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Foreign Direct Investments Stocks : An Overview of the French Data Collection Process

DIRECTORATE GENERAL STATISTICS
Directorate Balance of Payments

Agenda item – “Developing CDIS granular data”

Foreign direct investments stocks : An overview of the French data collection process

Contribution to the Balance of Payments Committee
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This paper reflects the opinion of the author and does not necessarily express the views of Banque de France.

1 – A combined use of national databases and surveys

- *Inward direct investments in equity capital*

Regarding stocks of inward direct investment in equity capital, French BoP compilers have access to several internal or external databases providing information on financial links and financial statements of resident enterprises. It is therefore not necessary to set up a specific survey.

The equity stocks are primarily based on the identification of direct financial links (over 10 %) of non-resident investors in the capital of resident companies. After identifying linkages, the appropriate financial variables are selected to calculate the amount of stocks, dividends and reinvested earnings in proportion to the holding of capital. Different databases are put to use:

- Non-financial sector: merge of a database on balance-sheet and income statements with another database of financial links for resident firms; these databases come from Banque de France Fiben dataset – see box 1 - and the French National Statistical Institute, INSEE (ESANE and Financial links database - LiFi²);
- Financial sector (financial intermediaries and insurance companies): data come from a joint data collection system managed by Banque de France DG

¹ This paper has been prepared with the support of Dominique Nivat and Valérie Chauvin (Surveys Directorate). Any errors and omissions would be mine however.

² On the basis of a data sharing arrangement.

Statistics and the French financial supervision authority, which provides balance-sheets and financial links governed by a micro-data sharing framework.

The results of this annual compilation process are available once the information from companies is processed, on the basis of the financial statements as published. As a consequence, the statistical series obtained from the aggregation of individual data, imputation of missing data and adjustments are finalized 15 months after the end of the reference year (for example equity capital stocks at end-2014 will be known in March 2016 ³).

Box 1 – The Fichier Bancaire des ENtreprises - FIBEN

FIBEN is the umbrella denomination of a Banque de France information system on French non financial companies. The main components are a balance sheet database (consolidated and non consolidated financial statements), a credit register, a credit-event data base (payment default reported by banks or trade credit suppliers, bankruptcy filings in Tribunaux de commerce...). Financial analysts working in Banque de France branches grant credit ratings to around 250 000 firms that represent over 90% of the outstanding loans granted to the non-financial sector. The rating system is based on quantitative criteria specified by credit-scoring approaches, combined with qualitative criteria via an expert system assisting the analysts. The output of the system is reviewed in committees for the largest companies or those entering serious risk areas. The rating enables to select loans eligible as collateral for monetary policy. They are also used by the bank supervisor to benchmark the internal models of banks, especially regarding their loans' portfolio to SMEs. The FIBEN database contributes to the monitoring of credit developments and provides aggregated data for economic research. Banks may have access, within a legal framework aimed at protecting businesses, at the FIBEN data in order to contribute, under their sole responsibility, to the credit risk analysis of their loans portfolios. More information on www.FIBEN.fr

▪ *Outward direct investments in equity capital*

The FIBEN database provides information on the name, the country of location and the capital holding rate of foreign companies directly held by French companies. All other necessary information is obtained from an annual survey ran by the direct investment unit in the Directorate General Statistics and performed by the regional branches of the Banque de France to the companies in their region.

The survey covers the French companies that have direct financial links with foreign companies. It has two thresholds: the respondents are companies with at least one foreign subsidiary and with financial assets, in France or abroad, that are greater than € 10M ; the data have to be reported for every non-resident subsidiary of which the amount of equity capital held by the resident direct investor exceeds € 5M, or whose acquisition cost was greater than € 5M. The data of the subsidiaries below the reporting threshold is estimated and represent less than 0.5% of total stocks (see the annex).

³ A first estimate has been published in June 2015, cumulating the stocks at end-2013 and the direct investments flows collected in 2014. The first release of 2014 CDIS data is thus formed from estimated data.

Inward direct investments in equity capital

As for Outward direct investment in equity capital, the results of Inward direct investment are available 15 months after the end of the reference year (for example stocks at end-2014 will be known in March 2016¹).

Populations of companies involved in French inward and French outward direct investment are very different. Thus, at end-2013, there were 16 500 French direct investment enterprises which were invested by around 16 000 foreign direct investors. On the other hand, at the same time, there were 1 700 resident direct investors and almost 7 000 non-resident direct investment enterprises over the threshold of € 5M.

- *Direct investments in debt instruments*
 - Non-financial sector and insurance companies: use of two surveys (EFI on financial stocks and ECO on trade credits and advances)

These surveys are conducted on a quarterly and annual frequency. They are compliant to the standards of the Conseil National de l'Information Statistique (CNIS) – see box 2.

Box 2 – the Conseil National de l'Information Statistique

CNIS is a body established by law in 1951. Its secretariat is supported mainly by INSEE. It gathers social partners (including data providers), statistical agencies and statistics users (government, academics, journalists, trade unions,...). If a statistical agency wishes to establish a new survey and make it mandatory, it may submit the survey to the scrutiny of a CNIS dedicated subgroup, the “Comité du Label” or certification committee. This committee takes on board remarks from statistical experts, potential users and potential reporting entities. Once a consensus is reached on the specifications of the survey, the Comité grants the Label and the survey becomes mandatory for 5 years.

These surveys are conducted and processed with about two-thirds involved in the data collection and one third in the statistical process, analytics and dissemination). The teams don't work full time all year on these surveys as they are also in charge of surveys on international transactions of companies (loans and deposits, trade receivables or payables, merchanting and trade in services with abroad).

The reporting lag for quarterly data is Q+60. The annual survey is launched in February and the data is compiled at the beginning of the following year. The response rate is around 70%.

The sampling process can be broadly described as follows. Firms in the sampling frame are identified using external data. For EFI, firms belonging to an international group (source: LiFi, INSEE financial links database) declaring over € 15 M of financial assets or liabilities in their accounts (source: FIBEN) define the sampling frame. For ECO, firms trading with abroad over € 4.5 M of goods and services in a year (source: customs data). Strata are designed using the standard Neyman algorithm. In order to secure stability in the sample, firms in the sample are renewed in quarters (i.e. on average a firm

stays four years in a row in the sample). As regards EFI, large contributors are automatically shifted to the quarterly sample. Indeed, experience suggests that, once a large contributor, one is likely to generate flows involving large amounts, maybe aperiodically but with a frequency deserving a closer monitoring.

Number of companies involved in the surveys

	EFI (financial stocks)	ECO (trade credits and advances)
Quarterly survey	900	1 500
Annual survey, exhaustive strata	300	200
Annual survey, sample	800	700
Sampling frame	5 000 firms belonging to an international group and declaring over € 15 M of financial assets or liabilities in their accounts	11 000 firms trading with abroad over € 4.5 M of goods and services in a year

- Financial sector: debt instruments stocks are reported monthly or yearly, depending on the weight of the reporters.

2 – Infrastructural and organizational elements

Regarding inward direct investment stocks in equity capital, micro-data sharing arrangements between INSEE, Banque de France and the National supervisor enable to share the fixed-costs of the information system with other key users.

The survey on outward direct investment stocks in equity capital is carried out via a close cooperation between the direct investment unit (10 employees) and the regional branches of Banque de France.

The mobilization of the Banque de France's regional branches is worth being pointed out insofar as their proximity and good knowledge of companies is key to achieve a high response rate as well as the reliability of data. Indeed, financial analysts in the branches meet regularly with the management of firms of economic relevance in their area, which is key to identify, should it occur, discrepancies between reported data and the general knowledge of the business model of the firm.. While for the survey on outward stocks many employees of the Banque de France are mobilized throughout France, it takes no more than a few hours of their time each year. All in all the workforce involved in the regional network is estimated at around two-equivalent full-time employees, of which 10% for training, 65% for collection and exchange of data from companies, 25% for data entry and control. Indeed, employees can focus on the sole new data to be gathered for the update of the Survey, due to the fact

that the infrastructural elements of the surveys (setting up the relationship with the company, getting the identification data and control variables...) are already there, in the context of the other uses of the FIBEN and the National Registers.

– Mode of valuation

The market value of equity participation in invested enterprises is calculated directly from the share price when companies are listed. However, these cases are uncommon for direct investments, whether they are inward or outward. The direct investments in unlisted companies represent around 90 % of the French direct investment stocks abroad and of the foreign direct investment stocks in France. In these cases, the market value cannot be observed.

- Current situation used for data disseminated to international institutions (IMF, OECD, Eurostat ...)

The market value has been determined by using market value for listed companies and book value (OFBV) for unlisted companies. In this approach, book value is considered as a proxy for the market value.

- An alternative method is implemented since 2010, based on capitalizations ratios

The method of capitalization ratios, calculated by analogy between listed companies and unlisted companies, is retained. Capitalization ratios are calculated by dividing the market capitalization at the end of the year by the equity capital published in the consolidated financial statements of companies belonging to reference populations. The market capitalization, ie the market value of listed companies, seems indeed better reflect the judgment on all the group's activities than the book value of the listed parent. This method is published in the quarterly digest of spring 2010:

www.banque-france.fr/fileadmin/user_upload/banque_de_france/publications/Valuation-of-unquoted-foreign-direct-QSA-17.pdf

This method is mostly used in the context of economic analysis and research.

4 – Granularity of data and statistical privacy

The compilation of individual FDI stocks abroad or in France is achieved on the basis of the large coverage of the databases underpinning the compilation of inward stocks, the granular information obtained from companies on their foreign subsidiaries, the high response rates to surveys. This data provides statistics by type of transaction or position (equity capital, reinvested earnings, debt instruments) by institutional sector (financial intermediaries, of which banks, insurance companies, non-financial companies) and by geographical and

industrial breakdowns. The information on financial links contained in the Banque de France database (FIBEN) and in the INSEE database (Lifi) may be crossed with individual data to enlarge the breakdowns available to series based on the extended directional principle, but also to foreign stocks and income by ultimate investing country⁴.

This high level of granularity does not allow for an unrestricted dissemination as it would expose to disseminate confidential data, i.e. data that would reveal individual information through too detailed breakdowns. Companies agree to provide data and cooperate faithfully in the Data Quality Management process and when they are consulted on projects of new data requirements because Banque de France guarantees the confidentiality. The overarching priority is therefore to retain their confidence over the long term and apply at all stages of dissemination the rules of statistical confidentiality⁵, taking into account the issue of “secondary confidentiality” (i.e. risk of identification via the crossings of various dimensions).

5 – Value of the granular data

Banque de France is both a data provider and a data user as far as FDI data is concerned. From our experience as a compiler, the integrated approach, from the firm level to the Balance of payments as a macroeconomic account, makes a strong incentive to try and explain macro-changes by micro-movements.

For instance, in 2013 net direct investment flows were negative, i.e. inflows outpaced outflows. A key issue was to assess to what extent this was accidental or the signal of some turning point. The ability to retrieve the inward and outward FDI operations underpinning this statistical event enabled to reconcile the figures with an understanding of the business events and conclude that these were very likely exceptional circumstances.

Granular data is also helpful in improving the estimates of income in Balance of Payments. For instance, when establishing the monthly key items or, even, quarterly balance of payments, dramatic changes might be observed regarding the pattern on dividends. The linkage and consistency between the estimates of income and the firm level data is helpful : the team compiling the FDI data can retrieve the name of firms with unusual patterns and contact them. In some cases, the changes were linked to changes in the calendar of dividend payments and this information could be taken on board to avoid an overshooting of the seasonal adjustment model.

⁴ Additional possibilities will open via access to the European Group Register

⁵ No less than 3 observations by cell. No observation weighing over 85% of the whole cell.

FDI and income related granular data enable to develop “balance of payments by agents” approaches, as well as data micro-linking between balance of payments and business data. Banque de France published on a yearly basis a survey “Non resident holdings of shares in French CAC40 companies”. The ability to isolate at company level the income from FDI on the one hand, and the dividends paid to non-resident shareholders, provide insights in the value that the globalization of large French firms brings in the French economy. In the same vein, a paper has been published related to the contribution of direct investment income on the consolidated earnings of CAC40 companies (available in French : www.banque-france.fr/fileadmin/user_upload/banque_de_france/publications/BDF200-4-revenus-investissements.pdf)

Annex 1

Estimate of the French Direct Investment Stocks in foreign subsidiaries “below the collection threshold”

The annual survey on French direct Investment abroad is a threshold survey. To reduce the burden weighing on the branches of the Banque de France, the employees of these units in charge of the survey do not have to enter the data for non-resident subsidiaries of which the amount of equity capital held by the resident direct investor is less than € 5M, or whose acquisition cost was lower than € 5M. When, for a given foreign subsidiary, these two conditions are simultaneously satisfied, they will inform that the subsidiary is "below the threshold".

Nevertheless there is in the collection application several hundred subsidiaries under the collection threshold and for which data is entered. An estimate of the value of subsidiaries below the threshold is provided, basing on the sampling of under-the-threshold firms for which data is available.

FDI stocks estimated by this method are stable in recent years and limited in scope. For example, at end 2013, there were 1072 foreign-subidiaries under the collection threshold for which we estimated the total to € 2.3 Bn, representing 0.3% of total stock.

Annex 2 – Revision of data (year N+1)

■ Outward direct investments

Outward Direct Investments (€ Bn)				
		First annual estimate	Revised (N+1)	Weight of revision
2010	Equity	798	845	
	Debt instruments	82	61	
	Total	881	906	2,8%
2011	Equity	885	872	
	Debt instruments	76	36	
	Total	961	907	-5,6%
2012	Equity	912	918	
	Debt instruments	24	48	
	Total	936	966	3,2%
2013	Equity	934	935	
	Debt instruments	45	51	
	Total	979	986	0,8%
2014	Equity	982		
	Debt instruments	71		
	Total	1 054		

■ Inward direct investments

Inward Direct Investments (€ Bn)				
		First annual estimate	Revised (N+1)	Weight of revision
2010	Equity	447	450	
	Debt instruments	18	18	
	Total	465	468	0,6%
2011	Equity	452	459	
	Debt instruments	25	39	
	Total	478	498	4,2%
2012	Equity	483	462	
	Debt instruments	44	77	
	Total	527	539	2,2%
2013	Equity	497	491	
	Debt instruments	72	86	
	Total	568	578	1,6%
2014	Equity	516		
	Debt instruments	84		
	Total	601		