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Looking through cross-border positions in investment funds: evidence from Italy[1]

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[1] This paper was prepared for the meeting. The views expressed are those of the authors and do not necessarily reflect the views of the BIS, the IFC or the central banks and other institutions represented at the meeting.

Looking through cross-border positions in investment funds: evidence from Italy

Valerio Della Corte[1] *, Stefano Federico[1] and Alberto Felettigh[1]

Abstract

Motivated by the increasingly large weight of foreign investment funds on the portfolio of Italian residents, this paper provides an estimate of the composition, by instrument and by issuer country, of Italy's portfolio assets after "looking through" cross-border positions in investment funds. Our main findings suggest that removing the statistical opacity arising from cross-border positions in investment funds has a significant impact on the composition of Italy's portfolio investments. After "looking through" foreign funds' holdings, the share of debt securities on portfolio assets, which is equal to 40 per cent in the unadjusted data, rises to 75 per cent. The country composition of external portfolio assets also fundamentally changes in the direction of increasing its geographical diversification. The United States becomes Italy's main destination country; the shares of France, Germany, the United Kingdom and Spain also increase, while that of Luxembourg, where most of the foreign investment funds are domiciled, drastically falls.

Keywords: external statistics, mutual funds, portfolio investment.

JEL classification: F36, F65, G11.

Contents

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1. Introduction and main findings[2]

In the wake of large purchases over the last five years, the stock of foreign investment fund shares held by Italian investors has more than doubled since the end of 2012, reaching the value of €754 billion at the end of September 2017. Almost 30 per cent of Italy's overall external assets are now held in the form of investment fund shares; in almost all of the other European Union countries, investment funds account for no more than 5-10 per cent of foreign assets. Cross-border positions in investment funds add two layers of opacity to the composition of a country's external assets, as highlighted in Felettigh and Monti (2008). The first regards the geographical diversification of risk: as investment fund issuers tend to be concentrated in a small number of countries, selected financial centres disproportionately appear as the main destination of a given country's portfolio investments. The second layer of opacity is related to the "ultimate" composition of foreign assets by instrument (equity versus debt instruments), which depends on the individual funds' allocation strategies.

Motivated by the increasingly large weight of foreign investment funds on the portfolio of Italian investors, this paper makes two contributions. First, it summarizes the recent trends in Italian investments in foreign mutual fund shares. Second, it provides an assessment of the composition, by instrument and by issuer country, of Italy's portfolio assets after "looking through" cross-border positions in investment funds, thus updating the estimates originally published in Felettigh and Monti (2008).

The "look through" method is based on two main approaches. The "ultimate" composition by instrument is approximated using Assogestioni's detailed classification of foreign funds according to their investment policy. [3] Each category of funds (like money market, balanced bonds, balanced equity funds, etc.) is defined with reference to specific regulatory restrictions on the fund's allocation strategy: this allows us to estimate the foreign funds' portfolio allocation between equity and debt securities. The geographical allocation of foreign funds held by Italian investors is instead estimated by assuming that it resembles that of the entire investment fund industry in Luxembourg, Ireland and France, which are the countries where the large majority of Italian investments in foreign mutual funds is concentrated.

Our work focuses on the cross-border portfolio holdings of the total economy and does not therefore provide a "look through" analysis for specific institutional

[2] We would like to thank Assogestioni for the detailed database on asset management products ("Mappa del risparmio gestito") which is publicly available on their website, Fabiana Gallo and Giuseppina Marocchi for assistance with additional Bank of Italy data on portfolio investment, Silvia Fabiani, Luigi Federico Signorini and Roberto Tedeschi for useful comments and suggestions. The views expressed herein are solely ours; in particular, they do not necessarily reflect those of the Bank of Italy or the Eurosystem.

[3] Assogestioni is an association that represents most of the Italian and foreign investment management companies operating in Italy, as well as banks and insurance companies involved in investment management.

resident sectors (e.g. households). Such an analysis would be much more complex: on the one hand, it would require detailed information on the portfolio allocation of the foreign funds held by a specific institutional sector; on the other hand, it would also require estimating the foreign exposure to which the specific institutional sector is subject via the financial instruments issued in Italy (i.e. domestic mutual investment funds, pension funds, insurance products, etc.). [4] Ideally, one would also like to take into account the actual distribution of risks between issuers and holders; for instance, risks are not entirely borne by the holder in the case of financial products that guarantee a minimum return.

Our main findings suggest that removing the statistical distortions arising from cross-border positions in investment funds has a significant impact on the composition of Italy's portfolio investments, both by instrument and by destination country.

The share of debt securities on portfolio assets, which is equal to 40 per cent in the unadjusted data, rises to 75 per cent after "looking through" foreign funds' holdings. This correction stems from the relatively large weight of debt securities on the allocation strategy of foreign funds held by Italian investors (around two thirds of the funds' investments). The share of equities correspondingly rises from 7 to 25 per cent after the adjustment.

The "look through" adjustment also fundamentally changes the geographical composition of Italian investors' external portfolio assets, in the direction of increasing their geographical diversification. Luxembourg's share falls from above 40 per cent to less than 4 per cent, while the United States becomes Italy's main destination country; the shares of France, Germany, the United Kingdom and Spain also increase.

The structure of the work is as follows. Section 2 provides a summary of the main trends in Italian investments in foreign funds. Section 3 explains the methodology behind the adjustment for cross-border positions in investment funds and presents the main findings. Section 4 concludes.

2. Italian investments in foreign funds

Balance of payments data on portfolio investment can be broken down into three types of financial instruments: debt securities, equities and investment fund shares. Net purchases by Italian residents of investment fund shares, typically issued in financial centres such as Luxembourg and Ireland, have been particularly high since 2013 (€351 billion between the beginning of that year and the end of 2017).[5]

[4] The work of Cardillo and Coletta (2017) estimates the final destination of Italian asset management products held by households and manages to fill the second gap, but not the first one, due to the lack of information on the final destination of investments in foreign funds held directly or indirectly by the household sector.

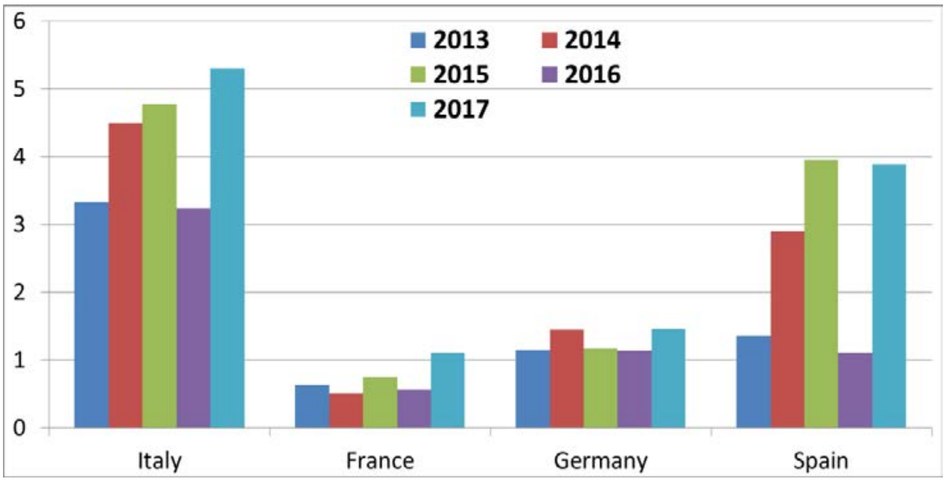
[5] Here we do not address the determinants of these outflows. For a descriptive analysis of the overall portfolio rebalancing in Italy, see Banca d'Italia (2017). For an empirical examination of the drivers of cross-border flows in investment fund shares in Luxembourg, see Di Filippo (2017).

Relative to GDP, these outflows were much higher than those observed in the other main euro-area countries over the same period (Figure 1).

At the end of 2017, the stock of foreign funds held by Italian investors amounted to €776 billion, the highest value among all European Union countries both as a percentage of portfolio assets (54 per cent) and as a percentage of external assets (29 per cent; Figure 2). This stylised fact reflects, among other factors, the much higher penetration of foreign intermediaries in Italy's asset management sector. Indeed, according to the stock data available in the financial accounts, at the end of December 2017 the weight of foreign funds on overall funds held by residents stood at 70 per cent in Italy, against 17 per cent in France, 24 in Germany and 42 in Spain. In Italy, the institutional sectors with the largest holdings of foreign funds were households (36 per cent of the total), insurance and pension funds (31 per cent) and "other financial intermediaries" (31 per cent), which include resident non money-market investment funds (8 per cent). [6]

Figure 1 – Net purchases of foreign investment fund shares in the main euro-area countries

(flows during the period as a percentage of GDP)

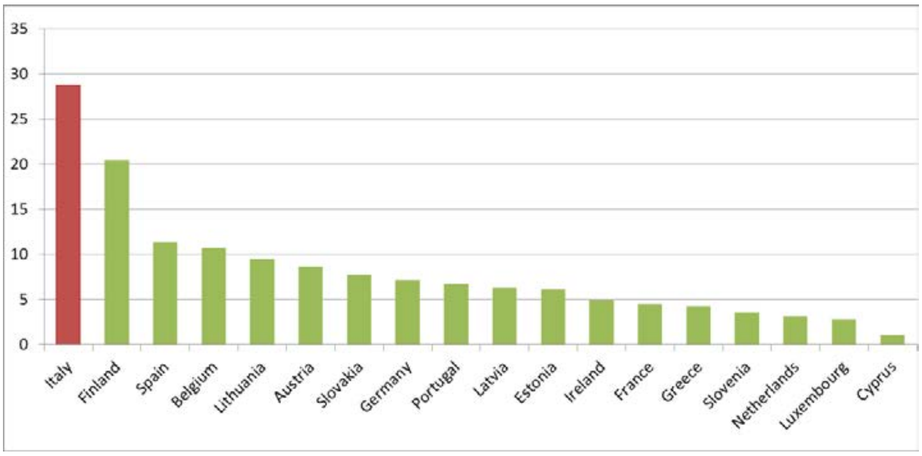


Sources: ECB for balance of payments data and Eurostat for GDP data.

Figure 2 – Share of foreign investment fund units on total foreign financial assets in EA countries

(percentage points; stocks at the end of 2017)

[6] Italian investment funds often reinvest part of their assets in foreign fund shares. With reference to the portfolio of Italian mutual funds held by Italian households, Cardillo and Coletta (2017) report that 22 per cent of their value was invested in shares of foreign mutual funds at the end of 2016.



Sources: ECB for balance of payments data and Eurostat for GDP data. Data not available for Malta.

In order to better understand the characteristics of foreign funds purchased by Italian residents we draw on information gathered by Assogestioni from the subjects authorized to undertake asset management activity (i.e. asset management companies, banks, etc.) and published in the document "Mappa del risparmio gestito". It is relatively easy to map the breakdowns available in Assogestioni data into aggregates which are consistent with the criteria implemented by balance of payments statistics. Investment funds are indeed separately reported by Assogestioni in terms of the applicable legislation (Italian versus foreign law), which is related to the issuer's residence. Furthermore, the corresponding holdings usually refer to the share that pertains to Italian customers (except in cases where they own a "prevalent share" of a given fund).[7] Given the high representativeness of the sample, Assogestioni data are quite consistent with the corresponding positions and flows recorded in Italy's official external statistics.[8]

According to Assogestioni data, net purchases of foreign funds by Italian investors in the 2013-2016 period were concentrated in flexible funds (37 per cent) and bond funds (30 per cent); the shares referring to balanced, equity and money market funds were significantly lower (15, 13 and 4 per cent, respectively; Table 1). This composition was substantially stable during the period under review, with the exception of 2016 when demand for bond funds increased, mainly to the detriment of equity funds.

7 In this circumstance, which only materializes in the case of foreign funds managed by Italian groups, data published by Assogestioni refer to the fund's entire portfolio and not to the component owned by Italian customers only. This entails an overestimation of Italian holdings of foreign funds managed by Italian groups by about 15 per cent. The results presented in this study have been corrected for this overestimation and therefore do not coincide with the data published by Assogestioni.

8 Although very high, Assogestioni's data coverage in terms of the number of reporting agents is not complete (around 90 per cent); it follows that mutual fund assets are underestimated relative to external statistics.

Composition of foreign funds held by Italian investors: flows

(Flows in EUR billions unless otherwise stated Table 1

	2013	2014	2015	2016	2013-2016 cumulated inflows	2013-2016 composition (%)
Balanced	6.7	7.1	8.0	3.0	24.8	15.1
Bond	6.7	18.9	10.4	13.3	49.3	30.1
Equity	7.3	6.4	8.9	-1.2	21.4	13.1
Flexible	14.1	15.6	23.6	8.0	61.4	37.5
Money-market	-0.2	-0.2	6.7	0.6	7.0	4.3
Total (1)	34.7	47.8	57.6	23.8	163.9	100.0

Source: calculations based on data from Assogestioni (adjusted as explained in footnote 7). Notes: (1) Including hedge funds (not shown herein), which are negligible in value terms.

Assogestioni data also provide information on whether foreign funds are managed by Italian or foreign intermediaries; the share managed by Italian groups has progressively decreased over time while the share managed by foreign intermediaries rose from around 40 per cent at the end of 2012 to 50 per cent four years later (it was only about 30 at the end of 2008; Figure 3).

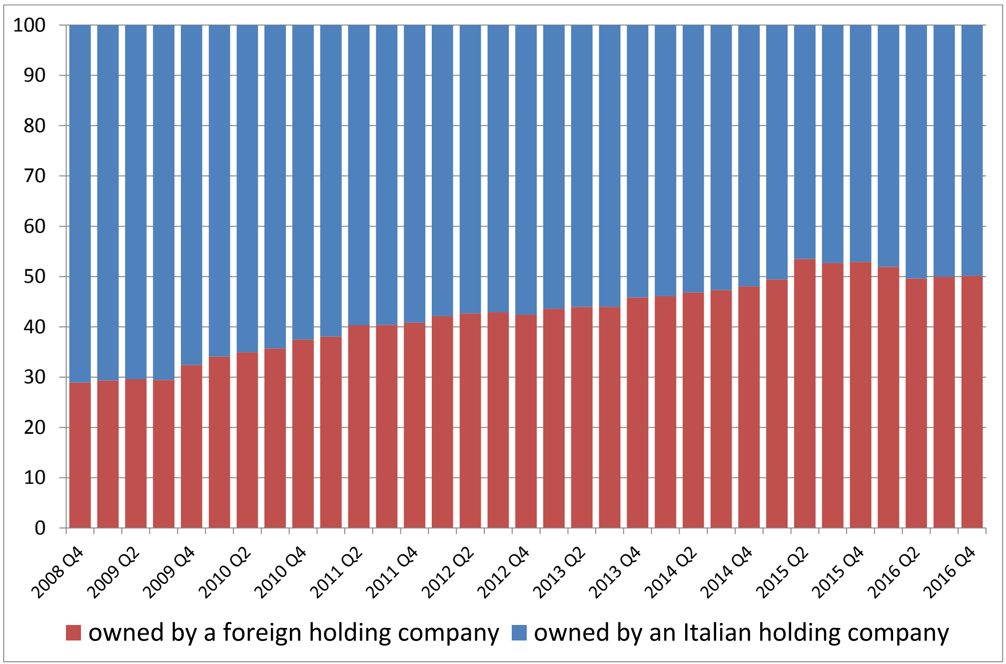
Composition of foreign funds held by Italian investors: stocks

(percentage points unless otherwise stated) Table 2

	2012	2013	2014	2015	2016
Balanced	3.9	5.5	6.8	8.6	8.8
Bond	50.6	46.2	44.7	40.1	43.7
Equity	25.9	27.5	26.9	28.2	25.7
Flexible	12.6	15.3	17.1	17.9	17.2
Money-market	6.6	5.2	4.3	5.0	4.4
Total (1) (EUR billions)	279.1	335.7	408.8	527.0	592.3

Source: calculations based on data from Assogestioni (adjusted as explained in footnote 7). Notes: (1) Including hedge funds (not shown herein), which are negligible in value terms.

Figure 3 – Breakdown of foreign funds owned by Italian investors by residency of their financial group



Source: calculations based on data by Assogestioni (adjusted as explained in footnote 7).

3. An estimate of the composition of Italy's foreign portfolio holdings adjusted for the intermediation of foreign funds

3.1. The distortion induced by foreign funds

According to external statistics, the geographical diversification of Italy's portfolio investment abroad appears rather limited: at the end of 2016 the first five destination countries represented almost three quarters of the total (Table 3, last column). Just under half of the portfolio assets were issued by Luxembourg and Ireland, which accounted for almost 90 per cent of foreign investment funds held by Italian residents.

This is due to the large weight of foreign investment funds in Italian residents' portfolio holding which, together with their concentration in Luxembourg and Ireland, causes a significant bias in the composition by instrument and by issuer country of the overall foreign portfolio. As highlighted in Felettigh and Monti (2008), balance of payments statistics are based on the legal residence of the investment fund and do not provide information on either the type of securities (e.g. equities or debt securities) in which the investment fund's assets are actually invested ("intermediation veil"), or on their "location" (that is, where the issuer of the securities held in the fund's portfolio resides; "geographical veil").

A more accurate picture of the actual exposure implicit in Italian residents' foreign portfolio holdings therefore requires adjustments which remove the statistical distortions arising from the intermediation of foreign funds. Ideally one would do that looking at the portfolio of each and every foreign fund held by Italian residents, but granular data as such are typically not available. We therefore develop a method to remove these distortions combining publicly available sources.

First ten destination countries of Italian portfolio investment abroad at the end of 2016

(stocks; percentage points) Table 3

ranking	Equity		Investment fund units		Debt Securities		Total portfolio	
	country	%	country	%	country	%	country	%
1	United States	25.9	Luxembourg	73.7	France	15.3	Luxembourg	40.5
2	France	14.5	Ireland	13.4	Spain	14.0	France	11.6
3	Germany	13.3	France	8.3	United States	13.8	Ireland	8.2
4	United Kingdom	10.8	United Kingdom	2.4	Germany	11.3	United States	7.8
5	Netherlands	8.5	Germany	0.8	Netherlands	8.4	Germany	5.9
6	Switzerland	6.2	United States	0.6	United Kingdom	7.2	Spain	5.9
7	Spain	3.4	Austria	0.4	International org. (1)	6.2	United Kingdom	5.0
8	Japan	3.1	Switzerland	0.2	Luxembourg	4.4	Netherlands	4.0
9	Luxembourg	1.4	Cayman Islands	0.1	Ireland	2.7	International org. (1)	2.6
10	Belgium	1.2	Curaçao	0.0	Belgium	1.8	Belgium	0.8
others	-	11.8	-	0.2	-	14.9	-	7.8
memorandum item: share on total portfolio investment (%)		*7.3*		*52.4*		*40.3*		*100.0*

Source: Calculations based on IIP data from Banca d'Italia. Notes: (1) Includes investments in securities issued by EU institutions and intergovernmental organizations (e.g. European Investment Bank, Bank of International Settlements, European Bank for Reconstruction and Development).

3.2. The adjustment by instrument

Assogestioni's classification of funds into about 40 categories, based on the underlying investment policy, is sufficiently detailed to allow for a correction by instrument (thus removing the "intermediation veil") if we limit ourselves to the distinction between equity and debt instruments. Each category of funds, with the exception of flexible funds, is defined on the basis of specific regulatory restrictions on the composition of the portfolio, assessed according to the "look-through" principle, namely, taking into account indirect exposure through investments in other funds or in financial derivatives. To give an example, the share of equities in a fund's portfolio is zero for money market funds and bond funds (excluding mixed bond funds, in which it cannot exceed 20 per cent); it can instead vary between 10 and 50 per cent for "balanced bond" funds and between 70 and 100 per cent for equity funds (see Table 4). We identify a fund's investment policy by the quota of equities in its allocation strategy and assume that the residual part of the fund's assets are invested in debt securities; the impact of this simplification, which mainly ignores assets held as bank deposits, should indeed be rather limited, also considering that the share of equities is determined according to the "look-through" principle.[9]

[9] According to ECB data, at the end of 2016 the weight of debt securities, equities and investment fund shares on a fund's overall portfolio was 99 per cent for funds in Ireland, 94 per cent for those in Luxembourg and 93 per cent for those in France.

By using these quotas or, in the case of intervals, their midpoint value, it is possible to estimate the asset allocation of each category of funds. The only exception arises in the case of flexible funds, for which, as already mentioned, there is no formal restriction on investment policies; in this case, we use the weighted average of the share of equities in the portfolio of "mixed" funds from Luxembourg, Ireland and France.[10]

At the end of 2016 equities intermediated by foreign funds were estimated to be about one third of their total assets and within a range of between 25 and 40 per cent. The average share invested in equities remained fairly stable between 2009 and 2016, although it temporarily decreased between the second half of 2011 and the second half of 2013.

Without adjusting for the positions intermediated by foreign funds, the share of foreign portfolio assets invested in debt securities stood at 40 per cent at the end of 2016, compared with a 7 per cent quota for equities (with the remaining 53 per cent associated with positions in foreign funds; Figure 4a).

The results of the adjustment are reported in Figure 4b, where the dashed bars indicate the debt and equity assets indirectly held by Italian investors through the intermediation of foreign funds. The overall incidence of debt securities rises to 75 per cent, while that of equity securities to 25 per cent. Around these average values we have defined two estimation intervals, depending on the range of assumptions concerning foreign funds' portfolio allocation.

10 We were constrained to using data on "mixed funds", which groups together flexible and balanced funds, since flexible funds are not separately identified in official statistics.

Assogestioni's taxonomy and equity allocation

(Percentage points) Table 4

Macro-category/category	restrictions on the equity allocation (Assogestioni)		equity allocation assumed in the adjustment by instrument of the positions in mutual funds		
	min	max	**baseline**	min	max
Money-market/liquidity *(all categories)*	0	0	0	0	0
Bond					
- *mixed*	0	20	10	0	20
- *all others*	0	0	0	0	0
Balanced					
- *bond*	10	50	30	10	50
- *no indication*	30	70	50	30	70
- *equity*	50	90	70	50	90
Flexible	0	100	40 (*)	20 (*)	46 (*)
Equity *(all categories)*	70	100	85	70	100
All funds as a whole					
2009 Q4 - 2016 Q4 (average)	21	47	32	25	38
At the end of 2016	20	50	33	25	40

Sources: Assogestioni (2003) and, for flexible allocation funds, calculations based on ECB data (Investment Funds statistics). Notes: (*) The values are purely indicative. The baseline is calculated using the average value, and the lower and upper limits by using the minimum and maximum values in the reference period. The values actually used for the correction exercise are time-varying.

The first and widest range (grey area in Figure 5) is obtained by considering the "regulatory" limits (minimum and maximum value) to the share of equities in the portfolio of each fund category. For flexible funds, this approach therefore takes into account the very unlikely cases in which the share of equity investments is either zero (minimum limit) or 100 per cent (maximum limit). Such "extreme events" result in an upper and lower bound of 82 per cent and 67 per cent respectively for the portion invested in debt securities at the end of 2016.

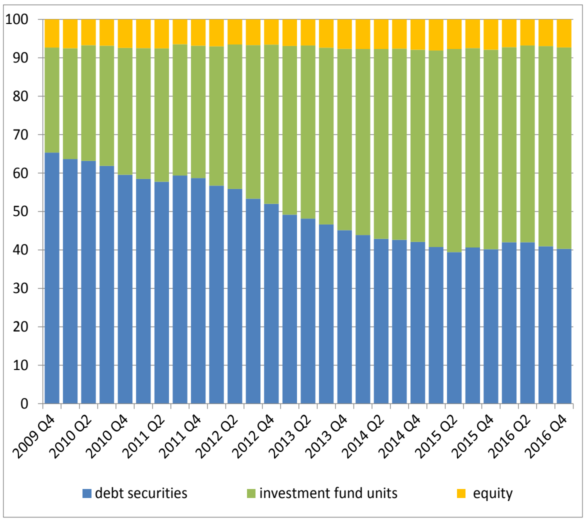
The second estimation interval is narrower: for foreign flexible funds purchased by Italian residents, the minimum and maximum equity share observed in the mixed funds of Luxembourg, Ireland and France are now used in place of their regulatory limits. This estimation interval is almost symmetrical and equal to about 4 percentage points above or below the central estimate; in the "adjusted" figures, the share invested in debt securities at the end of 2016 therefore varies between 72 and 79 per cent (red lines in Figure 5).

As already mentioned, the portfolio allocation between equity and debt securities by foreign funds is fairly stable over time, with the weight of debt securities standing at around two thirds. The directly held portfolio is even more biased towards debt securities, although their percentage declined slightly over time (from around 90 per cent at the beginning of the period to around 85 at the end of 2016). However, these differences between the two portfolio allocations constitute only a second-order effect relative to the weight of foreign funds in foreign portfolio investment. The "adjusted" share (dotted blue line in Figure 5) indeed tends to broadly follow the trend in the share of debt securities in the directly held portfolio (black line in Figure 5).

Figure 4 –Foreign portfolio assets: breakdown by instrument

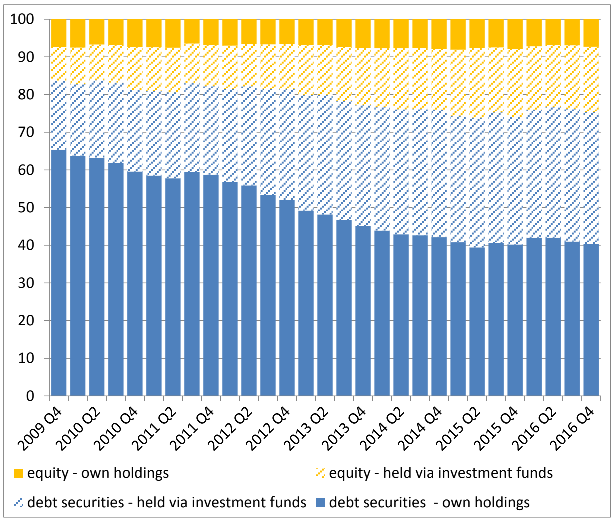
(stocks; percentage points)

(a) According to IIP data



Source: calculations based on Banca d'Italia IIP data.

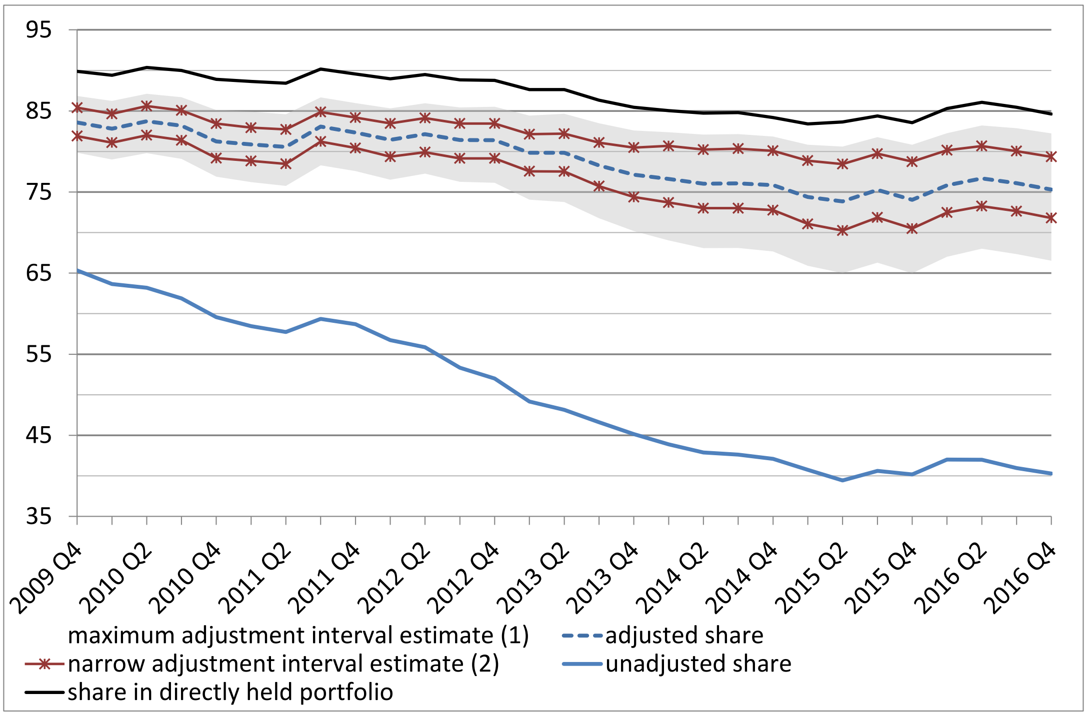
(b) Adjusted for the positions intermediated by foreign funds



Sources: calculations based on Banca d'Italia, Assogestioni and ECB data.

Figure 5 – Share of debt securities on foreign portfolio assets holdings

(percentage points)



Sources: calculations based on Banca d'Italia IIP data and Assogestioni and ECB data. Notes: (1) The range is constructed on the basis of the minimum and maximum equity composition limits of the various fund types according to the Assogestioni classification. (2) The range assumes that the equity quotas of the flexible funds portfolio mirror those of "mixed" funds domiciled in Luxembourg, France and Ireland in each period.

3.3. The geographical adjustment

The information provided by Assogestioni is not sufficiently complete as regards the adjustment for geographical exposure ("geographical veil"). The taxonomy does not provide information on the issuer country of the assets held by flexible funds, balanced funds and funds specialized in certain industrial sectors. There are "geographical" categories within some specific types of funds (for example, funds specialized in euro-area equities), which are typically based on different levels of aggregation: by continent or geographical area in the case of equity funds and usually by currency in the case of bond funds and money market funds. For the geographical adjustment we have therefore opted for a methodology that, while necessarily based on more restrictive assumptions, combines the estimate on the breakdown by instrument obtained from Assogestioni data with information on the geographical allocation of Luxembourgian, Irish and French mutual funds (which, as mentioned above, represent almost the entirety of the holdings of foreign funds by Italian investors).

The methodology for the geographical adjustment is based on the following hypotheses:

1) the composition by instrument of the assets intermediated by foreign funds held by Italian residents is estimated on the basis of Assogestioni data, regardless of the fund's country of residence;

2) the geographical diversification of Luxembourgian funds held by Italian residents is assumed to coincide with that of the overall Luxembourgian fund industry, separately considering investments in debt securities and equities, and a similar assumption holds for Irish and French funds;

3) the geographical diversification attained by funds resident in the remaining foreign countries (whose total weight is less than 5 per cent) is assumed to equal that averaged by the funds resident in Luxembourg, Ireland and France;

4) any investment undertaken by foreign funds in other funds (either foreign or domestic) are assumed to have no impact on the geographical diversification of intermediated equities and debt securities (non-distortionary second-round effects).

Based on these assumptions, the value $Y\_via\_IF_{i,k}^{IT}$ of Italian portfolio investments indirectly made in each destination country i and instrument k (equity or debt securities) through foreign mutual funds can be estimated using the following formula:

$$Y\_via\_IF_{i,k}^{IT} = \left[\sum_{j \in \{LU,IE,FR\}} Y_{j,IF}^{IT} * IF\_share_k * geo\_allocation\_IF_{i,k}^{j} \right] * \frac{Y_{world,IF}^{IT}}{\sum_{j \in \{LU,IE,FR\}} Y_{j,IF}^{IT}} \qquad [1]$$

Where:

$Y_{j,IF}^{IT}$ is the amount of Italian portfolio investment in mutual funds that reside in country *j*, with *j* being one of the following: Luxembourg, Ireland, France or all other countries (except Italy) as a whole (*world*);

IF_share_k is the share allocated to the instrument k by the foreign mutual funds in the hands of Italian investors according to our estimates based on data from Assogestioni hypothesis 1);

$geo\_allocation\_IF^{j}_{i,k}$ is the geographical composition of the portfolio of the mutual funds resident in country *j* by instrument (hypothesis 2).

Finally, the term on the right-hand side of the square brackets is needed to scale up the investment made by Luxembourgian, Irish and French mutual funds to take into account the investment made by Italian investors in mutual funds resident in other countries (assuming, for simplicity, that these are allocated as those in Luxembourg, Ireland and France; hypothesis 3).

It is then possible to estimate the "adjusted" share of portfolio investment abroad made by Italian residents in the financial instrument *k* issued in country *i* as the ratio between these investments and the whole portfolio investment abroad in the instrument *k* (including investments indirectly made through foreign investment funds):

$$adjusted\_share^{IT}_{i,k} = \frac{Y^{IT}_{i,k} + Y\_via\_IF^{IT}_{i,k}}{Y^{IT}_{world,k} + Y^{IT}_{world,IF}} \qquad [2]$$

where $Y^{IT}_{i,k}$ is the value of Italian portfolio investment abroad in the financial instrument *k* issued in country *i* (direct holdings).

As an alternative to the second of the previous four hypotheses, one could assume that there are no significant differences between investment strategies of foreign funds and those of Italian funds; the adjustment could then be estimated by using the geographical allocation of the portfolio held by Italian funds. However, foreign funds are typically aimed at a different set of customers (typically international customers) than of resident funds, whose customer base is almost entirely domestic and might therefore have a very different investment strategy. In partial support of this argument, Assogestioni data provide evidence suggesting that foreign funds held by Italian residents differ appreciably from the corresponding Italian funds in terms of category and, therefore, composition by instrument.

It should also be noted that, on the one hand, Figure 3 shows that foreign funds held by Italian residents are no longer predominantly round-trip funds,[11] on the other hand empirical literature reports that the portfolio choices of mutual funds, as well as other categories of investors, differ significantly between countries, both in terms of home bias and geographical diversification.[12]

Going back to the implementation details of our geographical adjustment, the country allocation of Luxembourgian, Irish and French funds have been derived, separately for each instrument, from the following sources: data from the Banque Central du Luxembourg for funds based in this country; data from the IMF (Coordinated Portfolio Investment Survey, CPIS) for funds based in Ireland and

[11] The term "round-trip" can take on different nuances. Assogestioni (2006) uses the term to denote mutual funds domiciled abroad but "purchased mainly by Italian investors", while the official definition is currently that of "foreign funds promoted by Italian intermediaries"; similarly, Mediobanca (2017) uses the expression to denote funds promoted by Italian managers but domiciled abroad. In practice, the definitions coincide substantially with foreign funds belonging to groups governed by Italian law.

[12] See, for example, Hau and Rey (2008) and Anderson et al. (2011).

France, supplemented with data on the funds' domestic assets from the Central Bank of Ireland and from the ECB (Investment Funds Statistics).

The adjustment makes it possible to more accurately evaluate the actual exposure of Italian residents' portfolio holdings to the various countries' financial markets and to fluctuations in the euro's bilateral exchange rates. In particular, the adjusted data show that the exposure of Italian investors to US portfolio assets (about a fifth of the total; Table 5) is more than double compared with the unadjusted data; the United States remains the first destination of Italian investments in equities and becomes the first destination for investments in debt securities. The results confirm that France is the second country of destination, with a weight of 12 per cent on the total foreign portfolio of residents. The third country is Germany, with a share of 9 per cent, followed by the United Kingdom (8 per cent) and Spain (7 per cent). Taking into account the geographical adjustment, investments in these five countries account for slightly less than 60 per cent of Italy's foreign portfolio, against 37 per cent without the adjustment.

First ten destination countries of Italy's portfolio investment abroad at the end of 2016, adjusted for the positions intermediated by mutual funds

(stocks; percentage points) Table 5

ranking	Equity		Debt Securities		Total portfolio		*memorandum item:* Total portfolio unadjusted	
	country	%	country	%	country	%	country	%
1	United States	25.9	United States	19.0	United States	20.7	Luxembourg	40.5
2	France	10.8	France	12.7	France	12.2	France	11.6
3	Germany	9.3	Germany	9.1	Germany	9.2	Ireland	8.2
4	United Kingdom	8.5	Spain	8.9	United Kingdom	8.3	United States	7.8
5	Japan	5.2	United Kingdom	8.2	Spain	7.3	Germany	5.9
6	Netherlands	5.1	Netherlands	7.3	Netherlands	6.7	Spain	5.9
7	Switzerland	4.4	Luxembourg	4.1	Luxembourg	3.8	United Kingdom	5.0
8	Luxembourg	2.9	International org. (1)	3.7	Italy *(round trip)* (2)	2.9	Netherlands	4.0
9	Spain	2.3	Italy *(round trip)* (2)	3.4	International org. (1)	2.8	International org. (1)	2.6
10	Cayman Islands	2.1	Ireland	2.2	Ireland	2.0	Belgium	0.8
others	-	23.5	-	21.4	-	24.0	-	7.8
memorandum item: share on total portfolio investment (%)		*24.6*		*75.4*		*100.0*		*100.0*

Sources: calculations based on Banca d'Italia IIP data and ECB, IMF, Banque Centrale du Luxembourg and Central Bank of Ireland data using equation [2]. Notes: due to rounding, numbers may not sum to 100; (1) Includes investments in securities issued by EU institutions and intergovernmental organizations (e.g. European Investment Bank, Bank of International Settlements, European Bank for Reconstruction and Development); (2) Investment in Italian portfolio assets through the intermediation of foreign mutual funds.

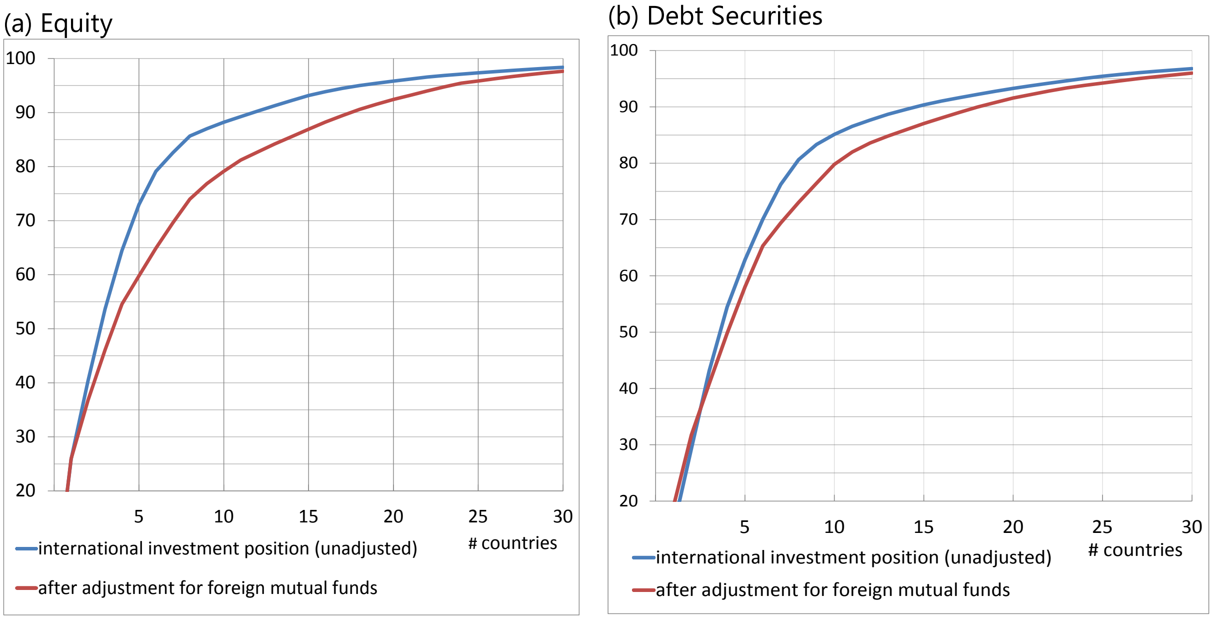
The reclassification exercise also estimates that the share of "round-trip" portfolio investments (namely, purchases of foreign funds which reinvest in Italy, so these assets are better described as domestic rather than foreign) stood at 2.9 per cent at the end of 2016 (€37 billion).[13]

13 This share, indicated in Table 4 as "Italy (round-trip)", is mainly the result of investments by foreign funds in Italian debt securities. The value is close to that estimated in Felettigh and Monti (2008) for the average of the period 2002-2005 (about two per cent).

Investments in foreign funds increase the geographical diversification of the foreign portfolio of Italian residents in two ways. The first is a mechanical effect, related to the redistribution of positions in funds that predominantly reside in a few countries to a much larger number of destination countries. The second effect arises from the wider international diversification of foreign funds compared with that of residents' direct portfolio investments, especially in the case of equity instruments (Figure 6). Instead, round-trip investments go in the opposite direction: they increase, albeit slightly, the home bias that characterizes the geographical allocation of the *overall* portfolio of Italian investors.

Figure 6 – Cumulated share of the first 30 destination countries on Italy's portfolio investment abroad at the end of 2016

(stocks; percentage points)



Sources: Calculations based on Banca d'Italia IIP data and ECB, IMF, Banque Centrale du Luxembourg and Central Bank of Ireland data.

4. Concluding remarks

Cross-border positions in investment funds account for a significant share of Italy's external assets, also in comparison with the other EU countries. As already highlighted in Felettigh and Monti (2008), the domicile of investment fund vehicles leads to a disproportionate weight of financial centres among Italy's main portfolio investment destinations. More generally, this phenomenon is an example of how the growing intermediation of mutual funds located in financial centres makes it more difficult to properly assess the extent of "genuine" cross-border portfolio diversification (Lane and Milesi-Ferretti, 2017).

In order to remove the statistical distortions arising from such positions, in this paper we provide estimates of the composition of Italy's portfolio assets, by instrument and by issuer country, after "looking through" the intermediation of foreign funds.. The share of debt securities on Italy's external portfolio significantly rises as a consequence of our "look-through" exercise; its declining trend in the last decade is also less pronounced than that observed in the unadjusted data. Moreover, the adjustment has a large impact on the geographical composition of Italian investors' external portfolio assets: the shares of Luxembourg and other financial centres fall dramatically, while those of the United States and other main advanced economies rise. In general, the geographical diversification of the portfolio tends to increase and the home bias for equities and debt securities is significantly smaller.

Our estimates should, however, be taken with caution, as they rely on several assumptions and on fairly aggregated data. Given the large weight of foreign investment funds in the country's portfolio and, more generally, the strong growth of mutual funds worldwide, further work should be undertaken in this area. To this end, collecting data at a more micro level (i.e. on the portfolio allocation of individual funds) would definitely yield richer insights for a more complete "look-through" perspective.

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BANK FOR INTERNATIONAL SETTLEMENTS

Ninth IFC Conference on "Are post-crisis statistical initiatives completed?"

Basel, 30-31 August 2018

Looking through cross-border positions in investment funds: evidence from Italy[1]

Valerio Della Corte, Stefano Federico and Alberto Felettigh,
Bank of Italy

[1] This presentation was prepared for the meeting. The views expressed are those of the authors and do not necessarily reflect the views of the BIS, the IFC or the central banks and other institutions represented at the meeting.

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Looking through cross-border positions in investment funds: evidence from Italy

Valerio Della Corte, Stefano Federico and Alberto Felettigh
(Banca d'Italia)

9th biennial IFC Conference
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Introduction

- Total net assets of worldwide regulated funds have more than doubled in the past 10 years (to $49 trillion at year-end 2017 according to the *IIFA*)
- Growth of foreign investment funds might affect external statistics (Felettigh and Monti, 2008)
- Italy as an extreme case: foreign investment fund shares (almost 800 EUR billion at end-2017) account for almost 30 % of the country's IIP assets (in most EU countries between 5-10%)
- Issues
  - What is the actual asset class exposure (bond vs equity) of the country's portfolio investment abroad?
  - What is its geographical exposure? Investment fund domicile ≠ ultimate destination

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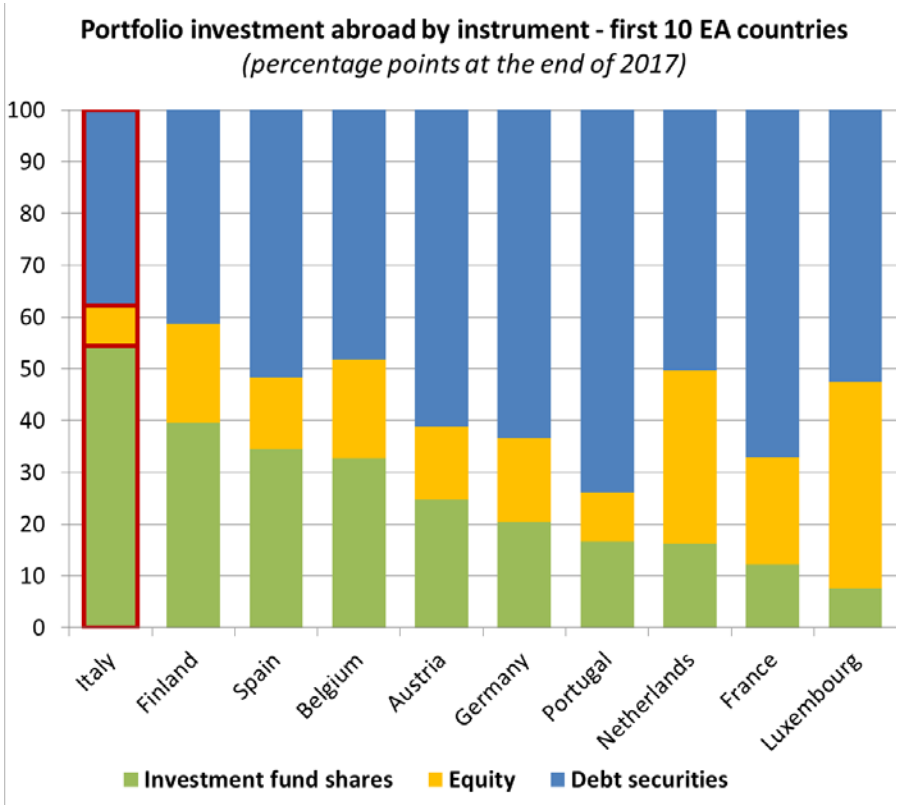
The veil of foreign investment funds

1) What is the actual asset class exposure (bond vs equity) in portfolio investment abroad?



Source: ECB

2) What is the geographical exposure? investment fund domicile ≠ ultimate destination

Italian portfolio investment abroad - country composition at end of 2016

country	%
Luxembourg	40.5
France	11.6
Ireland	8.2
United States	7.8
Germany	5.9
Spain	5.9
United Kingdom	5.0
Netherlands	4.0
International org.	2.6
Belgium	0.8
Others	7.8
	100.0

Source: Banca d'Italia

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"Looking through" foreign investment funds

- For economic analysis purposes, need to correct the distortions arising from these positions

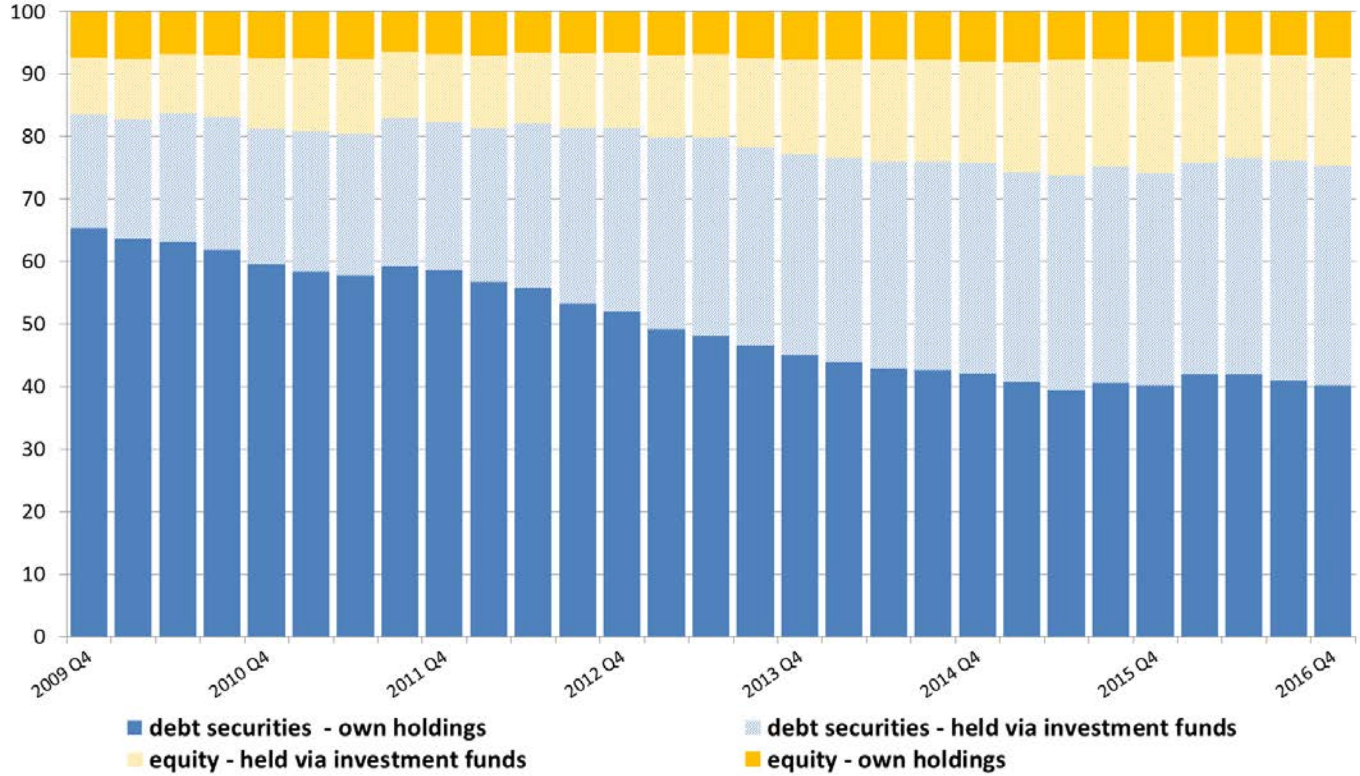
- Data availability is an issue: compilers typically do not know foreign funds portfolios

- Our approach (Della Corte, Federico and Felettigh, 2018) relies on a combination of sources to derive an approximation of foreign investment funds allocation:
    1. as for the composition by financial instrument: data from the Italian Association of investment management companies
    2. as for the geographical diversification: data from partner countries and CPIS (IMF)

- *Macro* approach: based on publicly available aggregate data, so we are making some stringent assumptions

Asset class exposure

- Without adjustments, the debt (equity) share in foreign portfolio assets stood at **40%** (7%) at the end of 2016; the overall share rises to **75%** (25%) after the adjustment
- The debt share remains in a maximum interval of +/-7 points around this value as we relax our assumptions



Sources: calculations based on Banca d'Italia IIP data and Assogestioni and ECB data.

The "ultimate" geographical exposure

- Main (strong) assumption: geographical allocation of Italian-owned foreign funds equal to that of the entire fund industries in Luxembourg, Ireland and France (over 95% of these funds are domiciled in these three countries)
- USA becomes the first destination of Italian portfolio investment
- Shares of the other main EU partners also increase
- Overall, geographical diversification rises

ranking	Total portfolio unadjusted		Total portfolio (adjusted)	
	country	%	country	%
1	Luxembourg	40.5	United States	20.7
2	France	11.6	France	12.2
3	Ireland	8.2	Germany	9.2
4	United States	7.8	United Kingdom	8.3
5	Germany	5.9	Spain	7.3
6	Spain	5.9	Netherlands	6.7
7	United Kingdom	5.0	Luxembourg	3.8
8	Netherlands	4.0	Italy *(round trip)*	2.9
9	International org.	2.6	International org.	2.8
10	Belgium	0.8	Ireland	2.0
others	-	7.8	-	24.0
		100.0		*100.0*

Sources: calculations based on Banca d'Italia IIP data and ECB, IMF, Banque Centrale du Luxembourg and Central Bank of Ireland data.

Conclusions

- Growing importance of foreign investment funds might affect external statistics

- Italy as an example
  - Foreign investment fund shares account for almost 30 per cent of the country's IIP assets
  - Disproportionate weight of financial centres among the country's portfolio investment destinations

- After the "looking through" exercise:
  - the share of debt securities in the country's external portfolio significantly rises
  - the shares of the United States and our main euro-area partners as destination countries increase too

- *Caveat*: our approach relies on strong assumptions and "macro" data

→ **Data needs**: micro data (i.e. fund-level data on portfolio allocation)

Data needs: advantages to collect fund level data

Accuracy:
- Large heterogeneity among investment funds (Hau and Rey, 2008)
- Different funds reach different clienteles (Anderson *et al.*, 2011)

→ assumption of investing in the average fund likely violated

Much richer insights for economic analysis:
- e.g. what is the risk profile of funds held by the household sector ?
- what the implied vulnerabilities to specific market scenarios (e.g. rise in yields)?

Micro-approach adopted by new research in progress at Banca d'Italia:
- Coletta M. and Santioni R. (2018) rely on fund-level data to assess the exposure and returns of Italian households via foreign funds
- Della Corte and Santioni are working on extensions to other euro-area countries

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Back-ground slides

Financial instrument composition of foreign investment funds

Assogestioni's classification of foreign funds into about 40 categories according to their investment policy enables us to estimate a range for the composition by financial instrument (equity vs debt securities)

Macro-category/category	restrictions on the equity allocation (Assogestioni)		equity allocation assumed in the adjustment by instrument of the positions in mutual funds		
	min	max	baseline	min	max
Money-market/liquidity *(all categories)*	0	0	0	0	0
Bond					
- *mixed*	0	20	10	0	20
- *all others*	0	0	0	0	0
Balanced					
- *bond*	10	50	30	10	50
- *no indication*	30	70	50	30	70
- *equity*	50	90	70	50	90
Flexible	0	100	40 (*)	20 (*)	46 (*)
Equity *(all categories)*	70	100	85	70	100
All funds as a whole					
2009 Q4 - 2016 Q4 (average)	21	47	32	25	38
At the end of 2016	20	50	33	25	40

Sources: Assogestioni and, for flexible allocation funds, calculations based on ECB data (Investment Funds statistics).

The "ultimate" geographical exposure (by instrument)

Equity

ranking	country (unadjusted)	%	country (adjusted)	%
1	United States	25.9	United States	25.9
2	France	14.5	France	10.8
3	Germany	13.3	Germany	9.3
4	United Kingdom	10.8	United Kingdom	8.5
5	Netherlands	8.5	Japan	5.2
6	Switzerland	6.2	Netherlands	5.1
7	Spain	3.4	Switzerland	4.4
8	Japan	3.1	Luxembourg	2.9
9	Luxembourg	1.4	Spain	2.3
10	Belgium	1.2	Cayman Islands	2.1
others	-	11.8	-	23.5
memorandum item: share on total portfolio investment		*7.3*		*24.6*

Debt Securities

	country (unadjusted)	%	country (adjusted)	%
1	France	15.3	United States	19.0
2	Spain	14.0	France	12.7
3	United States	13.8	Germany	9.1
4	Germany	11.3	Spain	8.9
5	Netherlands	8.4	United Kingdom	8.2
6	United Kingdom	7.2	Netherlands	7.3
7	International org. (1)	6.2	Luxembourg	4.1
8	Luxembourg	4.4	International org.	3.7
9	Ireland	2.7	Italy *(round-trip)*	3.4
10	Belgium	1.8	Ireland	2.2
others	-	14.9	-	21.4
memorandum item: share on total portfolio investment		*40.3*		*75.4*

Sources: calculations based on Banca d'Italia IIP data and ECB, IMF, Banque Centrale du Luxembourg and Central Bank of Ireland data.