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Work on Bilateral Asymmetries in Direct Investment and the EU Framework for Reconciliation of Data and Consistency with the Rest of the World



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1. Introduction

Bilateral asymmetries are a major concern for compilers of BOP and international investment position (IIP) statistics. In particular in the context of European statistics, they can contribute to high errors and omission of the EU aggregate levels compromising the analytical usefulness of these statistics. Foreign direct investment (FDI) is one of the components in which intra-EU and intra-euro area asymmetries are typically large.

In 2009, the FDI Network was established jointly by Eurostat and the European Central Bank to address the problem of asymmetries in FDI. This was done for responding to a high-level recommendation to “connect FDI databases”. The FDI Network is a platform aimed at facilitating the secured exchange of data on specific FDI transactions and positions between national compilers of the Member States involved. The technical infrastructure and resources to facilitate the exchanges are provided by Eurostat.

In 2014 the process of harmonisation of the methodological standards for the compiling European national accounts and balance of payments statistics (BOP) was finally concluded. Hence, applying both methodologies respectively, the European System of Accounts 2010 (ESA2010) and the Balance of Payments and International Investment Position Manual in its 6th edition (BPM6) ensure a high degree of comparability and consistency between BOP and

the rest of the world (ROW) account of the national accounts¹. In the course of 2015 comparable and longer time series have become available, which motivated Eurostat to launch regular data comparisons of quarterly data in order to gain a realistic picture on BOP/ROW consistency. In this line, preliminary conclusions have been published² and can be regarded as a first move towards a more institutionalised approach in order to monitor BOP/ROW consistency.

This note summarises recent developments and work in these two areas – Section 2 will inform about the extent of current intra-EU asymmetries in FDI flows and positions, and about the ongoing reconciliation efforts of direct investment data (FDI Network); Section 3 is dedicated to the state of play in the BOP/ROW consistency debate and the current situation in the EU-28.

2. Work on bilateral asymmetries in direct investment and the EU framework for reconciliation of data

EU FDI asymmetries

The table below presents the evolution of intra-EU FDI flows over the period 2006-2014 together with the corresponding intra-EU asymmetries measured both in absolute and relative terms.

After the peak observed in 2008 (EUR 138 billion), intra-EU asymmetries steadily trended downwards until 2012 (EUR -24 billion) both in absolute and relative terms. The sign reversal observed in 2012 did not portray any particular quality improvement as the asymmetry size (in absolute values) more than doubled compared to 2011; whilst in the meantime intra-EU FDI flows went on declining.

Table 1: Intra-EU outward and inward FDI flows, 2006-2014 (EUR billion; percentage)

¹ BPM6 Appendix 7 and ESA2010 Chapter 18

² Eurostat (2016), incorporating results from a survey exercise launched by Eurostat in December 2014, which gave compilers the opportunity to explain measured discrepancies.

Intra EU outward and inward FDI flows, 2006-2014 periods									
	2006	2007	2008	2009	2010	2011	2012	2013 *	2014 *
Direct investment abroad (net)	562	714	538	277	272	494	171	216	230
Direct investment in the reporting economy (net)	495	633	400	237	261	485	195	298	222
<i>Absolute asymmetries (outward - inward)</i>	67	81	138	40	11	10	-24	-82	8
<i>Relative asymmetries (%)</i>	13	12	29	16	4	2	-13	-32	4
<i>Evolution of the size of asymmetry before and after revisions (**)</i>					↘	↘	↘	↗	

* As from 2013, data are compiled according to the BPM6 methodology and ,therefore, are not directly comparable with previous years.
** ↘ = reduction of asymmetry's size in absolute value

The two recent years show a rather different asymmetry profile despite of the fact that intra-EU inflows and outflows stayed at comparable levels. Indeed, intra-EU asymmetries were rather high in 2013 (EUR -82 billion in absolute terms, -32% in relative terms), sharply contrasting with the almost ideal situation observed in 2014. It should be pointed out that the regular revision process of national FDI compilers does not necessarily lead to a reduction in the size of asymmetries. Intra-EU asymmetries observed on revised FDI flows data pushed down the size of asymmetries in 2010, 2011 and 2012, but not in 2013.

The following table shows the evolution of intra-EU FDI positions over the period 2006-2014.

Table 2: Intra-EU outward and inward FDI positions, 2006-2014 (end) periods

Intra EU outward and inward FDI positions, 2006-2014 (end) periods									
	(€ billion)								
	2006	2007	2008	2009	2010	2011	2012	2013 *	2014 *
Direct investment abroad - Net positions	4438	5187	5580	5839	6292	6718	6918	6608	7148
Direct investment in the rep. Economy - Net positions	4497	5249	5370	5724	6017	6182	6471	6128	6540
<i>Absolute asymmetries (outward - inward)</i>	-59	-61	210	115	275	536	446	479	608
<i>Relative asymmetries (%)</i>	-1.3	-1.2	3.8	2.0	4.5	8.3	6.7	7.5	8.9
<i>Evolution of the size of asymmetry before and after revisions (**)</i>					↘	↘	↘	↘	

* As from 2013, data are compiled according to the BPM6 methodology and ,therefore, are not directly comparable with previous years.
** ↘ = reduction of asymmetry's size in absolute value

The pattern for positions is somewhat different from that of flows. Negligible until 2007, the asymmetries rose sharply to EUR 210 billion in 2008, and more than doubled again to EUR 446 billion between 2008 and 2012, with a peak around EUR 536 billion in 2011. In 2013,

intra-EU FDI positions asymmetry was estimated at EUR 479 billion. But the asymmetry size sharply increased in 2014, standing at EUR 608 billion.

The situation is identical in relative terms. In 2013, the intra-EU relative asymmetry was around 7.5%, not strongly contrasting with levels of previous periods. Nevertheless this ratio increased by more than one percentage point between 2013 and 2014, to stand at 8.9%.

Even if this is the highest level since 2006, it remains below the 10% threshold and may even go down if we rely on the impact of the revisions on the size of the asymmetries observed in the recent past. So far and unlike what has been observed on FDI flows, data revisions regularly handled by national statisticians have always reduced the size of intra-EU FDI positions asymmetries, at least since 2010.

FDI Network

The FDI Network is a platform aimed at facilitating the secured exchange of data on individual enterprise level FDI transactions and positions data between national compilers of the EU Member States involved. The technical infrastructure and resources to facilitate the exchange and eventual data reconciliation are provided by Eurostat. Participation to the FDI Network is voluntary and not obliged, only enabled, by the EU law unlike the FDI statistics themselves. All EU Member States have nevertheless expressed strong commitment for participating in the reconciliation actions through the FDI Network.

The reconciliation process begins from the recommended euro thresholds beyond which all the separate FDI transactions and positions shall be put under bilateral investigation. Basic rules include currently that all transactions or reclassifications higher than EUR 2 billion shall be exchanged through the FDI Network. Positions higher than EUR 3 billion shall be exchanged with a specific condition of having also registered large asymmetries with the concerned partner country. Another input for the FDI Network participants are the asymmetries tables provided in the Annual Quality Reports. These tables are used as a key tool to drive the exchange of transactions through the FDI Network as a complementary element to the regular exchange and should be part of the annual quality assurance procedures.

In the FDI Network system the initiator Member State, i.e. the FDI compiler that first becomes aware of an FDI transaction or position filling the criteria, sends via Eurostat's secure data transmission channel a reconciliation request to the counterpart Member States. The request is detailed with several predefined transaction or position specification data fields, including the names of the enterprises involved and the euro amounts in question.

The counterpart FDI compiler compares the provided information first to their internal databases for checking whether the FDI reporters can be identified and the amounts can be matched and ultimately confirmed on the spot. Should this be the case the reconciliation is ended and the outcome is recorded as successful. Should this not be the case the resident FDI reporter entity would be contacted for inquiries on the potential transaction or position in question. Any public document on that specific FDI transaction/position can be referred to in this context and the FDI reporter would be requested to check whether such FDI transaction/position is not reflected in its systems.

Different techniques are used in order not to disclose the confidential data, namely the name of the counterpart reporter and the euro amount in question. The FDI compiler can for example inform the resident statistical unit that comparisons of country level FDI data have revealed that another EU country has recorded a large transaction/position vis-à-vis the country of the FDI compiler. Consequently, the FDI compiler is contacting a number of reporters to investigate if they have been involved in a large transaction/position with a particular counterpart country.

If it appears that the FDI data were not reported in earlier data transmissions by the respective FDI compiler, or they were but with important differences such as a different counterpart country or reported amount, the revised data are advised to be reported as early as possible, including the transaction/position that was missing or erroneous. For the purposes of facilitating the reconciliation process, information and further discussions on the FDI transactions/positions can take place between the concerned FDI compilers. Eurostat does not participate in these discussions. It has nevertheless been proposed by a Member State that Eurostat (and the ECB) could establish a mediation process that would help to the extent possible Member States to reach a reconciliation consensus in the large asymmetry cases. Up till now the proposal has not been explored further.

The decision about possible corrections in the FDI national figures remains nevertheless at the discretion of each party involved in the exchange. Yet hardly used, Eurostat may include an adjustment in the EU aggregates if deemed necessary, and communicate that to the concerned compilers. The corrections to aggregates would be decided by Eurostat based on the available information from the exchanges, but without modifying published detailed country figures.

At the end of the reconciliation process, the FDI compiler indicates to the counterpart and to Eurostat the close of the request, either with success or failure. The FDI transactions are

exchanged on an on-going basis as soon as they become available to the FDI compilers. The exchange of FDI positions takes place annually during a window period between May-June with non-limited reference period.

The reconciliation process is followed up by a status table periodically pre-filled by Eurostat and sent to the participants of the FDI Network for validation and completion. The information of the status table refers to non-confidential data helping to analyse the outcome of the FDI Network exchange and to improve the reconciliation process by analysing the experiences obtained. After each round, considerable number of reconciliation requests remain still not matched or reconciled. Reported failures include non-detection of the indicated FDI entity or its position, differences in valuation methods and a divergence in the geographical allocation criteria.

The reconciliation process is a resource demanding task and its successful outcome would require timely reactions from the parties involved. In the 2015 reconciliation round, for example, more than half of the reconciliation requests (375) were not treated until the end within the agreed deadlines either because the concerned counterparts did not have time to reply, some issues needed more thorough investigation or because initiators did not yet receive feed-back from the counterpart. In 2015 another 40% of the reconciliation requests on transactions were directly confirmed by concerned counterparts, on positions only 16%. Less than 10% of the cases were ended on mutually agreed corrections. This is the only case leading to elimination of already detected or latent asymmetry as there is an agreement by both initiator and counterpart on a single value. The amount of reported failures was low for transactions (less than 10%). Nevertheless up to more than one fourth of the positions failed to be reconciled in 2015 reconciliation round. From this group of positions 20% of failures took place because of the different valuation method and 50% due by the non-identification of the entity or the position (entity not sampled, names not identified, entity was liquidated) or differences in FDI relationships or definitions implemented.

The FDI Network covers currently all EU Member States. The exchanges are nevertheless concentrated heavily only to some ten of them following the skewed volumes of the EU FDI flows. Efforts have been started in 2016 for facilitating, streamlining and further promoting the use of the FDI Network within the requirements of fully secure correspondence between the FDI compilers. Ideally the use of the FDI Network would become as an elementary part of the national FDI compilation process. Achieving this requires certain discipline from all the actors and respect to others' efforts in reconciliation process. This is important when keeping in mind

that the FDI Network holds the real potential in reducing the bilateral asymmetries: for example, the amount of the bilateral FDI positions at end 2013 reported through the FDI Network represents a significant part, around 27%, of the average intra-EU FDI positions estimated at end 2013 (EUR 6 368 billion).

3. Consistency with the ROW in the EU-28

Time frame and methodology of Eurostat's regular data comparisons

Regular data comparisons of quarterly statistics in BOP and the rest of the world (ROW) sector account are conducted by Eurostat since 2015, in order to assess the evolution of consistency over time between the two statistics. Although in European statistics time series respecting the new standards were reported by some countries even back to 1999, reliable data comparisons across the EU-28 appear currently feasible and meaningful from 2010 to 2015. Data are compared in quarterly frequencies³ in order to reflect back data revisions during the compilation year, and measure discrepancies by gross transactions where possible, in order to avoid offsetting effects. While measures are available for the major components of the nonfinancial accounts, it proved less conclusive to conduct comparisons with similar granularity for the financial accounts due to different concepts applying to both statistics (functional versus instrument category)⁴. Consequently, we will focus in this presentation on the components of nonfinancial accounts, which appears sufficient to draw first conclusions. The analysis is conducted on national data, because it allows studying causalities in a country-specific context. European aggregates represent the sum of national discrepancies of the EU-28 Member States. The most recent data comparison refers to the data publications of July 2016. In European statistics QSA usually are disseminated around three weeks after the QBOP data release.

Recent results on consistency in a nutshell

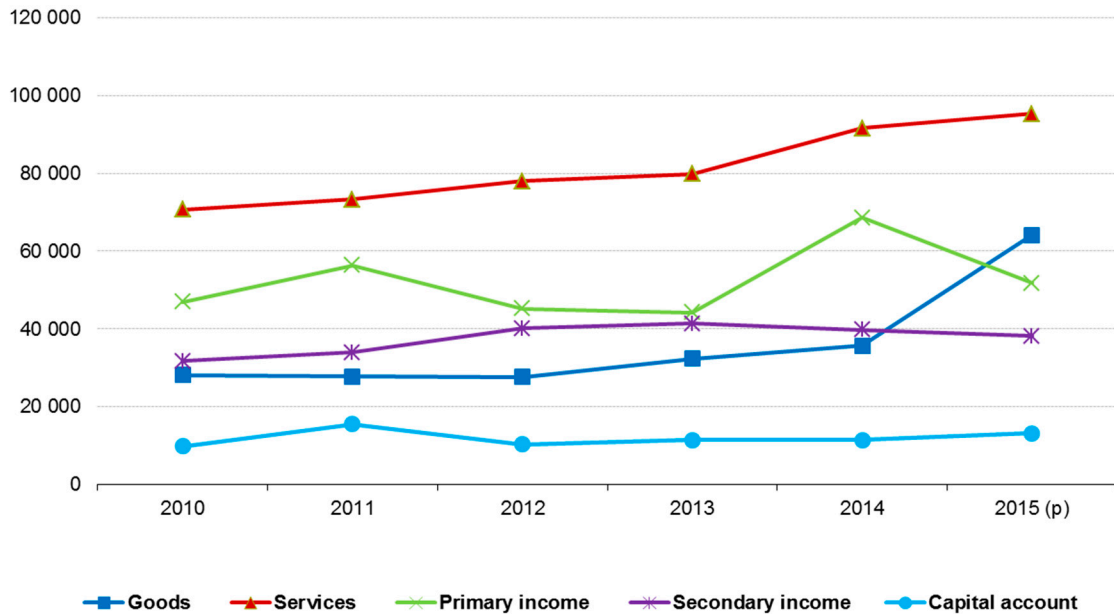
The current measures (Chart 1) confirm a continuously high exposure to discrepancies in some components of the European nonfinancial accounts assuming total absolute discrepancies close to EUR 250 billion. This concerns in particular the services and primary income accounts (although with slight improvements for the latter in 2015), while goods

³ Quarterly BOP (QBOP) and the ROW sector of the Quarterly Sector Accounts (QSA)

⁴ For a more detailed description of this conceptual issue in the financial accounts, see Obrzut, p.109ff (2016)

showed a surprising outlier in the provisional figures of 2015, which may be subject to further revisions during the ongoing year. Secondary income and capital accounts on the other hand seem generally less exposed to inconsistencies in absolute terms.

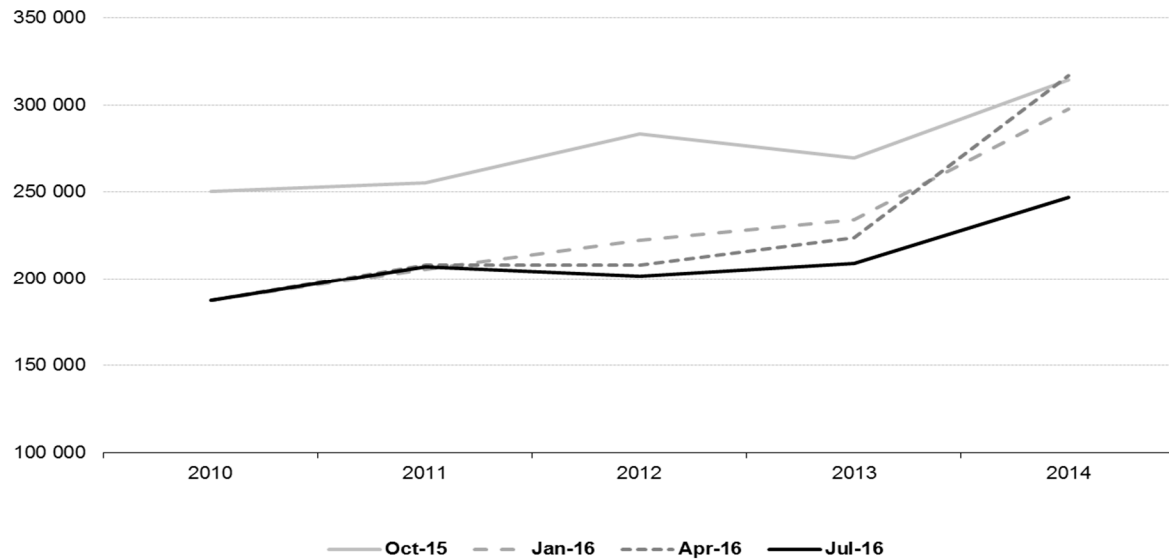
Chart 1: Absolute discrepancies by components of nonfinancial accounts as per July 2016, sum of EU-28 Member States, 2010-2015 (EUR million)



Source: Eurostat

When analysing the impact of revisions on the data (Chart 2), we observe however a downward shift in discrepancy levels during the past year, thus effectively reflecting European compilers ambitions to reduce inconsistencies in both statistics. Between October 2015 and January 2016 most comprehensive revisions took place for the period 2010-2013, where compilers concentrated particularly on improving back data consistency. Later in 2016 compilers dedicated their attention to the more recent data, when we measured considerable improvement for 2012-2014.

Chart 2: Absolute discrepancies in the European nonfinancial accounts over time, sum of EU-28 Member States, 2010-2014 (EUR million)



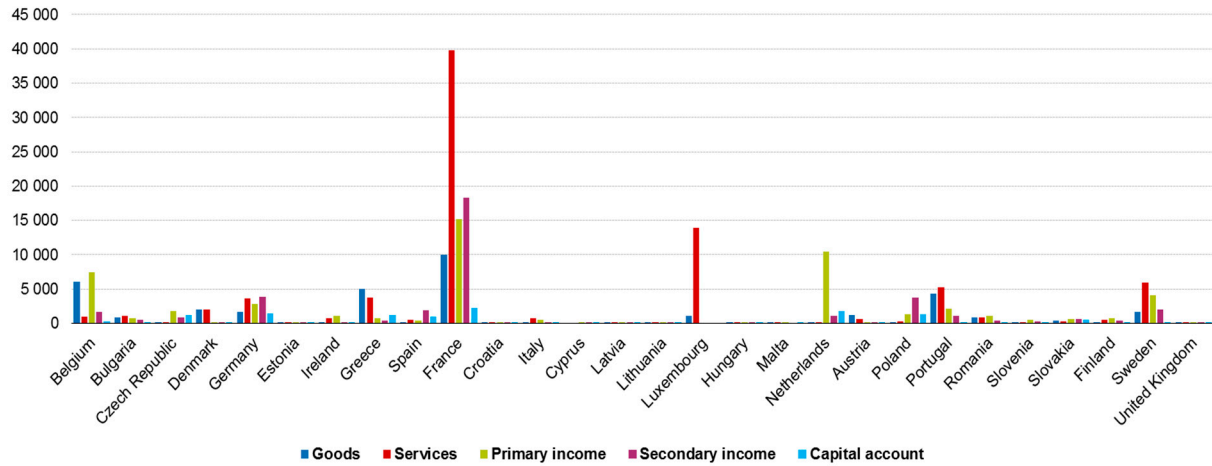
Source: Eurostat

At the level of country data, the geographical image of discrepancies in the EU-28 appears highly concentrated around a few countries only⁵. Charts 3 and 4 may illustrate this in absolute and relative terms. Depending on their exposure to components of the nonfinancial accounts, at least France, Luxembourg, the Netherlands and Belgium show highest absolute discrepancies, and to some further extent also Germany, Sweden and Portugal. In relative terms to the countries' GDP this exposure is however considerably downsized, except for Luxembourg. From an international perspective addressing inconsistencies based on relative measures of national data is clearly an inferior approach, as it would foster the risk for omissions. Article 12 of European Regulation No. 223/2009⁶ raises quality to a supranational issue for the European Statistical System (ESS), and is thus favouring strategies to eliminate large (absolute) discrepancies in Member States as a first priority.

⁵ We measured a Gini coefficient between 0.7 and 0.8 for all components of the nonfinancial accounts, with particularly high concentration of the services accounts (Herfindahl-Hirschman index above 2500). For practical interpretation, see US Department of Justice <https://www.justice.gov/atr/herfindahl-hirschman-index>

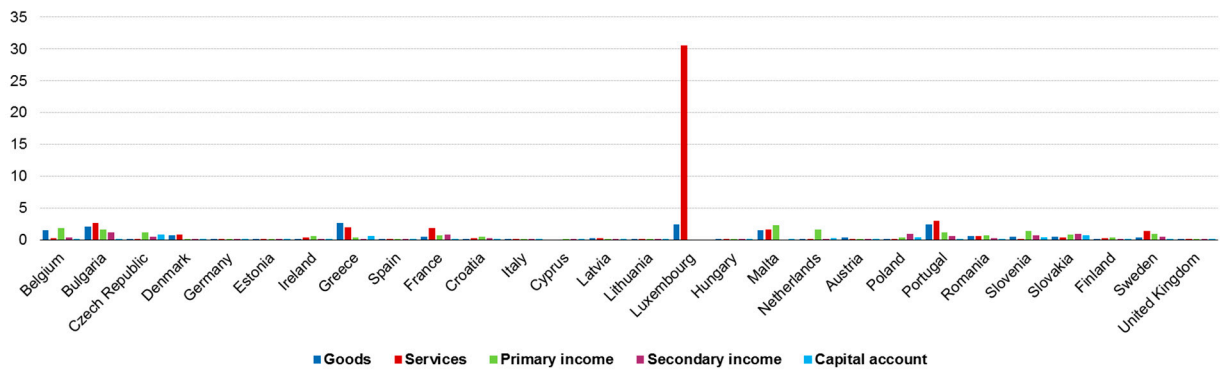
⁶ Regulation (EC) No. 223/2009 of the European Parliament and of the Council, of 11 March 2009 <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0223&from=EN>

Chart 3: Absolute discrepancies in the European nonfinancial accounts by EU-28 Member States, mean 2010-2015 (EUR million)



Source: Eurostat

Chart 4: Relative discrepancies in the European nonfinancial accounts by EU-28 Member States, mean 2010-2015 (percentage of GDP)



Source: Eurostat

Reasons for inconsistencies – findings and work up to now

In 2014 Eurostat launched a survey among European compilers, which allowed them to provide explanations for the measured discrepancies in the nonfinancial and financial accounts of both statistics. The feedback from the compiler community helped to establish a few patterns in order to understand inconsistencies. Subsequently, in January 2016 the Committee of Monetary, Financial and Balance of Payments Statistics (CMFB)⁷ considered consistency between national accounts and BOP statistics of high relevance and launched a dedicated task force, in order to investigate on their possible causes. This task force operates from Member State compilers' contributions with the coordinating support of Eurostat and the

⁷ Joint coordinating body of the European Statistical System (ESS) and the European System of Central Banks (ESCB)

ECB. It was decided to let investigations first focus on issues related to goods and services. Later they will be extended to other components of the nonfinancial and financial accounts. A first summary of the task force conclusions has been published in July 2016 identifying 12 technical issues related to the compilation of goods and services in both statistics.

Abstracting from the technical findings of the above mentioned CMFB task force, which this note does not want to anticipate, the debate about causalities of consistency issues has revealed a variety of features that helped to understand the character of discrepancies in both statistics. They are presented in a non-technical form in the following.

- The organisational setting of national compilation processes plays a prominent role in explaining the occurrence of inconsistencies. Dipolar (or multipolar) statistical compilation systems lead to institutional coordination issues.
- Different access to (micro) data sources or source statistics could generate discrepancies, in particular for items that can be measured from a heterogeneous spectrum of data sources. It has been further shown that “contagion effects” arising from different (vintages of) source data, could import inconsistencies into the final statistical product (e.g. financial data for the calculation of investment income)⁸.
- Items difficult to measure by surveys or administrative data sources are naturally subject to estimations or extrapolations (e.g. FISIM). This paves the ground for discrepancies, when applied by more than one counterpart and without coordination.
- Due to the specific objectives in each statistics and the foregone investment in IT infrastructure, (automatic) compilation systems are less flexible for being redesigned or adapted to new needs. Further, manipulation of underlying compilation processes requires back data revisions, which challenge data stability of longer time series. As a consequence national counterparts generally appear less inclined to challenge already established and effectively working operational processes, even when their statistical products diverge from each other to some extent.
- Institutional peculiarities foster discrepancies arising from different delineations of economic sectors (e.g. captive financial institutions). International organisations can play an important role in clarifying identified issues in a coordinated manner.

⁸ Obrzut (2016), p. 118

- Different institutional progress in fully adopting the corresponding statistical standards BPM6 and ESA2010 also explained to some extent the occurred discrepancies in the past.
- Revision and vintage effects persist as “statistical noise” due to different publication calendars and revision practices, which hampers full consistency. Consequently, zero absolute discrepancies appear achievable only from fully integrated production systems (e.g. United Kingdom).

4. Conclusions and outlook

The above findings clearly suggest that a higher degree of coordination among European and worldwide counterparts is desirable in order to produce more consistent and comparable statistics. We take note of compilers’ efforts in reducing bilateral asymmetries via the FDI Network and improving BOP/ROW consistency, but there appears to be further room for improvement in some countries. Eurostat currently coordinates its investigations in BOP/ROW consistency with the ECB and international coordination bodies (CMFB), and actively supports the work of the CMFB task force on consistency. Depending on its final conclusions and recommendations, which will be issues in January 2017, it will be decided on appropriate follow-up measures.

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