indicators but despite of that, they asserted that their results were still a “potentially illuminating historical description” (2002:21, 2004:51). As noted above, they originally developed this model in their 2002 article. In the paper, their time series lasted from 1825 to 1995. They interpret the results as providing further evidence for the U-shaped pattern for global financial markets. On this account, Obstfeld & Taylor (2002:26) concluded that:

Data on gross international asset positions seem broadly consistent with the idea of a U-shape in the evolution of international capital mobility since the late nineteenth century, though it is less clear how we should compare the degree of diversification attained by some countries then with today’s apparently significant, albeit declining, home bias in foreign asset holdings. Figuring whether too much or too little diversification existed at any point must remain conjectural, and conclusions would hinge on calibrated and estimated portfolio model applied historically. This is certainly an object for future research.

Observing the results up to 1995, this conclusion may be sound. However, using the updated figures as displayed in chapter two of their 2004 book, one realises that in any case the ratios of foreign capital stocks in 2000 returned to levels comparable to the Gold Standard era. Conversely, in 2000 all coefficients were

³ Conversely, regarding the ratio of liabilities to sample GDP, secular comparisons are not possible since there are only four observations available.

much larger than those observed prior to WWI. That is why the figures suggest an unprecedented level of global financial activity in the 1990s, resembling the J-pattern and not the U-curve.

In fact, comparing the conclusions presented in their 2002 article with their analysis displayed in 2004, they clearly change their mind regarding the applicability of the U-shape. As mentioned in the quotation above, using the data up to 1995, they asserted that the results are “broadly consistent” with the U-shaped pattern. However in the book there is no reference to the existence of the U-curve related to foreign assets and liabilities. Therefore, their latest calculations indicate that something different from the U-shaped pattern is happening in the international financial scenario in terms of foreign assets in the world economy. The quantitative survey pinpointed a time when a surge of foreign capital stocks occurred in the 1990s, and this discovery points to an alternative standard, referred to in this article as the J-curve.

As Obstfeld & Taylor recognised, both foreign assets and liabilities ratios (as a sample GDP and world GDP) are not truly global, especially for the 1870-1960 period. The “upper bound” is an overestimation and the “lower bound” represents an underestimation of the true ratio. Nonetheless, up to the present moment, no scholar had put together a reliable empirical estimation for foreign assets and liabilities for more countries than the seven economies included in Obstfeld & Taylor’s sample for the 1870-1960 period. Therefore, this is the best sample available in the specialised literature, then it is the best historical indication of this kind of cross-border transaction so far. Assuming that this result is the best up till now, one can consider that from 1870 to 1960, the true ratio is certainly somewhere in between the “upper bound” and the “lower bound”, although it is not possible to define exactly at which point. Nevertheless, from 1970 to 2004, this problem is already solved. As will be presented in the section below, Lane & Milesi-Ferretti (2006) have calculated the external assets and liabilities for one hundred and forty-five countries, which comprise almost a global coverage. As can be seen in figure 5, the level of international equity integration in both advanced countries and emerging markets increased significantly, performing a huge surge of financial activity from the 1990s to the early years of the present century.

Sadly, for methodological reasons, it is not possible to interpolate the Obstfeld & Taylor figures from 1870-1960 to the Lane & Milesi-Ferretti calculation after the 1970s. But just for the sake of argument, let us suppose that the data on stock of foreign assets and on GDP were available from 1870 to 1960 for most countries, thereby providing a robust global sample. In this supposition, the empirical problem in the numerator identified by Obstfeld & Taylor would be resolved. As a result, the value of the numerator will increase significantly, probably not as much as the value of the denominator, because the countries included certainly do not have as many external assets as the “principal players”, but the coefficient will be much more representative of the true line. The new ratio will promote an upward movement in the assets to the world GDP line across this period. The precise magnitude of this growth is impossible to foresee without the

data, but surely it will be traced in between the lower and upper bounds. Despite this supposition obviously cannot be considered as crystal clear evidence, it provides an illustrative picture of a J-curve for the entire period.

There is a further indication suggesting that after the updated calculations Obstfeld and Taylor (2004) had indeed changed their mind. Taylor (2004:29) replicated the same figure presented in this book for foreign assets and liabilities to 2000 and affirmed that “we now know that trade has flourished ever since, as has finance, with both now flowing at volumes that, *by some yardsticks*, exceed the peak reached in 1913” (Italics added). The part of this sentence related to finance could be in fact an excellent short expression of the key message underlying the J-curve. In summary, the empirical result accrued in this section is a piece of evidence pointing to an unprecedented upsurge in global foreign assets during the 1990s.

Providing evidence concerning to one of the indicators that was considered to resembles the U-shaped pattern (Obstfeld and Taylor 2002), this section satisfied one of the objectives of this paper regarding the establishment of the J-curve. The next and final step will be to investigate the historical behaviour of the FDI historically. As mentioned before, Twomey (2000) achieved the U-curve through the stock of outward FDI using data from 1913 to 1995. Using the authoritative historical sources available, I have collected FDI data from 1913 to 2005 and I have achieved a contrasting picture, which is another piece of evidence regarding to the J-curve.

2.2. Evidence about Foreign Direct Investment

The second main step in establishing the J-curve proposal is to demonstrate the J-shape through historical FDI data. Therefore, this section focuses on statistically presenting the J-curve based on FDI figures rather than discussing its development and effects on home and recipient countries; neither is it the intention of this section to examine the FDI driving forces, nor to compare it with other sorts of investments such as portfolio investments. Nevertheless, some preliminary clarifications should be made to explain the central characteristics of FDI.

Multilateral organisations such as the IMF, OECD, United Nations, and also scholars have defined FDI according to various criteria. The definition of FDI is based on balance-of-payments transactions between residents and non-residents. For the purpose of this section, it is enough to state that it is an investment made by a resident entity devoted to acquiring long-term interest in enterprises operating outside of the economy of the investor (its foreign affiliate).⁴ The parent company and its affiliates form a Multinational Company (MNC). The resident must have control over the affiliate, i.e., 10 per cent or more of the ordinary shares or

⁴ In most of the specialised literature there is little doubt as to the importance of FDI to economic development and global capital integration during the 20th century. The academic debate on FDI is very extensive and controversial, but these aspects do not lie within the scope of this paper.

voting power of an incorporated firm, or its equivalent for an unincorporated firm. Lower ownership shares are known as foreign portfolio investments (FPI). In principle, as the main company obtains a lasting interest in a resident entity in another country, FDI can be considered an internalised investment flow, and includes capital and intangible assets. The investor keeps control of the subsidiary that it has established and derives benefits from its investment. There are two types of FDI according to its direction: inward FDI occurs when foreign capital is invested in local resources, and outward FDI when local capital is invested in foreign areas. Controversies also exist in terms of the choice of the more accurate historical FDI data. Scholars have debated what the more appropriate figures should be to describe the evolution of FDI during the Gold Standard and the interwar period. So far, empirical evidence about stocks and flows during this period is scarce. Data collected by John Dunning, one of the most prominent scholars in this field, show that only ten percent of British overseas investments were direct investments on the eve of WWI. This may be an indication that the global volume of FDI was not relevant at that time. According to this author (and more recently to Nayyar 2006:147), there are no reliable statistics available for stocks of FDI before 1914. Dunning (1988:71) states:

We have still only a rough idea of the number of MNEs operating in 1914, or the value of their foreign investment at that time; and even today few countries publish the kind of information which scholars need to evaluate properly either the causes or the effects of international production. Thus the present statistical portrait of the growth of MNE activity, which might enable us to test our new theories – or even the old ones – in any rigorous way, is not possible.

With this in mind, in what follows authoritative historical estimates of FDI stocks and flows spanning almost a hundred years is present. Surveying the literature dealing with empirical evidence, one realises that the data organised by Dunning (1988) is a well-quoted reference for assessing the figures of the early 20th century. Dunning brought together estimates of inward and outward direct investment for developed and developing countries from 1914 to 1983 at benchmark years. Therefore, during this period, this article trusts in his data. Whereas for the period after 1983, the data published by UNCTAD will be quoted. Table 1 shows the outward stock of FDI for the world economy, developed and developing countries between 1914 and 2003.

Table 1. Outward stock of foreign direct investment: 1914-2003 (Billions of dollars)

	1914	1938	1960	1973	1983	1993 ¹	2003 ²
World	14.48	26.35	66.10	210.50	572.80	2,241.84	8,196.86
Developed Countries	14.30	26.35	62.90	204.40	555.20	2,033.61	7,272.32
Developing countries	neg	neg	0.70	6.10	17.60	203.35	858.68

Source: From 1914 to 1983: Dunning (1988: 74); ^{1,2} UNCTAD, World Investment Report, online database.

From 1914 to 2003, the world stock of outward FDI presented two markedly different growth patterns. The first lasted from 1914 to 1960, the second from 1973 to 2003. One can see that at each two-decade interval between the benchmark years of 1914, 1938 and 1960, the outward stock of FDI doubled. However, this growth accelerated considerably during the subsequent phase, especially after 1983. Table 2 reveals that between 1961 and 2003 the annual growth of outward stock of FDI increased around 10 per cent, while this growth was much less relevant during the former period. Considering the last thirty years, the world outward stock of FDI increased an incredible thirty-seven fold. Taking into account the paucity of data for the period before 1914 and Dunning's estimations, this extraordinary increase denotes that activity in this market gained momentum after the 1980s.

Table 2. Annual average rate of growth of outward stock of foreign direct investment: 1914-2003

Years	World
1914-1938	2,52
1939-1960	4,26
1961-1973	9,31
1974-1983	10,52
1984-1993	14,61
1994-2003	13,84

Source: Table 1.

Table 1 also reveals that, up to 1960, the volume of investment in developing countries was negligible. Though, from the 1970s to 2003, the rate of growth for these economies was much higher than for developed countries, and more than twice the rate of world growth. Whilst developing countries had little more than 10 per cent of the world FDI in 2003, the figures presented here show that they made significant progress throughout this period, even though a considerable part of this investment is concentrated in some emerging countries, especially in the four BRIC economies (Brazil, Russia, India, and China).

A similar pattern of two distinct phases occurred with the world inward stock of FDI from 1914 to 2003. Table 3 reveals that in each of the intervals between the benchmark years up to 1960, the inward stock grew twofold but the rate of growth was much higher in the second phase. Likewise, developing countries had a very small amount during the first phase. Taking into account the three decades, the growth of world inward stock of FDI was forty-eight fold, even more impressive than the outward growth figure.

Table 3. Inward stock of foreign direct investment: 1914-2003 (Billions of dollars)

	1914	1938	1960	1973	1983	1993 ¹	2003 ²
World	14.09	24.32	54.50	166.70	552.60	2,329.05	8,245.07
Developed Countries	5.24	8.35	36.70	121.30	416.90	1,595.68	5,701.63
Developing Countries	neg	neg	17.60	45.20	135.60	715.64	2,280.17

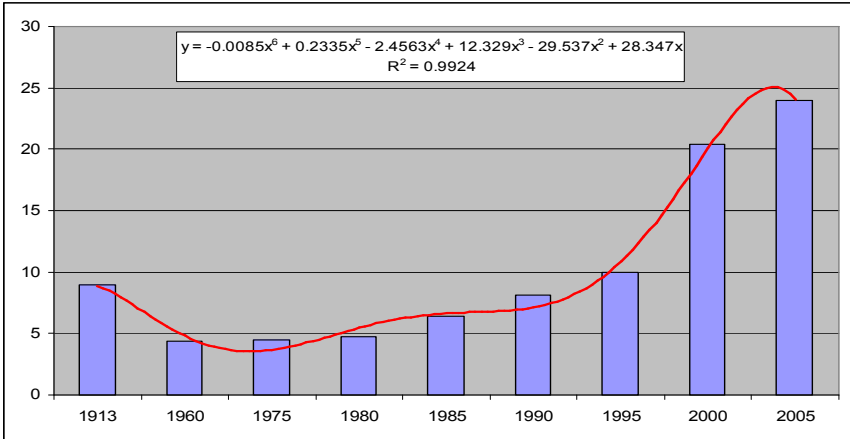
Source: From 1914 to 1983: Dunning (1988:74). ^{1,2} UNCTAD, World Investment Report, online database.

It is beyond the scope of this article to delve into explanations of this phenomenon. The central point to be highlighted here is that the tables above present another piece of evidence regarding a rapid rate of increase for both outward and inward stock of FDI from the 1980s to 2003. The stock of FDI gradually became more important during the course of the 20th century, but it reached an unprecedented level of transaction by the end of the 1990s and beginning of the 21st century. The 1914 amount was only surpassed in the late 1980s, and the stocks of outward and inward FDI became much higher (in absolute terms) at the end of the 1990s. On account of these figures presented, this could be considered another piece of evidence pointing to the J-curve.

As a rule, comparisons made only in absolute values do not properly characterise the phenomenon in question. As can be seen in Table 1, Dunning (1988) pieced together a large number of sources to derive the outward and inward estimations of FDI. He did not calculate the share of world FDI stock to world GDP, and his calculation in the 1988 book stopped in 1983. In order to avoid methodological problems of interpolation, I decided to use only one source of data to plot Figure 5 below, which represents a J-curve for FDI stocks. Therefore, the figure is based on the UNCTAD (1994) data on world stock of outward FDI relative to world GDP. The 1913 figure is an estimate. From 1960 to 1985, the statistics are based on UNCTAD (1994:130), and from 1990 onwards, the data were collected from online statistical databases. Despite the wide gap between 1913 and 1960, one can suppose that between the wars, the amount of world FDI should be much lower than the figures presented for 1913 and 1960.

This decision to use UNCTAD’s data instead of Dunning’s (1988) figures has a disadvantage since UNCTAD database does not provide any statistics for the period between 1913 and 1960. However, it is widely known (Dunning 1988, Wilkins 1988, 1989) that the interwar period was marked by political and economic turmoil, hence the value of FDI was modest. In fact, table 1 provides evidence of it, since it shows that in 1938, the volume of this investment was much lower than the subsequent decades.

Figure 3. FDI as a percentage of world economic activity: 1913-2005 (in percentage)



Source: UNCTAD (1994:130). From 1995 onwards extracted from UNCTAD, World Investment Report, online database

According to UNCTAD data, the stock of FDI was 9 per cent of world GDP in 1913 and dropped to 4.4 per cent in 1960. UNCTAD did not provide any figure before this year but one can suppose that this percentage might be lower in between these two benchmark years due to the assertion in the quotation of Dunning (1988) at the beginning of this section. The ratio of FDI by world GDP did not change from 1960 until 1975. It then climbed slowly to 4.8 per cent in 1980, rising to 6.4 per cent in 1985. In 1990, the share of FDI stock was around 9 per cent, the same figure as 1913. As a result, a U-curve could be traced from 1913 to 1990 or even to 1995. Similarly to what happened in the foreign capital stocks discussed in the previous section, this share increased quickly during the 1990s, especially after the second half of the decade. It reached 20 per cent in 2000 and was at a peak of 24 per cent in 2005. In summary, the 1914 ratio of FDI outward stock to world output was equalled in 1990 and is now roughly three times higher. The results indicate a J-shaped curve for the period in analysis.

In conclusion, statistical comparisons between the two ages of financial globalization cannot be made because of the absence of pre-1914 data, but this limitation is ubiquitous to all researchers. In the previous section, the data produced by Obstfeld & Taylor allowed comparisons between the 19th and the 20th centuries. In the case of FDI, this is not possible, nevertheless authors who had the same difficulty claimed a U-curve for the period 1914-1995. Conversely I claim that expanding the database to 2005, a J-curve corresponds more appropriately to the reality of the foreign investment.

Moreover, the sample of countries here is much greater. Obstfeld & Taylor's sample comprised seven developed countries for the 1870-1960 period. Dunning's figures for the benchmark years 1914, 1938, 1960 and 1973 are not only higher than the sample provided by Obstfeld & Taylor for this era, but also encompass developing economies. Based on the information provided in table 1, one can realise that his sample included in North America: the US and Canada; in Western Europe: the UK, Germany, France, Belgium, Italy, the Netherlands, Sweden and Switzerland; and other developed countries such as Russia, Japan, Australia, New Zealand, South Africa and others (not specified). Dunning's sample therefore includes at least fifteen developed economies. The number of developing countries was not specified but consists of countries from Latin America, Africa, Asia (China, India and Ceylon, now Sri Lanka), Southern Europe and the Middle East. Altogether, his sample has a considerably higher international coverage.

All things considered, Figure 3 illustrates that while the ratio of FDI in world economic activity was less than 10 per cent in 1913, it is now more than 20 per cent. It provides another piece of evidence for the J-curve.

2.3. New financial markets: the surge of global financial activity after the 1970s

A recurrent difficulty to all who research long historical series is the availability of consistent statistics. The figures are frequently unavailable because the historical records were not compiled in the past or simply

because they did not exist. There are possible reasons for this, such as a lack of scientific techniques, the existence of few research institutes well prepared to collect, process and publish data reports, scant volume of transactions, difficulties in commuting reliable information from country to country, thereby exacerbating the constant problem of under-report or over-report, and missing information due to great disturbances such as wars, natural disasters, etc. Moreover, current methods of data gathering and classification are quite different from the past, which makes the data of the 1870-1914 period unrelated to the present data. The problem of data inconsistency occurs not only in statistics for international finances but also in all other measurable economic activities. For these reasons, the dearth of historical data hinders comparisons between 19th and 20th century for several financial indicators.

Recently, some international institutions such as the BIS, IMF, OECD, UNCTAD, World Bank and others headquartered in most countries have been making a great effort to provide a consistent source of historical statistical information. In addition, scholars (Dunning, Lane & Milesi-Ferretti, Obstfeld & Taylor, among others) have been researching historical sources and developing interpolation techniques with a view to standardising 19th and 20th century data. They are organising dispersed estimates and improving methods of data presentation in order to allow long-term comparisons. Nevertheless, most of the historical statistics in finance date back to the 1970s or to the 1980s, therefore the problem of historical comparability between the two eras of financial globalization remains. Likewise, despite the scientific endeavour made by scholars and multilateral institutions, the historical data series for the late 19th and early 20th centuries have not yet been completed for various key financial markets. In some cases, the data from that period is available only for some benchmark years, as noted in the two sections above.

One of the characteristics of the world economy after the 1970s was the emergence of a variety of financial instruments to deal with the higher volatility and uncertainty that accrued after a sequence of crises and supply shocks.⁵ Throughout the last thirty years, many new financial contracts, intermediaries and markets have appeared and quickly developed. Accordingly, financial diversification was one of the key characteristics of the floating exchange regime that emerged after the demise of the Bretton Woods agreements. The international economic and political scenario has changed significantly since then: oil crises in the 1970s, debt crises in the 1980s, stock exchange crashes in the 1990s, along with disturbances between the superpowers encouraged private agents to develop techniques that reduced risk by allocating investments among various financial instruments. Financial diversification combines a wide variety of financial investments, although it is not a guarantee against loss. Investors have been spreading their portfolio among

⁵ Financial markets have experienced a dramatic growth since the 1970s. The resurgence of the international financial markets did not happen by accident, but has been shaped by a whole set of historically specific transformations that had already taken place during the 1970s. However it is beyond the scope of this paper to delve into explanations of this phenomenon (see Salles 2007, chapter IV).

multiple investment vehicles such as derivative instruments, foreign exchange, stocks, bonds, mutual funds, and many others. As this way to avoid risks became usual in the real world, multilateral institutions have provided indicators for measuring these new financial markets in vogue. Plenty of evidence of the massive growth of current global financial market can be gathered through an investigation of its evolution from the 1970s on.

This development has contributed to an increase in the level of global financial enmeshment over the past few decades.⁶ Accordingly, certain financial statistics based on those new financial markets cannot show whether or not the world economy has currently returned to pre-1914 levels of financial integration. Therefore, no historical comparisons are possible. Even so, these present data can reveal, in absolute and in relative numbers, the explosive growth in international finance since the end of the Bretton Woods agreements. For this reason, this section proposes to present additional evidence of a huge surge of financial activity from the 1990s onwards. Essentially, this is the main message underlying the J-shaped proposal.

The first indicator to be presented is the cross-border transactions in bonds and equities. Figures for cross-border transactions in bonds and equities as a percentage of GDP are not available from a single source. Therefore, the table below combines IMF and BIS figures to show growth from 1970 until the end of the 1990s. The BIS provided a provisory figure for 1999 then ceased publishing this information. Nevertheless, Table 5 presents the dramatically increasing performance of this market.

Table 5. Cross-border transactions in bonds and equities* as a percentage of GDP

	1970 ¹	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
USA	2.8	4	9	35	89	96	107	129	131	135	159	213	230
Japan	-	2	8	62	119	92	72	78	60	65	79	96	91
Germany	3.3	5	7	33	57	55	85	170	158	172	200	257	334
France	-	n.a.	5	21	54	79	122	187	197	187	258	314	415
Italy	-	1	1	4	27	60	92	192	207	253	470	677	640
Canada	5.7	3	9	27	65	83	114	153	206	187	251	355	331
Average	3.9	3.0	6.5	30.3	68.5	77.5	98.7	151.5	159.8	166.5	236.2	318.7	340.2

Source: BIS (1999:118); ¹ IMF, 1997, p. 60.*Gross purchases and sales of securities between residents and non-residents
 Cross-border transactions represented around 3 per cent of the GDP for these core countries during the early 1970s. Ten years later, this ratio had crawled to 6.5 per cent but by the following decade it had risen to 68.5 per cent. In 1992, these countries invested on average roughly 100 per cent of their GDP in bonds and equities. This accelerated growth was maintained until the end of this decade (especially from 1995 onwards) when these economies were investing more than three times their GDP in financial cross-border transactions.

⁶ In the recent literature on finance it has become common to describe the last twenty years of the 20th century as the era of financialisation (D'Arista 2001, Epstein 2005, Paley 2008, Stockhammer 2004, 2007). The term has been used frequently in specialised literature over the past few years to describe the increasing importance of financial markets in the performance and prospective course of the world economic activity.

The sample is limited but reveals a strong tendency in terms of strategic decisions in international finance taken in key countries in three continents. In 1975, this ratio was an inexpressive 3 per cent but had reached 340 percent of GDP in 1998, i.e., it had grown at a rate of 11,333 per cent. During the same period, their GDP rose by 196 per cent and their gross fixed capital formation increased by only 193 per cent.⁷

Another key indicator that has been progressing significantly since the last quarter of the 20th century is the net international bank loans. The amount of bank lending is a chief international macroeconomic indicator to present the level of activities in current financial markets. Nayyar (2006:142) searched for the performance of the banking activity from the 1960s to 2000. The results once more confirm the trend of extraordinary activity in this market.

As a proportion of world output, net international bank loans rose from 0.7% in 1964 to 8.0% in 1980 and 13.5% in 2000. As a proportion of world trade, net international bank loans rose from 7.5% in 1964 to 42.6% in 1980 and 66.9% in 2000. As a proportion of world gross fixed capital formation, net international bank loans rose from 6.2% in 1964 to 51.1% in 1980 and 62.8% in 2000. It is worth noting that the gross size of the international banking market, which includes claims on (or liabilities to) banks, was more than double that of net international bank lending. Cross-border inter-bank liabilities rose from a modest \$455bn in 1970 to \$5,560bn in 1990 and \$8,998bn in 2000.

As a consequence of the macroeconomic instability and substantial degree of uncertainty embedded in the world economy after the 1970s, the international financial scenario of the late 20th century was marked by the introduction of an enormous amount of financial innovations such as derivatives (futures, swaps and options). As noted above, derivative markets are negotiated in two different ways: exchange traded derivatives and over-the-counter derivatives. The former are futures, options and swaps. In contrast, tailor-made derivatives are traded on over-the-counter (OTC) markets. Corporations, investment and commercial banks, hedge funds, government agencies, etc have been the main clients of those markets. They have been using derivatives as a tool to transfer risk due to the multiple possibilities of contracting and re-contracting payments in the future against commodities or even other assets.

The OTC market is assessed in notional amounts. The table below describes its evolution from 1987 to 2005 and contrasts its annual growth rate with the performance of the world GDP. The rate of world GDP growth was placed as a parameter to measure the acceleration of the activity in the OTC market over the past two decades. The difference between them is large. While the OTC market grew by 675 per cent, world GDP grew only 89 per cent over that time.

Table 6. Notional amounts of OTC derivative transactions at year-end and world GDP: 1987-2005

Year	OTC billion \$	OTC in percentage		World GDP in percentage	
	Total	Annual growth	Accumulated	Annual growth	Accumulated
1987	865.60	-	-	-	-

⁷ Cf. UNCTAD, *World Investment Report*, online database.

1988	1,654.30	91	91	-	
1989	2,474.80	50	141	12	12
1990	3,450.37	39	180	5	17
1991	4,449.97	29	209	7	24
1992	5,345.70	20	229	5	29
1993	8,474.57	59	288	7	36
1994	11,303.21	33	321	2	37
1995	17,712.63	57	378	7	44
1996	24,953.15	41	419	10	54
1997	29,035.06	16	435	2	56
1998	50,997.00	76	511	(1)	56
1999	58,265.00	14	525	(1)	55
2000	63,009.00	8	533	4	59
2001	69,207.30	10	543	3	61
2002	101,318.49	46	589	(1)	61
2003	142,306.92	40	630	4	65
2004	183,583.27	29	659	12	77
2005	213,195.58	16	675	12	89

Source: OTC figures are based on ISDA – available at: <http://www.isda.org/statistics/pdf/ISDA-Market-Survey-annual-data.pdf>. GDP is based on UNCTAD *World Investment Report*, online database.

One of the indicators frequently quoted as demonstrative of the impressive expansion of international financial activity is the global foreign exchange market turnover. It was only in 1989 that the BIS began reporting data for this indicator with a global coverage of countries. Every three years since then, the institution provides a figure that represents an average day of the year for the global foreign exchange market, with April as the benchmark month.

Table 7. Foreign exchange market turnover¹ daily averages in April: 1989-2007 (in billions of US dollars)

Global foreign exchange market turnover	1989	1992	1995	1998	2001	2004	2007
Spot transactions	317	394	494	568	386	621	1,005
Outright forwards	27	58	97	128	130	208	362
Foreign exchange swaps	190	324	546	734	656	944	1,714
Estimated gaps in reporting	56	44	53	61	28	107	129
Total “traditional” turnover	590	820	1,190	1,490	1,200	1,880	3,210
Memo: Turnover at April 2007 exchange rates ²	650	880	1,150	1,650	1,420	1,950	3,210

Source: BIS (2005:5) and (2007:5); ¹ Adjusted for local and cross-border double counting; ² Non-US dollar legs of foreign currency transactions were converted into original currency amounts at average exchange rates for April of each survey year and then reconverted into US dollar amounts at average April 2007 exchange rates.

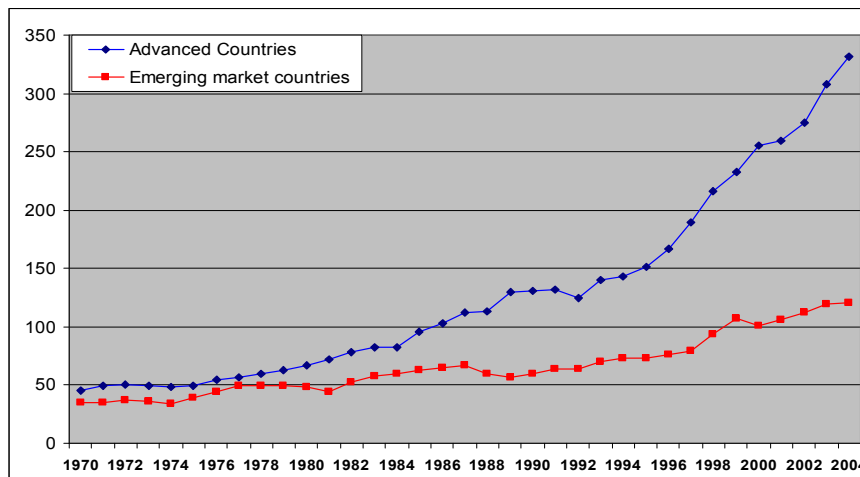
Once more, the figures presented in Table 7 show an impressive increase in exchange markets since 1989. Average daily turnover rose steadily from 1989 to 1998. In 2001, it experienced a slight fall but increased dramatically until 2007, reaching the impressive amount of \$3.2 trillion. Giddens (2002:9) made an intriguing illustration that can be used to illustrate how dramatic this figure is. According to him, measured in terms of a pile of hundred-dollar notes, a trillion dollars would be over 120 miles high – an impressive 20 times higher than Mount Everest. The data collected by Giddens however, needs to be updated for present-

day readers. Therefore, taking the 2007 turnover, the dollar stack will reach a staggering 60 times higher than Mount Everest on a daily basis. This shows a volume of external transactions without precedent. To a large extent this reflects a number of mergers, acquisitions, exports, hedges contracts and an unrestrained variety of financial activities in general that marked the world economy during the post-1970s era.

On top of the indicators presented above, this section will consider another dimension of the international financial integration measured by gross holdings of foreign assets and foreign liabilities. The development of the empirical research on statistical measures to evaluate financial integration can be perceived by the study of Lane & Milesi-Ferreti (2006). They constructed a comprehensive and up-to-date dataset of external assets and liabilities for 145 countries for the 1970-2004 period, providing new evidence on global financial integration. The external assets and liabilities are divided in 4 categories: portfolio equity; FDI; debt (portfolio debt plus other investment); and financial derivatives.

In the globalization literature, one well-accepted way to measure the level of financial integration is adding the foreign assets and liabilities. In this section, I made this calculation using a sample of 24 developed countries and 36 emerging economies divided by the total amount of GDP of those countries (see footnote 61). The results are plotted in the figure below.

Figure 5. International equity integration, advanced countries and emerging markets: 1970-2004⁸ (in percentage)



Source: Lane & Milesi-Ferretti (2006)

⁸ The sample of countries was selected according to the classification provided by Choi *et al* (2007:32). They classify as emerging Market Group the following 36 countries: Argentina, Brazil, Bulgaria, Chile, China, Colombia, Croatia, Czech Republic, Egypt, Estonia, Hungary, India, Indonesia, Israel, Jordan, Kazakhstan, Latvia, Lithuania, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Romania, Russia, Slovak Republic, Slovenia, South Africa, South Korea, Taiwan, Thailand, Turkey, Ukraine, Uruguay and Venezuela. Likewise, they classify as advanced country group the following 24 countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom and United States.

The results express the degree of importance of overseas financial transactions in these economies. The figure shows a strong tendency towards increased growth in financial integration amongst those countries. This movement began in the second half of the 1980s, but sped up in the following decade. The tendency of globalization is much stronger in the developed countries than in emerging markets: across industrialized countries, foreign assets and liabilities have increased sevenfold as a share of GDP, while emerging markets, despite having a smaller global share of privately-held assets, nearly doubled their economic internationalisation throughout the period. Overall, Figure 5 shows clearly that over the past quarter of century, both foreign assets and liabilities to GDP ratio have increased significantly, and this growth accelerated since the mid-1990s, being even higher for advanced economies.

This section has considered several salient dimensions of contemporary international financial integration. The evidence provided here suggests that the relative pace of international financial integration has lagged behind the expansion in trade integration and the growth of world GDP. Despite comparisons with the first financial globalization era are not possible, the indicators point out linking patterns to strengthen the argument to describe the current financial globalization as an unprecedented era as proposed by the J-curve.

3. Conclusions

The article presented the available historical empirical evidence on the same two indicators that the above authors found the U-curve. The historical scope was expanded up to 2000, and up to 2005 (for FDI), and the results contrasted with the U-shaped pattern. Instead of a “U”, I found a J-shaped pattern. Despite the statistical constraints for 19th century data, the information already existing represents years of research of prominent scholars and institutions. Based on it, the J-shaped trend line could be traced by the stocks of foreign assets and liabilities from 1870 to 2000, and for outward stocks of FDI from 1913 to 2005. This evidence is sufficient to establish the J-curve as a research hypothesis. Accordingly, the evidence provided reveals a huge and unprecedented surge in financial activities after the 1990s. That is to say, regarding the markets surveyed the level of global financial integration in the late 20th century/early 21st century differs radically from the past. The U-shaped trend suggests that the contemporary level of integration replays earlier historical scenarios, whereas the J-curve invites us to rethink the underpinnings of recent developments in financial globalization.

Furthermore, some additional indications of the contemporary financial upsurge were presented through the performance of a variety of novel and conventional markets from the 1970s onwards, such as portfolio investment, international banking loans, notional amount of OTC market and foreign assets and liabilities. The growth of these markets was found to be exponential over the past two decades, strengthening the argument raised by the J-curve.

As for the U-curve, the J-curve does not purport to be a general standard that includes all financial markets

and establish a unique historical pattern for all of them. However, the J-curve launches a different proposal from the U-curve. The J-curve proposes that the degree of global financial market integration by the end of the 1990s did not repeat the same level achieved during the Gold Standard at least in the two indicators researched. This is an indication to encourage further investigation about the financial framework of contemporary markets. Accordingly, the J-curve certainly leads to an additional inquiry about the factors that have triggered the changes in its performance. For the purposes of this article it is enough to state the key message of the J-shaped pattern, which is that the magnitude of foreign assets and FDI stocks did not match the “back to the future” scenario proposed by the U-curve.

As a matter of fact, Bordo, Eichengreen & Kim (1998) reconsidered the U-shaped pattern as appropriate shape reflecting international market integration. In their article, they concluded that changes in operation in global financial markets induced by new information technologies and financial innovations reduced the “market-segmenting effects” of asymmetric information encouraging a wide range of financial securities, thus broadening the international financial linkages. Nonetheless, they do not present statistical evidence showing these broader global financial linkages on the level of current financial activities in comparison to the pre-1914 era. Moreover, none of those scholars (individually or in partnership) have presented this sort of evidence in their articles published after 1998. This paper is an attempt of filling in this gap.

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