FSB FINANCIAL STABILITY BOARD

FSB Correspondent Banking Data Report – Update

16 November 2018

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Contents **Page**

Executive summary 5
Introduction 9
Data description: The SWIFT datasets 9
1.1 Old methodology 10
1.2 New methodology 11
1.3 Alternative methodology 12
Scale of the withdrawal from correspondent banking 14
1.4 Global trend across all currencies 14
1.5 Trends by currency 15
1.6 Trends by region 17
1.7 Results by country 28
Effects of the reduction in correspondent banking relationships 31
1.8 Impact on the volume and value of payments 32
1.9 Impact on the length of payment chains 34
1.10 Concentration in correspondent banking 35
Annex 1: Impact of the change in methodology and additional information by region and currency 38
Annex 2: Change between 2012 and 2017 and trend in 2017 55
Annex 3: 50 countries or territories with the largest cumulative decline in the number of CBR between 2012 and 2017 (New methodology) 62
Annex 4: 50 countries or territories with the largest cumulative decline in the number of CBR in 2017 (New methodology) 66

FSB Correspondent Banking Data Report – Update

Executive summary

This report presents updated results to the *FSB Correspondent Banking Data Report* of July 2017,[1] and *FSB Correspondent Banking Data Report – Update* of March 2018[2] derived from information provided by SWIFT to the FSB, through the intermediation of the National Bank of Belgium and Deutsche Bundesbank.

Compared to the last update, the present report includes additional data for the last six months of 2017 as well as methodological improvements and detailed country-by-country and regional data. The methodological improvements reduce some multiple counting that occurred under the previous methodology, which resulted in understating the extent of the decline in the number of correspondents, as the multiple counting under the previous methodology gave more weight to the most active corridors and obscured the decline in smaller and less active corridors. Other improvements also tend to result in a larger measured decline. However, the general trends are the same when measured with the new methodology, which primarily corrects their magnitude.

Scale of the withdrawal from correspondent banking

The updated data provided by SWIFT shows that the decline in the number of active correspondents, as measured by the flow of messages, continued in 2017, with a year-on-year reduction of 4.1% at the global level although 15 countries have seen a stable situation and 16 countries an increase. The number of active corridors, defined as country pairs that processed at least one transaction declined by 2.4% in 2017. From January 2011 to end-2017, the number of active correspondents declined by 15.5% and active corridors by 7.3%. Over that same period, the decline in the number of active correspondents is more acute for USD (23%) and EUR (20.8%). The annual rate of the decline increased in 2017 for the three major international currencies, reaching 7.6% for USD, 6.6% for EUR and 6.1% for GBP (against respectively 5.2%, 3.8% and 1.5% in 2016).

In 2017, all continents or sub-continents have seen a decline in the number of active correspondents, as measured by the flow of messages sent through SWIFT. The rates of decline range between 5.2% and 6.7%, except Northern America (2.9%).[3] The yearly rate of decline increased compared to 2016 for all regions except Africa (likely due to base effects, as Africa had the largest rate of decline in 2016). By total numbers, the Americas (excluding Northern America) and Oceania experienced the largest decreases in the number of active correspondents in 2017.

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1 Available at http://www.fsb.org/2017/07/fsb-correspondent-banking-data-report/

2 Available at http://www.fsb.org/2017/07/fsb-correspondent-banking-data-report/ and http://www.fsb.org/2018/03/fsb-correspondent-banking-data-report-update/

3 Continents and regions used is this report are those defined by the United Nations Statistical Division (https://unstats.un.org/unsd/methodology/m49/). For instance, Northern America includes Bermuda, Canada, Greenland, Saint Pierre and Miquelon and the United States.

Over the entire period for which the FSB has received SWIFT data, from January 2011 to December 2017, the relative decline in the number of active correspondents was the smallest in Northern America (9.3%) and the largest in the rest of the Americas (27.6%), with all other continents or sub-continents seeing declines between 15.5% and 19%. Declines are greater when looking only at correspondents involved in USD transactions: Over the full period since 2011, declines are stronger by at least 3.1 percentage points in all sub-continents, except Northern America. The difference is the greatest for Oceania (-27% for USD relationships, i.e. a decline of 8.1 percentage points more than for relationships across all currencies in Oceania) and Africa (-25.1% USD decline versus an 18.6% overall decline). The Americas (excluding Northern America) remains the most affected sub-continent, with a reduction by 30.7% of USD relationships since 2011.

At a more granular geographic level, all 22 regions[4] except Micronesia[5] saw a reduction in the average number of active correspondents[6] both in 2016 and 2017 (as measured by the number of banks abroad receiving SWIFT payment messages from a country). The decline accelerated in a majority of regions (16) in 2017. The regions with the largest cumulative declines since 2011 are Melanesia, Polynesia, the Caribbean, South America and Northern Africa, with declines between 28% and 40.6%. These five regions, as well as European regions, are also the most affected from the perspective of the number of country-relationships that local banks have, with cumulative declines of more than 15%.

Over the entire period, all 22 regions have seen a decline of the number of foreign correspondents computed at country level across all three major currencies (USD, EUR, and GBP), except Eastern Europe for GBP and Micronesia for EUR and GBP. In 2016 and 2017, year-on-year declines affected all regions for USD and all regions but Micronesia for EUR, while effects are more differentiated by region for GBP transactions. The decline accelerated in 2017 compared to 2016 in most regions, except several regions in Africa (most notably Northern Africa for each of the three currencies), South America for EUR, the Caribbean and Australia and New Zealand for USD, Polynesia for USD and GBP. Since 2011, the decline is significantly larger for EUR than USD in the Caribbean (-38.3% against 33.7% for USD) and Eastern Africa (-30.7% against -22.9%). Conversely, among the other most affected regions, North Africa and Polynesia see higher declines for USD than EUR (-39.9% against -32.5% and 45.9% against 35.3% respectively), while South America experienced similar declines for both currencies (around -33% and -27%).

Finally, and similarly to the analysis presented in the July 2017 report, small economies with a Gross Domestic Product (GDP) of less than 10 billion USD have seen between 2012 and 2017 a stronger decline in the ratio of the number of foreign counterparties per local banks (-23.4%), compared economies with a GDP between 10 billion and 1 trillion (around -18%) and economies with GDP above 1 trillion USD (-8.4%). However, this has not affected, on average, the volume

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4 As defined by the United Nations Statistics Division.

5 Micronesia saw no changes in 2017. According to the United Nations Statistics Division includes Guam, Kiribati, Marshall Islands, the Federated States of Micronesia, Nauru, Northern Mariana Islands, Palau and the United States Minor Outlying Islands. This is the region with by far the smallest number of active correspondents (less than 20), which explains that any change results in large percentages.

6 In terms of the number of banks established in the region that send messages abroad (including to countries in their regions), totalled across all corridors.

and value of messages they received, which have increased more for small economies compared to the larger ones.

Effects of the reduction in the number of correspondent banking relationships

First, in line with previous analyses in the Committee on Payments and Market Infrastructures (CPMI) report of July 2016 and *FSB Correspondent Banking Data Report* of July 2017, data continues to support the finding that, at the global level, the decline in the number of active correspondents (as defined in this report) has not resulted in a lower number of payment messages (volume) or a lower underlying value of the messages processed through SWIFT. The higher volume of messages could reflect increased concentration or in part reflect a lengthening of payment chains, as discussed in the July 2017 report.

Second, and as a result of the reduction in the number of active corridors and lengthening of payment chains, the average number of active counterparty countries, defined as countries receiving direct payment messages from a given country, declined in all regions but Middle Africa, although the rates varied significantly. The most pronounced decreases between 2011 and 2017, over 24%, were for Melanesia, Polynesia and the Caribbean. Countries in Micronesia receive direct payment messages on average from 5.5 countries, while countries in the Americas (excluding Northern America), Eastern, Middle and Western Africa, Polynesia, Melanesia and Central Asia are directly connected to 26 to 40 countries on average. At the other end, countries in Western Europe receive direct payment messages on average from 161 countries.

Third, indicators of concentration of correspondent banking activity have increased. The active correspondents handle a larger number of payment messages, especially in Northern America. This report also includes a complementary approach to assess the evolution over time of the concentration of correspondents among corridors, which considers in particular the concentration among active correspondents across a constant population of corridors. The results from this approach suggest that the Gini coefficient on the number of active correspondents per corridor has slightly increased since April 2015. At the same time concentration among active corridors has slightly decreased, likely due to the fact that smaller corridors have become inactive.

As noted in other reports, as SWIFT is the most commonly used messaging standard for cross-border payments, SWIFT captures a meaningful amount of correspondent banking activity and the data likely delivers an accurate picture of the trends in payment traffic between jurisdictions. However, the data does not represent a comprehensive account of correspondent banking cross-border financial flows. Because financial institutions have multiple means of exchanging information about their financial transactions, SWIFT messages flows do not represent complete market or industry statistics.

The Financial Stability Board (FSB) launched in November 2015 a four-point action plan to assess and address the decline in correspondent banking relationships.[7] In March 2016, the FSB

[7] http://www.fsb.org/2015/11/report-to-the-g20-on-actions-taken-to-assess-and-address-the-decline-in-correspondent-banking/ of 6 November 2015.

established the Correspondent Banking Coordination Group (CBCG)[8] to coordinate and maintain progress in the implementation of the action plan in four areas:

- Further examining the extent, the drivers and the implications of the issue;
- Clarifying regulatory expectations, including guidance by the Financial Action Task Force (FATF) and the Basel Committee on Banking Supervision (BCBS);
- Domestic capacity-building in jurisdictions that are home to affected respondent banks;
- Strengthening tools for due diligence by correspondent banks.

The data reports address the first component of the action plan, with a goal to further enhancing understanding of the scale of the issue. As noted in the last FSB progress report on the action plan,[9] the international components of the action plan are now largely in place, but to be effective, the solutions designed by international standard setting bodies and industry organisations need to be implemented in practice by national authorities and banks. The FSB will publish a further progress report to the G20 in November 2018.

[8] The CBCG's membership comprises senior representatives from international organisations and standard setters and national authorities in the FSB and its Regional Consultative Groups.

[9] http://www.fsb.org/2018/03/fsb-action-plan-to-assess-and-address-the-decline-in-correspondent-banking-progress-report-to-g20-finance-ministers-and-central-bank-governors-meeting-of-march-2018/ http://www.fsb.org/2018/03/fsb-action-plan-to-assess-and-address-the-decline-in-correspondent-banking-progress-report-to-g20-finance-ministers-and-central-bank-governors-meeting-of-march-2018/

Introduction

This report presents updated results, based on end-December 2017 data, from the *FSB Correspondent Banking Data Report* of July 2017 and *FSB Correspondent Banking Data Report – Update* of March 2018[10] derived from information provided by SWIFT to the FSB, through the intermediation of the National Bank of Belgium (as overseer of SWIFT) and Deutsche Bundesbank (as Chair of the CPMI Working Group on Correspondent Banking).

This full-year update provides an overview of changes affecting correspondent banking, including at the country level, and is more comprehensive than the one published in March. In addition, the present report includes methodological improvements. In addition to the new methodology mainly used in this report, results based on the previous methodology are also presented in Annex 1, to facilitate comparisons. The FSB and SWIFT previously agreed to an arrangement under which SWIFT will provide six-monthly data updates until the provision by mid-February 2019 of end-2018 data, thereby expanding the data set beyond the years 2011-2015 analysed by CPMI in its 2016 report on correspondent banking.[11] The CBCG will discuss with SWIFT and CPMI the assumption by CPMI of the publication (in consultation with the FSB Correspondent Banking Coordination Group) of the update reports. The CBCG will continue to use these updates to monitor developments in correspondent banking.

Data description: The SWIFT datasets[12]

For the analysis provided in this update, SWIFT provided three anonymised and aggregated datasets, all covering 2011 to December 2017, each based on a different methodology to assess the number of active correspondents:

- The first one ("old methodology") relies on a count of payment messages, is similar to the one analysed by CPMI in its July 2016 report, and was used in previous FSB Correspondent Banking Data Reports;
- The second one ("new methodology") also relies on a count of payment messages, but with aggregation and anonymization occurring earlier in the production of the data, which reduces multiple counting of active correspondents; this new methodology also addresses other issues to improve the quality of the data;
- The third one ("alternative methodology") explores a different way to assess the number of correspondent banking relationships, by analysing the existence of account statement

[10] Available at http://www.fsb.org/2017/07/fsb-correspondent-banking-data-report/ and http://www.fsb.org/2018/03/fsb-correspondent-banking-data-report-update/

[11] http://www.bis.org/cpmi/publ/d147.htm http://www.bis.org/cpmi/publ/d147.htm

[12] Data relating to SWIFT messaging flows is published with permission of S.W.I.F.T. SCRL. SWIFT © 2018. All rights reserved. Because financial institutions have multiple means of exchanging information about their financial transactions, SWIFT messages flows do not represent complete market or industry statistics. SWIFT disclaims all liability for any decisions based, in full or in part, on SWIFT statistics, and for their consequences. Analysis of SWIFT statistics were prepared by staff of the National Bank of Belgium. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of the National Bank of Belgium. The National Bank of Belgium does not guarantee the accuracy of the data included in this work. Significant input has been provided by Deutsche Bundesbank (which led the CPMI analysis of SWIFT data and chairs the CPMI Working Group on Correspondent Banking) and the Bank of Mexico (which chairs the CBCG Workstream on Data Collection and Analysis).

messages reflecting the correspondent banking accounts that banks have among themselves.

Each of these data sets is described below.

1.1 Old methodology

This methodology relies on a count of payment messages sent between banks as a proxy of the existence of a correspondent banking relationship between the banks sending and receiving these messages:

- The data set includes message types MT 103 (single customer credit transfer, by which a financial institution instructs another financial institution to transfer funds for the benefit of a single customer) and MT 202 (general financial institution transfer, used to request the movement of funds between financial institutions not related to an underlying customer credit transfer[13]), as well as subtypes.
- The data contain sent and received volumes (referring to the number of messages) and nominal values for corridors (unidirectional country pair[14]), as well as data on the number of active correspondents in each corridor.
- The data also contain the currencies, volumes and nominal values per message type for each corridor. Currencies other than the USD, EUR and GBP are treated as a single "Other" currency.

SWIFT's messaging services are used by more than 11,000 financial institutions in more than 200 countries and territories around the world. As SWIFT is the most commonly used messaging standard for cross-border payments, SWIFT captures a meaningful amount of correspondent banking activity and the data deliver a reasonable assessment of the trends in payment traffic between jurisdictions.

However, the following factors should be underlined:

- Financial institutions have multiple means of exchanging information about their financial transactions. For instance, transfers between the offices of the same bank or banking group in different countries may use other messaging systems specific to the bank or banking group. Therefore, SWIFT statistics on financial flows do not represent complete market or industry statistics.
- For confidentiality reasons, underlying value data for corridors with fewer than four transactions were not included in the data set provided by SWIFT. However, this restriction, which only applies at the corridor level for the data of that corridor, mainly impacts the availability of the cumulative value of transactions (when there are fewer than four transactions), not the information whether a corridor is active or not. Therefore, an active corridor is a corridor with at least one transaction in either direction (for the relevant period, currency or message type).

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[13] Transfers related to an underlying customer credit transfer that was used using the cover method should use the MT 202 COV message type, which were not included in the data set to avoid double counting with MT 103, given that an MT 103 is sent directly to the financial institution of the final recipient of funds when the cover method is used.

[14] Unidirectional means that country pair A to B, and country pair B to A are differentiated.

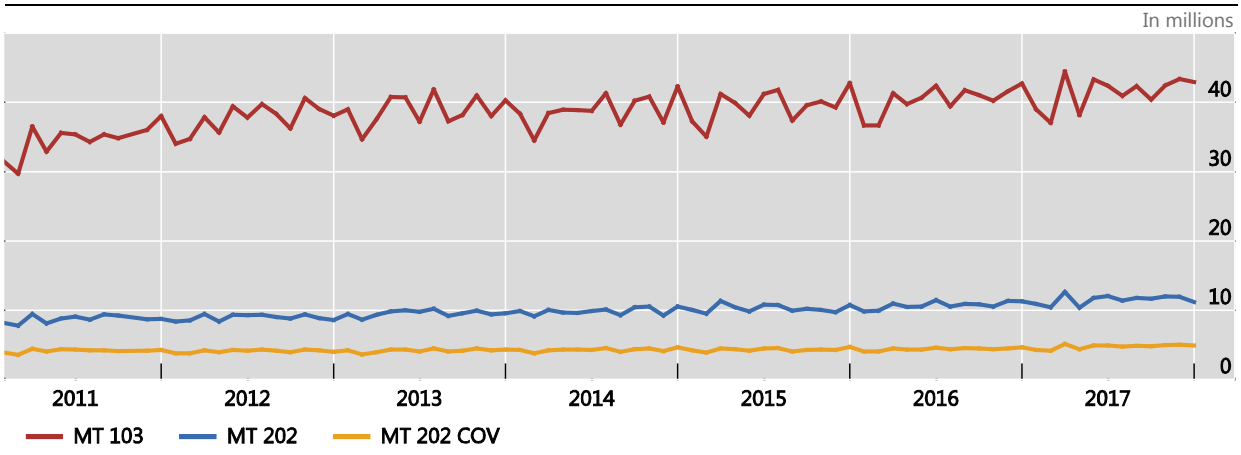
– The nominal values of the transfers have been converted to USD using daily exchange rates. This means that changes in the value may partially reflect changes in the exchange rate.

– The data do not differentiate payments cleared via correspondent banking arrangements from those sent via transnational financial market infrastructures, such as TARGET2 in Europe.

– While a payment message generally reflects the existence of an account relationship between the banks sending and receiving the message for correspondent banking transactions using the serial method,[15] this is not the case when the cover method is used. In the cover method, a bank exchanges MT 103 with banks with which it has no account relationships, and therefore a count of "correspondents" based on the analysis of messages may be higher than when measured by the number of accounts. However, the use of the cover method, evidenced by the number of MT 202 COV messages (**Graph 1)**, appears stable over the period, at least at the global level.

Monthly transaction volume by message type

In millions Graph 1



Sources: SWIFT BI Watch; National Bank of Belgium.

1.2 New methodology

The new methodology is used in the main body of this report (unless stated otherwise). This methodology relies on the analysis of the same payment messages as the previous methodology, and therefore the description of the characteristics and limitations provided above fully applies.

However, aggregation and anonymisation take place earlier in the process, which reduces the possibility of multiple counting of relationships. For instance, in the previous methodology, for

[15] As explained in the CPMI report of July 2016, in the serial method, "the payment information and the settlement instruction travel together in the MT 103 message and there exists a direct account relationship between each connected pair of banks in the payment chain" (when not considering the use of payment systems), whereas "the cover method decouples the settlement from the payment information. The MT 103 with the payment information is sent directly through the SWIFT network from the originating bank to the receiving bank, whereas the settlement instruction (the cover payment) is sent via intermediary banks through the path of direct correspondent banking relationships." (CPMI, Correspondent Banking, p. 34).

the monthly data on the count of correspondents, the data was counting separately the number of banks for MT 103 messages , and for MT 202 messages. In addition, both counterparties were included in the count of banks for sent and received messages, which means that each bank was counted multiple times. As a result, a bank that was sending and receiving both MT 103 and MT 202 in a given month, in a given corridor (e.g. EUR transactions between Germany and Afghanistan) was counted four times, and the number of relationships active in a corridor was potentially inflated by a factor 4. The new methodology addresses both issues. The number of correspondents in the old methodology was also counted separately for different currencies, so for data combining different currencies, the multiplication effect could also be larger, and this is addressed as well in the new methodology.

While in general these higher numbers should not necessarily impact trends, the old methodology involves a risk of a distortion if some banks are not always active in the four dimensions that were measured.[16]

Other corrections include fully implementing an unidirectional approach to determine if a corridor between two countries is active (i.e., to analyse separately the corridor Austria-Belgium from the corridor Belgium-Austria), the correction of problems that had affected the extraction of the data for some messages for the years 2011 and 2012[17], and reducing the impact of the masking of the number of correspondents for corridors with less than four correspondents described in the previous section. Annex 1 quantifies the impact of these revisions by comparing what regional changes in the number of banks abroad receiving messages from a given country would have been for the 2011-2016 period compared to the old methodology in the report of July 2017. For all regions, decreases over 2011-2016 are larger than previously assessed, with the largest impact for the Caribbean (decrease by 26.7% instead of 19.8%, i.e. revision of -6.9 percentage points). The other regions most affected by the revisions are Western Africa (-4 points at -8%), Central Asia (-3 points at -16.3%) South America (-2.7 points at -25%), North America and Western Europe (both -2.6 points at -6.6% and 13.2% respectively). For other regions, revisions are between -0.7 point and -2.2 points.

1.3 Alternative methodology

As noted in section 3.1, a bank using the cover method may send an MT 103 message directly to the beneficiary bank, with which it does not have an account relationship. Therefore, the methodologies described in the two previous sections, which rely on the count of payment messages, could overestimate the number of account relationships. If the use of the cover method

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[16] For instance, in a given corridor such as EUR transactions between two countries, a bank which, in January, sent and received MT 103s and received MT 202s but did not send any MT 202, will be counted only three times that month. If this bank loses a correspondent banking relationship in February and is not active anymore in that corridor, this will reduce the count by three. If there were 10 banks in that corridor, and the nine other banks sent and received both categories of messages in both months, the old methodology will measure a reduction by 8.3% (change from 39 to 36) whereas the new methodology will correctly measure a reduction by 10% (change from 10 to 9). If banks that lose correspondent banking relationships are on average less active than others. the multiple counting in the old methodology will tend to understate the reduction in the number of relationships. The CBCG survey showed indeed that small and medium-size banks in the survey sample had a larger termination rate than large banks. Moreover, these banks sent and received appreciably fewer messages than large size banks. (sections 1.1 and 2.2 of the FSB Correspondent Banking Data Report of July 2017).

[17] Corrections of 2011-2012 data are included in the graphs and tables showing the old methodology, except when stated otherwise.

varies for a given jurisdiction, this may distort the computation of changes in the number of correspondent banking relationships. CPMI reported for instance in 2015 that some intermediary banks were considering serial MT 103 to be safer for screening purposes,[18] although CPMI, after a careful review of the topic, made clear that both methods, i.e. the serial MT 103 and the cover MT 202 COV methods, can be used in full compliance with AML/CFT as well as relevant regulatory requirements and that it was for banks to decide individually which payment method best meets their own and their clients' needs.[19]

To address this possible distortion, the FSB Correspondent Banking Coordination Group asked SWIFT to explore an alternative methodology, relying on the analysis of account statement messages:

- MT 940 Customer statement messages are mainly messages sent by an account servicing institution (correspondent bank) to a financial institution account owner (respondent bank) to transmit detailed information about all entries booked to the account.[20]
- MT 950 Statement messages are sent by an account servicing institution to an account owner, and are used to transmit detailed information about all entries, whether or not caused by a SWIFT message, booked to the account. SWIFT usage rules recommend that statements be sent daily, that is, at the end of each business day, when movement in the account has occurred. If no movement has occurred, that is, no entries have been posted, it is recommended that the statement frequency should be monthly, and that the maximum interval between statements should not exceed one year.[21]

However, this methodology also has drawbacks: SWIFT notes that the use of MT 940 and MT 950 messages has increased over time, essentially driven by a growing demand for transparency and liquidity management, for instance resulting from BCBS standards on intraday liquidity management, which started being implemented in the period analysed in the present report.[22] This is probably why this methodology shows an increase in the number of relationships between senders and receivers of such statements, which is inconsistent with the results of the other methodology, and also of the FSB CBCG survey[23] and other sources[24].

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18 CPMI, Consultative report, Correspondent Banking, October 2015, https://www.bis.org/cpmi/publ/d136.pdf, p. 28

19 CPMI, Correspondent Banking, July 2016, https://www.bis.org/cpmi/publ/d147.pdf, p. 35-38.

20 These messages may also be sent to a concentrating institution which has been authorised by the account owner to receive these messages. They may also be sent to non-financial institution account owners. Source: https://www2.swift.com/uhbonline/books/public/en_uk/us9m_20170720/index.htm?subpage=ad.htm

21 https://www2.swift.com/uhbonline/books/public/en_uk/us9m_20170720/index.htm?subpage=ad.htm

22 Basel Committee on Banking Supevision, Monitoring tools for intraday liquidity management, April 2013, https://www.bis.org/publ/bcbs248.pdf. The monitoring tools include the reporting by banks of their three largest daily negative net cumulative positions on their settlement or correspondent account(s) in the reporting period and the daily average of the negative net cumulative position over the period (paragraph 17). The reporting of the monitoring tools was expected to commence on a monthly basis from 1 January 2015, with possible phasing in preferably no later than 1 January 2017 (see paragraphs 53 and 55).

23 The CBCG survey showed, based on a limited sample of 92 banks that provided detailed data for the entire period from 2011 to June 2016 (out of 345 banks participating in the survey) that the decline in the number of accounts is of -7.5% across all currencies and -6.1% for the number or relationships. During this same period, the number of accounts decreased by 19.6% for USD, 28.3% for EUR and increased by 7.6% for GBP.

24 For instance, Accuity measured a 25% reduction in global correspondent banking relationships between 2009 and 2016.

This bias may not be uniform across countries. A majority of countries and regions still experienced a decline in relationships in 2017 under this methodology, but a few regions such as Northern America, Western Europe and Eastern Asia see an increase.

Results of this alternative methodology are nevertheless presented in the annexes, as they give a complementary perspective. For instance, this methodology shows less significant jumps for corridors with little activity, which may record no payment message over certain periods, even when an account exists.

Scale of the withdrawal from correspondent banking

1.4 Global trend across all currencies

SWIFT data (**Graph 2**) shows that the decline in the number of active corridors and active correspondents continued in 2017, based on monthly data. As noted above, an active corridor is defined as a country pair that processed at least one transaction.[25]

There is a clear downward trend in both the number of active corridors and the number of active correspondents per month from January 2011 to end-2017. Over the whole period, there was an overall reduction of 7.3% in the number of active corridors (from 10,818 to 10,027); however, there is statistical evidence suggesting that since March 2014 the decline in the number of active corridors increased significantly, from a rate of 0.4% (January 2011 to March 2014) to a rate of 7.1% (March 2014 to December 2017).[26] The annual rate of decline also increased from 1.7% in 2016 to 2.4% in 2017.

In addition, over the whole period the number of active correspondents declined by 15.5% (from 127,254 to 107,492). In July 2012, there was a significant change in the evolution of active correspondents. From January 2011 to July 2012 the number of active correspondents increased by 0.2%, against a decline by 16% from July 2012 to the end of the analysed period. The annual rate of decline also increased from 3.9% in 2016 to 4.1% in 2017.

The old methodology also shows an acceleration in the decline in 2017, but with a lower reduction of the number of correspondents: 9% since January 2011, and 2.6% in 2017. As explained in section 3.2, and in addition to revisions to 2011 and 2012 data, this is probably because the multiple counting issue may have had a smaller effect on the banks that are less active: as a result, those less active banks, which are probably those more likely to lose correspondent banking relationships, received in a way a lower weighting in the calculation of the decline in the old methodology. The difference is more limited for the number of corridors although the reduction is slightly larger (8.9% in the old methodology).

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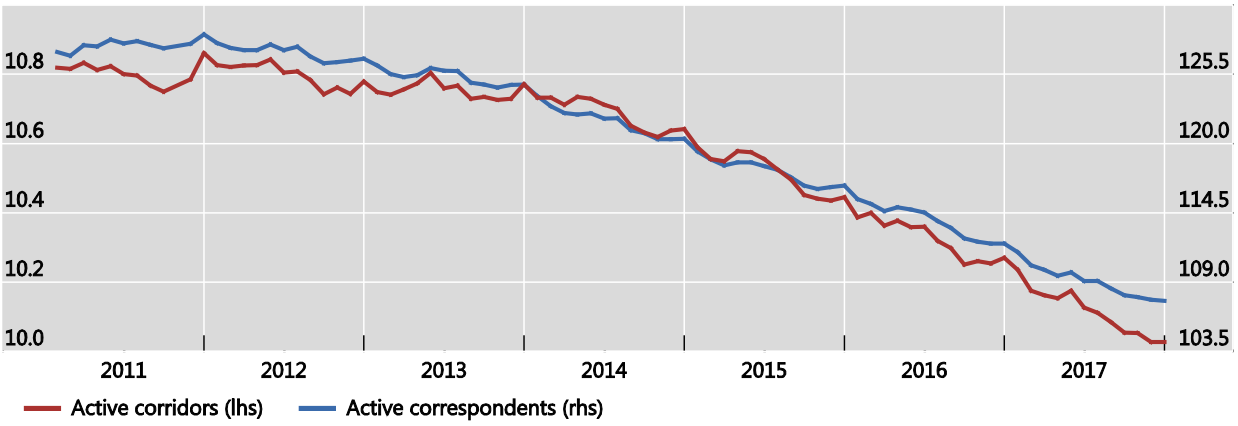
[25] The count of active correspondents measures, corridor-by-corridor, the number of banks that have sent or received messages across all currencies. As a result, correspondents active in more than one corridor are counted several times. This explains the count of some 107,000 active correspondents in December 2017 in Graph 4, whereas there are approximately 11,000 financial institutions connected to SWIFT The data set is at BIC8 level (branch/subsidiary level depending on the legal set-up). The new methodology reduces the multiplication effect as explained in section 2.2: the old methodology shows some 465,000 active correspondents in December 2017 (see graph 2A in Annex 1) as activity was counted separately by currencies and message types.

[26] Time series were tested for structural change using linear least squares regressions with multiple breakpoints. Breakpoints were estimated using the the Bai-Perron technique with a confidence level of 95%.

Number of active corridors per month and number of active correspondents

Three month moving averages, in thousands — Graph 2



Note: An active corridor is defined as a country pair that processed at least one transaction. The count of active correspondents measures, corridor by corridor, the number of banks that have sent or received messages. As a result, correspondents present in more than one corridor are counted several times. Moreover, the data set is at BIC8 level (branch/subsidiary level depending on the legal set-up). There are approximately 11,000 financial institutions connected to SWIFT.

Sources: SWIFT BI Watch; National Bank of Belgium.

As explained in the *FSB Correspondent Banking Data Report* of July 2017, the reduction of the count of active correspondents measured by the data can mean that:

- there are fewer banks in that region that send or receive messages, for instance as a result of:
  - a reduction in the number of banks in the region (mergers between banks, loss of banking licence, …); or
  - banks migrating to a messaging system other than SWIFT (for instance an intragroup messaging system);
- banks in that region send messages to, or receive messages from, fewer countries (i.e., they are active in fewer corridors). This happens for instance:
  - if a bank that had a correspondent bank X in country A and two correspondent banks Y and Z in country B loses the relationship with bank X;
  - If a bank that was using the cover payment method moves to the serial payment method: instead of sending MT 103 messages directly to the banks of the final recipients of wire transfers (presumably in multiple countries), it only sends them to the banks with which it has an account (likely in a lesser number of countries).

1.5 Trends by currency

The number of active correspondents, measured as the count of foreign counterparties receiving messages for each sending country, has declined over the period for the three currencies most frequently used for international payments, USD, EUR and GBP, as well as for "Other" currencies taken together (**Graph 3**). While the rate of the decline of the number of

correspondents active in GBP (13.4%) is similar to the overall trend of 15.5% across all currencies over 2011–2017, the decline is more acute for USD (23%) and EUR (20.8%). This is a slight increase compared to the old methodology, which shows for the same period declines of 12.7% for GBP, 22.8% for USD and 20.1% for EUR (see also Graph 3A in Annex 1). As noted in the Correspondent Banking Data Report of July 2017, the decline for USD and EUR does not further affect the evolution measured across all currencies because these two currencies only represent about a third of the number of correspondent accounts. Nevertheless, as the two currencies represent the vast majority of the value of international wire transfers (76.3% as of December 2017, see **Table 1**), a reduction of these relationships may be more acutely felt.

The annual rate of the decline increased in 2017 for the three currencies, reaching 7% for USD, 6.1% for EUR and 5.8% for GBP (against respectively 5.1%, 3.7% and 1.7% in 2016). These values are almost identical under the old methodology.[27]

The change for "Other" currencies in Graph 3 is to be construed with caution, as all other currencies are treated in this graph as a single currency. The decline in the number of correspondents offering any currency other than USD, EUR and GBP is of 26.6% over the period, but with a strong decline in 2012. It should be noted the sum of the number of relationships for USD, EUR, GBP and other currencies treated as a single currency is around 400,000 in 2011 and 310,000 in 2017, with a decline of 22.3% between those two dates. A possibility, which could not be checked with available data, is that this higher rate of decline compared to Graph 2 may be due to the fact that banks offering services in multiple currencies, which are counted multiple times in the approach of Graph 3, have reduced their services more than banks that offer their services in fewer currencies.

Share of the three main currencies in the value of transfers in SWIFT messages (MT 103 and MT 202 excluding MT 202COV, December 2017)

Table 1

Currency	Proportion of each currency in the total value of transfers operated through SWIFT
USD	50.5%
EUR	27.1%
GBP	4.6%
Other	17.8%

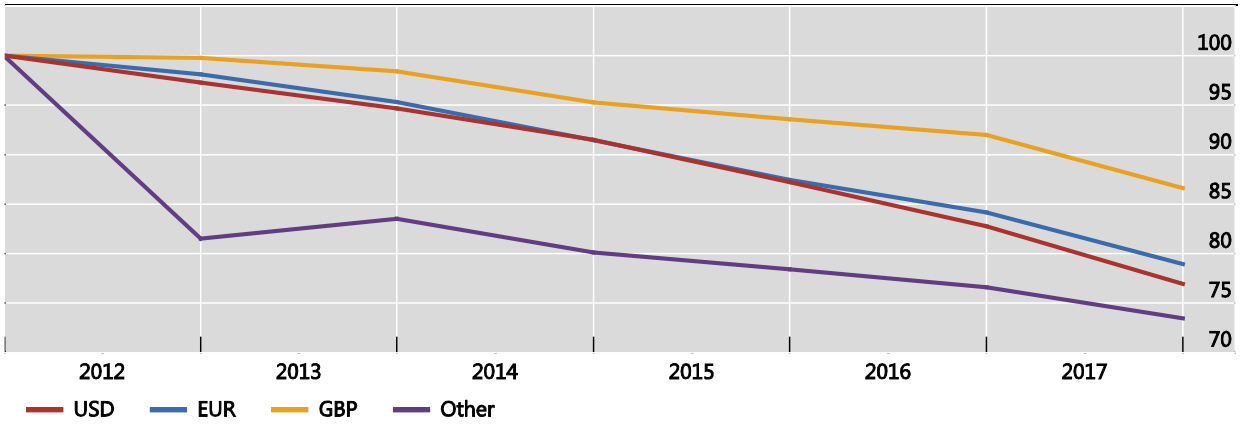
Note: As in the rest of the report, only cross-border payments are taken into account here, hence different results from the SWIFT RMB tracker.
Source: SWIFT BI Watch, National Bank of Belgium.

[27] Under the old methodology, the decline in 2017 is slightly higher for USD (7.7%) and EUR (6.4%).

Evolution of the number of active correspondents by currency of the transaction[1]

Graph 3

Jan 2011 = 100



[1] Correspondents are counted multiple times across corridors, but not across message types and months.

Sources: SWIFT BI Watch; National Bank of Belgium; Bank of Mexico..

1.6 Trends by region

In 2017, all continents or sub-continents shown in **Graph 4** and **Table 2** have seen a decline in the number of active correspondents, measured as the count of foreign counterparties receiving messages for each sending country. The rates of decline range between 5.2% and 6.7%, except Northern America (2.9%). The yearly rate of decline increased compared to 2016 for all except Africa, which, however, had the largest rate of decline that year. The Americas (excluding Northern America) and Oceania experienced the largest decreases in 2017.

Over the entire period from January 2011 to December 2017, the decline was the smallest in Northern America (9.3%) and the largest in the rest of the Americas (27.6%), with all other continents or sub-continents seeing declines between 15.5% and 19%.

Trends are broadly similar under the old methodology (Graph 4A and Table 2A in Annex 1), but the new methodology shows higher declines for Africa and the Americas (excluding Northern America), and to a lesser extent in Oceania and Asia. On the contrary, the new methodology shows smaller declines in the number of active correspondents for Northern America and Europe (both Eastern Europe and the rest of Europe).

Changes in the number of active correspondents by continent (based on the flow of MT 103 and MT 202 excluding MT 202COV)

Table 2

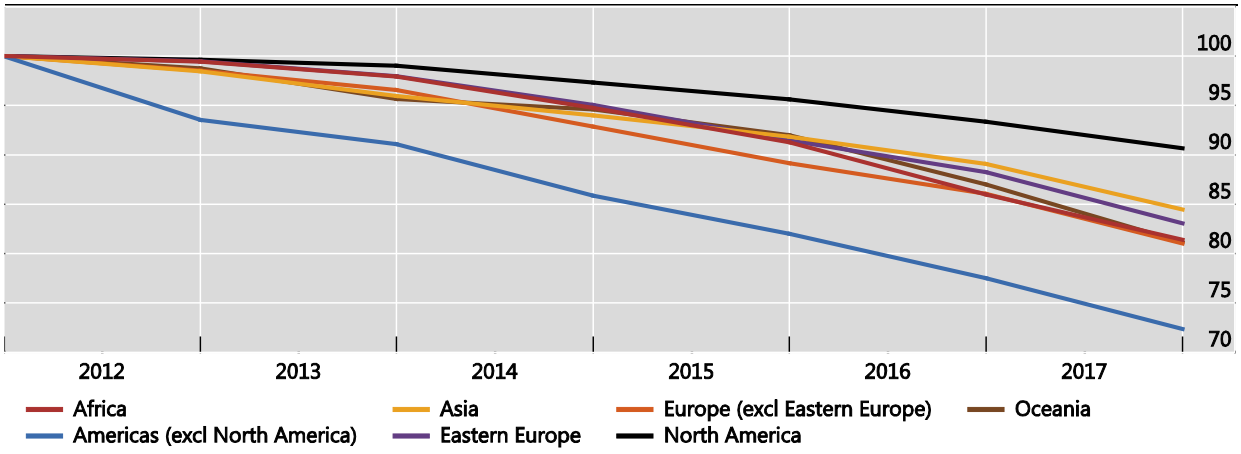
	Africa	Americas (excl. Northern America)	Asia	Eastern Europe	Europe (excl. Eastern Europe)	Northern America	Oceania
2012	-0.5%	-6.4%	-1.6%	-0.5%	-1.4%	-0.4%	-1.2%
2013	-1.5%	-2.7%	-2.5%	-1.5%	-2.0%	-0.6%	-3.2%
2014	-3.2%	-5.7%	-2.0%	-3.0%	-3.8%	-1.8%	-1.1%
2015	-3.7%	-4.5%	-2.3%	-3.7%	-4.0%	-1.7%	-2.8%
2016	-5.8%	-5.5%	-3.0%	-3.5%	-3.5%	-2.4%	-5.4%
2017	-5.4%	-6.6%	-5.2%	-5.9%	-5.8%	-2.9%	-6.7%
2011-2017	-18.6%	-27.6%	-15.5%	-16.9%	-19.0%	-9.3%	-18.9%

Source: SWIFT BI Watch, National Bank of Belgium.

Number of active correspondents in each region (count of counterparties abroad)

Graph 4

2011 = 100



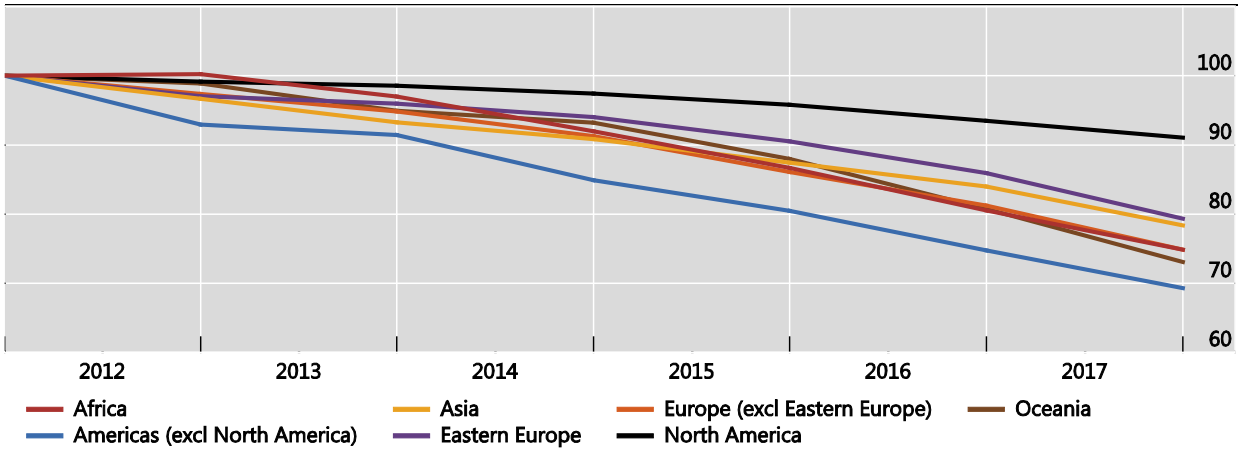
[1] Correspondents are counted multiple times across corridors, but not across message types and months.

Sources: SWIFT BI Watch; National Bank of Belgium; Bank of Mexico.

The picture is similar when looking only at USD correspondents (**Graph 5** and **Table 3**), but over the full period since 2011, declines are stronger by at least 3.1 percentage points in all sub-continents, except Northern America. The difference is the greatest for Oceania (-27% for USD relationships, i.e., a decline of 8.1 percentage points more than for relationships across all currencies in Oceania) and Africa (-25.1% instead of -18.6%). The Americas (excluding Northern America) remains the most affected sub-continent, with a reduction by 30.7% of USD relationships since 2011. In 2017, the rates of decline are between 6.7% and 9.5% for all sub-continents except Northern America, and increasing everywhere compared to 2016, except for Africa (-7.0% instead of -7.1%).

Evolution of the number of active USD correspondents by region (count of counterparties abroad)

2011 = 100 Graph 5



[1] Correspondents are counted multiple times across corridors, but not across message types and months.

Sources: SWIFT BI Watch; National Bank of Belgium; Bank of Mexico.

Changes in the number of active USD correspondents by continent (based on the flow of MT 103 and MT 202 excluding MT 202COV)

Table 3

	Africa	Americas (excl. Northern America)	Asia	Eastern Europe	Europe (excl. Eastern Europe)	Northern America	Oceania
2012	0.2%	-7.0%	-3.3%	-3.0%	-2.7%	-0.9%	-1.1%
2013	-3.2%	-1.7%	-3.5%	-1.1%	-2.6%	-0.6%	-4.0%
2014	-5.2%	-7.1%	-2.6%	-2.1%	-3.8%	-1.2%	-1.8%
2015	-5.8%	-5.2%	-3.7%	-3.7%	-5.7%	-1.6%	-5.6%
2016	-7.1%	-7.1%	-4.0%	-5.1%	-5.6%	-2.4%	-8.2%
2017	-7.0%	-7.3%	-6.7%	-7.7%	-7.8%	-2.6%	-9.5%
2011-2017	-25.1%	-30.7%	-21.6%	-20.7%	-25.1%	-9.0%	-27.0%

Source: SWIFT BI Watch, National Bank of Belgium.

Terminations of correspondent banking relationships can result in a reduction in the number of active corridors, i.e., of direct relationships between two countries, although payments are likely to continue flowing through intermediary countries. **Graph 6** and **Graph 7** show the change in the average number of counterparty countries by sub-continent, that is, the average number of corridors for each jurisdiction within a sub-continent.

Over the period from January 2011 to December 2017, the average number of active counterparty countries declined in all sub-continents, although the rates varied significantly. Oceania is the most affected sub-continent in terms of decline (-25.4%). This sub-continent has also the second lowest average number of counterparty countries (25.4), after the Americas (excluding Northern America), which has an average of 15.4 active counterparty countries in December 2017. Europe (excluding Eastern Europe) has the second largest rate of decline over the period (- 9.9%) but still has the greatest average number of counterparty countries (92). As discussed in the FSB Correspondent Banking Data Report of July 2017, and the CPMI report on Correspondent banking of July 2016, the decline in Europe can in part be attributed to the introduction of the Single European Payment Area (SEPA).

Changes in the average number of counterparty countries by sub-continent (based on the flow of MT 103 and MT 202 excluding MT 202COV)

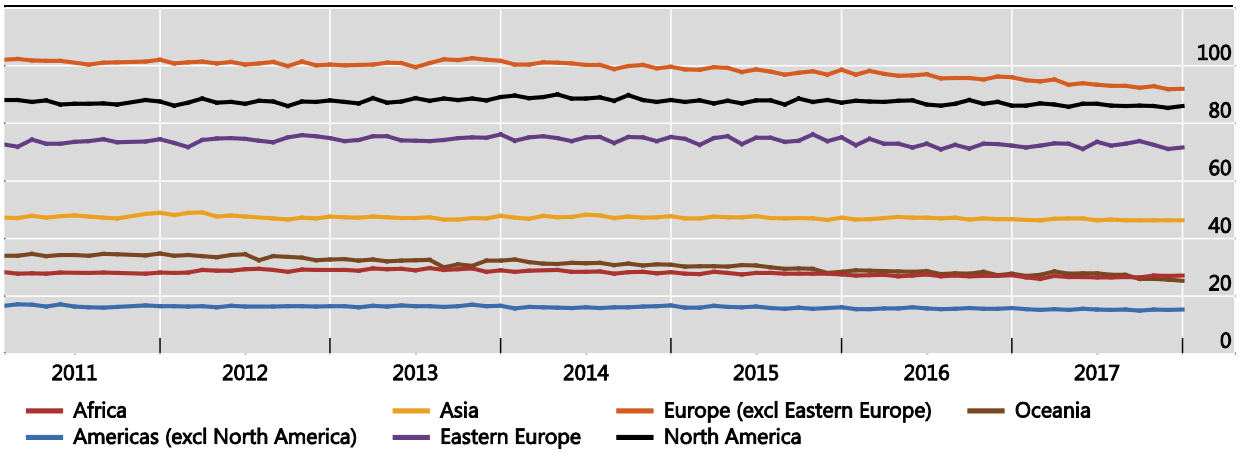
Table 4

	Africa	Americas (excl. Northern America)	Asia	Eastern Europe	Europe (excl. Eastern Europe)	Northern America	Oceania
Change 2011-2017	-4.1%	-7.7%	-2.2%	-1.4%	-9.9%	-2.5%	-25.4%
Average number of counterparty countries, December 2017	27.1	15.4	46.3	71.7	92.0	86.0	25.4

Source: SWIFT BI Watch, National Bank of Belgium.

Average number of counterparty countries by sub-continent

Graph 6

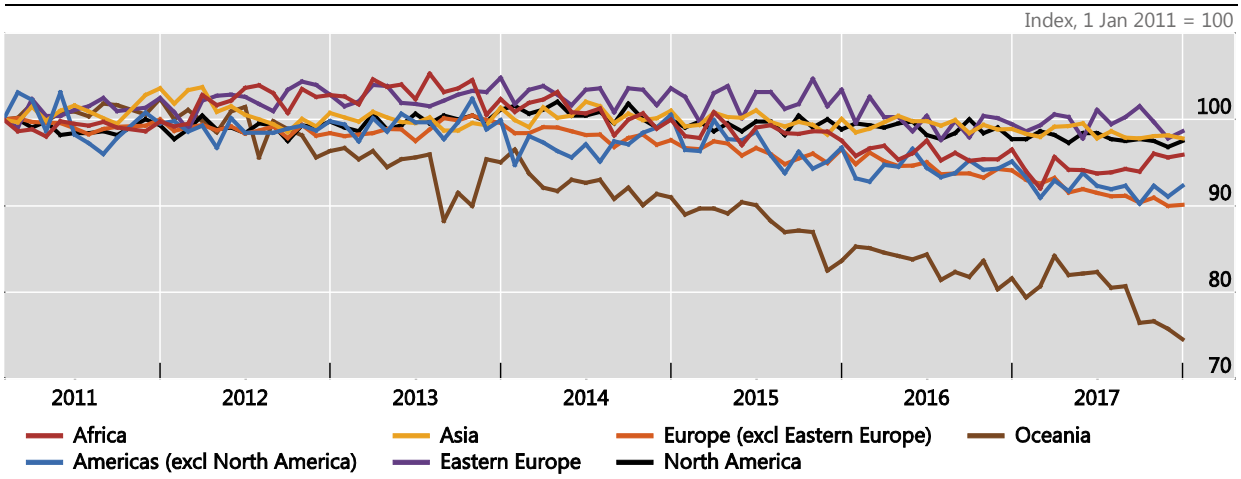


Sources: SWIFT BI Watch; National Bank of Belgium.

Average number of counterparty countries by region (Index)

Graph 7

2011=100



Source: SWIFT BI Watch; National Bank of Belgium; Bank of Mexico.

Average number of direct counterparty countries for countries in the following regions (based on the flow of MT 103 and MT 202 excluding MT 202COV)

Table 5

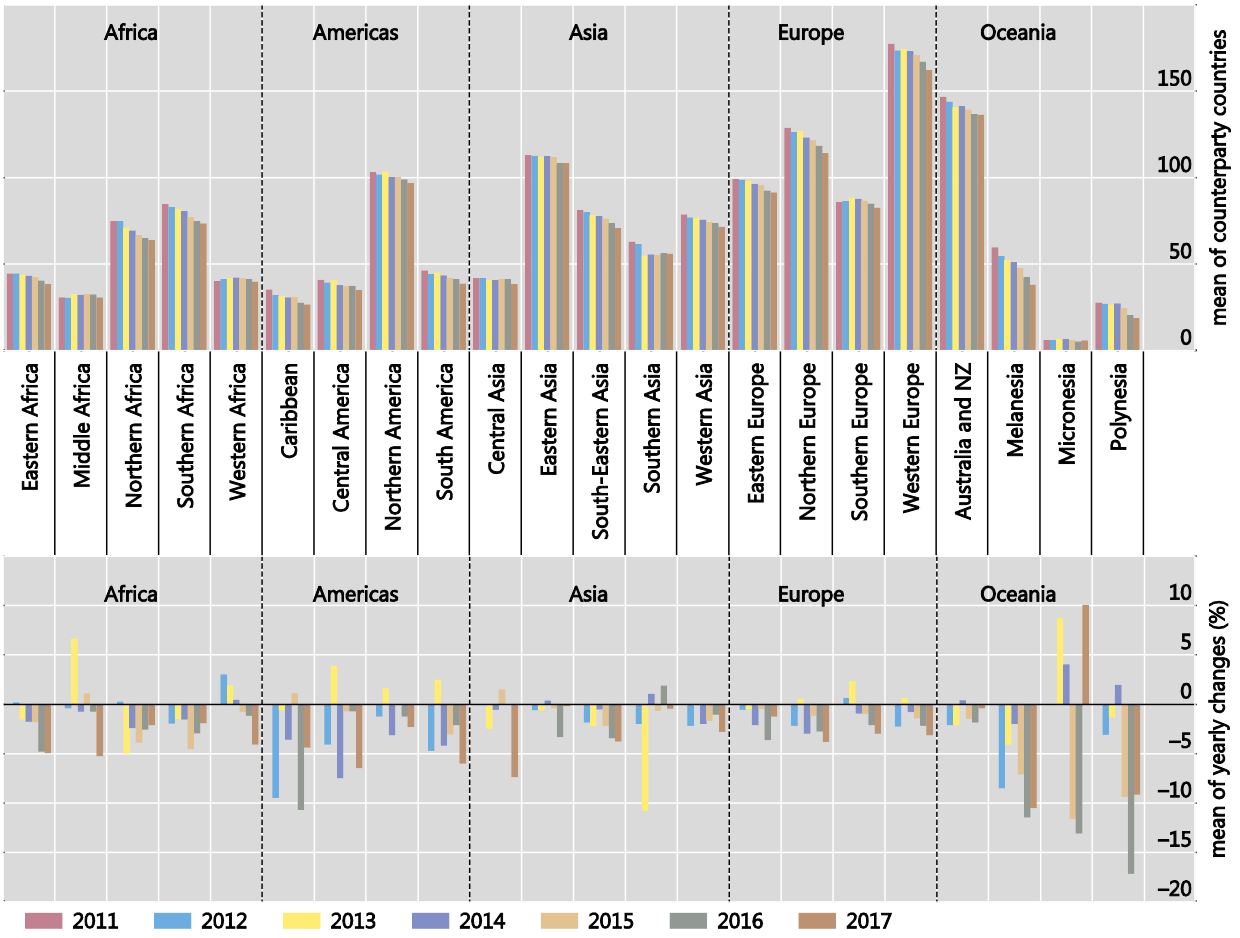
	2011	2012	2013	2014	2015	2016	2017	2011-2017
Melanesia	59.2	54.2	52.0	51.0	47.4	42.0	37.6	-36.5%
Polynesia	27.5	26.7	26.3	26.8	24.3	20.2	18.3	-33.3%
Caribbean	34.9	31.6	31.4	30.3	30.7	27.4	26.2	-24.9%
South America	45.9	43.8	44.9	43.0	41.7	40.9	38.4	-16.3%
Central America	40.6	39.0	40.5	37.5	37.3	37.0	34.6	-14.8%
Northern Africa	74.3	74.5	70.8	69.2	66.5	64.8	63.5	-14.6%
Eastern Africa	44.2	44.3	43.6	42.8	42.1	40.1	38.2	-13.7%
Southern Africa	84.4	82.8	81.6	80.4	76.8	74.6	73.2	-13.3%
South-Eastern Asia	81.1	79.6	77.9	77.5	75.9	73.4	70.6	-12.9%
Northern Europe	128.6	125.9	126.6	122.9	121.5	118.2	113.8	-11.5%
Southern Asia	62.4	61.2	54.7	55.2	54.9	55.9	55.7	-10.9%
Western Asia	78.4	76.8	76.8	75.3	74.1	73.3	71.3	-9.1%
Central Asia	41.6	41.6	40.6	40.4	41.0	41.0	38.0	-8.7%
Western Europe	177.0	173.1	174.1	172.9	170.6	166.9	161.8	-8.6%
Eastern Europe	98.9	98.4	98.0	96.0	95.6	92.2	91.1	-7.9%
Australia and NZ	146.5	143.5	140.5	141.0	139.0	136.5	136.0	-7.2%
Northern America	102.8	101.6	103.2	100.0	100.0	98.8	96.6	-6.0%
Eastern Asia	112.9	112.3	111.6	112.0	111.6	108.0	107.9	-4.4%
Micronesia	5.8	5.8	6.3	6.5	5.8	5.0	5.5	-4.3%
Southern Europe	85.5	86.1	88.1	87.3	86.5	84.7	82.2	-3.9%
Western Africa	39.8	40.9	41.7	41.9	41.6	41.1	39.5	-0.7%
Middle Africa	30.3	30.2	32.2	32.0	32.3	32.1	30.4	0.4%

Source: SWIFT BI Watch, National Bank of Belgium. Based on the flow of MT 103 and MT 202 excluding MT 202COV.

At a more granular level of 22 regions, as defined the United Nations Statistics Division, all regions except Middle Africa have seen a decrease in their average number of counterparty countries since 2011 and all have seen a decrease as well in 2017 except Micronesia (**Table 5** and **Graph 8**). The most pronounced decreases between 2011 and 2017, over 24%, were for Melanesia, Polynesia and the Caribbean. Eight other regions saw decreases between 10.9% and 16.3%: South and Central America, Northern, Eastern and Southern Africa, Southern and South-Eastern Asia, and Northern Europe. In 2017, countries and territories in Micronesia have on average 5.5 counterparty countries. Countries and territories in Polynesia, Middle Africa and the Caribbean have on average between 18 and 35 counterparty countries, while those in Central America, Melanesia, Central Asia, Eastern Africa, South America and Western Africa have between 34 and 40. Countries in other regions have more than 55 counterparty countries on average.

Average number of counterparty countries by region

Yearly average number — Graph 8



Source: SWIFT BI Watch, National Bank of Belgium.

Graph 9 and **Graph 10** show changes for 5 continents and 22 regions defined according to the United Nations Statistics Division, for all currencies. Similar graphs for USD, EUR and GBP can be found in annex 1. Unlike Graph 3a of the CPMI report of July 2016 ("Active

correspondents across all corridors per region"), the graphs are based on yearly, and not monthly data. The data set used removes double counting of correspondents over months, message types and currencies and therefore provides a more accurate picture of the trendover the last 6 years. Compared to the 2017 report, Graph 9 benefits from the focus on counterparties abroad, and from including a more exact count of the number of correspondents for corridors with less than four correspondents.[28]

Graph 9 shows a count of the number of banks abroad (including other countries in the same region) that receive messages from banks located in the stated region, totalled across all countries in the stated region. This methodology means for instance that a bank in Europe receiving messages from two countries in the Caribbean is counted twice in the count of correspondents of the Caribbean). This is therefore an analysis at the regional level of a proxy of the number of foreign banks having correspondent banking relationships with a given country. However, in addition to correspondent banks that receive payment instructions from their respondents, and respondent banks being forwarded payment instructions by their correspondents, this also includes, in the cover method, the receiving bank being informed that one of its customers is receiving a payment. In the latter case there is no correspondent banking relationship.

Graph 9 shows that all 22 regions except Micronesia[29] have seen a reduction in the average number of active correspondents both in 2016 and 2017, across all currencies. A majority (16) have seen an increase in the rate of the decline in 2017. As shown in Table 6, the regions with the largest cumulative declines since 2011 are Melanesia, Polynesia, the Caribbean, South America and Northern Africa, with declines between 28% and 40.6%.

[28] For the regional and country data on the number of banks abroad receiving messages from a given country, SWIFT provided data at country level instead of corridor level. This limits the issue of the masking of data for corridors with less than four correspondents (which were approximated as having two correspondents in the calculation), as with this approach there are only 10 occcurences in four territories where the number of banks is below four.

[29] Micronesia saw no changes in 2017. according to the United Nations Statistics Division includes Guam, Kiribati, Marshall Islands, the Federated States of Micronesia, Nauru, Northern Mariana Islands, Palau and the United States Minor Outlying Islands. This is the region with by far the smallest number of active correspondents (less than 20), which explains that any change results in large percentages.

Changes in the number of active correspondents by regions (counterparties abroad receiving MT 103 and MT 202, excluding MT 202COV), sorted by the magnitude of the decline over 2011-2017

In percentage, except last column

Table 6

	2012	2013	2014	2015	2016	2017	2011-2017	number of CBRs 2017
Melanesia	-2.9	-6.3	-1.7	-10.2	-9.9	-17.9	-40.6	896
Polynesia	-1.7	-4.6	-1.3	-2.7	-18.9	-13.6	-37.0	400
Caribbean	-11.3	-3.1	-3.8	-3.8	-7.8	-6.4	-31.4	2,458
South America	-5.7	-3.2	-8.3	-6.0	-4.7	-7.1	-30.3	3,279
Northern Africa	-0.3	-5.3	-6.7	-7.5	-8.3	-4.7	-28.8	2,539
Central Asia	-1.8	0.3	-3.7	-6.0	-6.1	-7.1	-22.2	907
Western Asia	-2.7	-3.5	-3.2	-4.2	-4.4	-5.9	-21.7	11,770
Northern Europe	-1.6	-2.8	-4.8	-4.3	-4.0	-6.2	-21.5	22,517
Southern Asia	-3.7	-8.2	-1.5	-1.5	-3.5	-3.9	-20.5	4,004
Eastern Africa	0.1	-1.5	-2.5	-1.3	-7.5	-7.3	-18.6	3,635
Western Europe	-1.6	-1.6	-3.4	-3.8	-3.5	-5.6	-18.0	26,430
Southern Africa	-0.3	-1.5	-2.9	-4.8	-3.7	-5.1	-17.1	3,242
Eastern Europe	-0.5	-1.5	-3.0	-3.7	-3.5	-5.9	-16.9	12,505
Southern Europe	-1.0	-1.4	-3.2	-4.1	-2.6	-5.8	-16.8	16,502
Central America	0.4	-0.8	-3.0	-2.6	-3.5	-6.2	-14.8	1,718
South-Eastern Asia	-0.8	-1.8	-2.6	-1.8	-1.7	-6.0	-13.9	9,555
Western Africa	-2.1	1.1	-1.3	-1.9	-4.0	-3.7	-11.4	2,533
Australia and NZ	-0.7	-2.1	-0.9	-0.8	-2.9	-3.7	-10.7	4,751
Northern America	-0.4	-0.6	-1.8	-1.7	-2.4	-2.9	-9.3	9,799
Eastern Asia	-0.2	-0.4	-0.5	-0.9	-2.2	-4.2	-8.2	13,317
Middle Africa	-1.0	5.4	-1.8	-2.5	-3.0	-4.8	-7.8	829
Micronesia	2.4	2.4	2.3	-4.5	-7.1	5.1	0.0	41

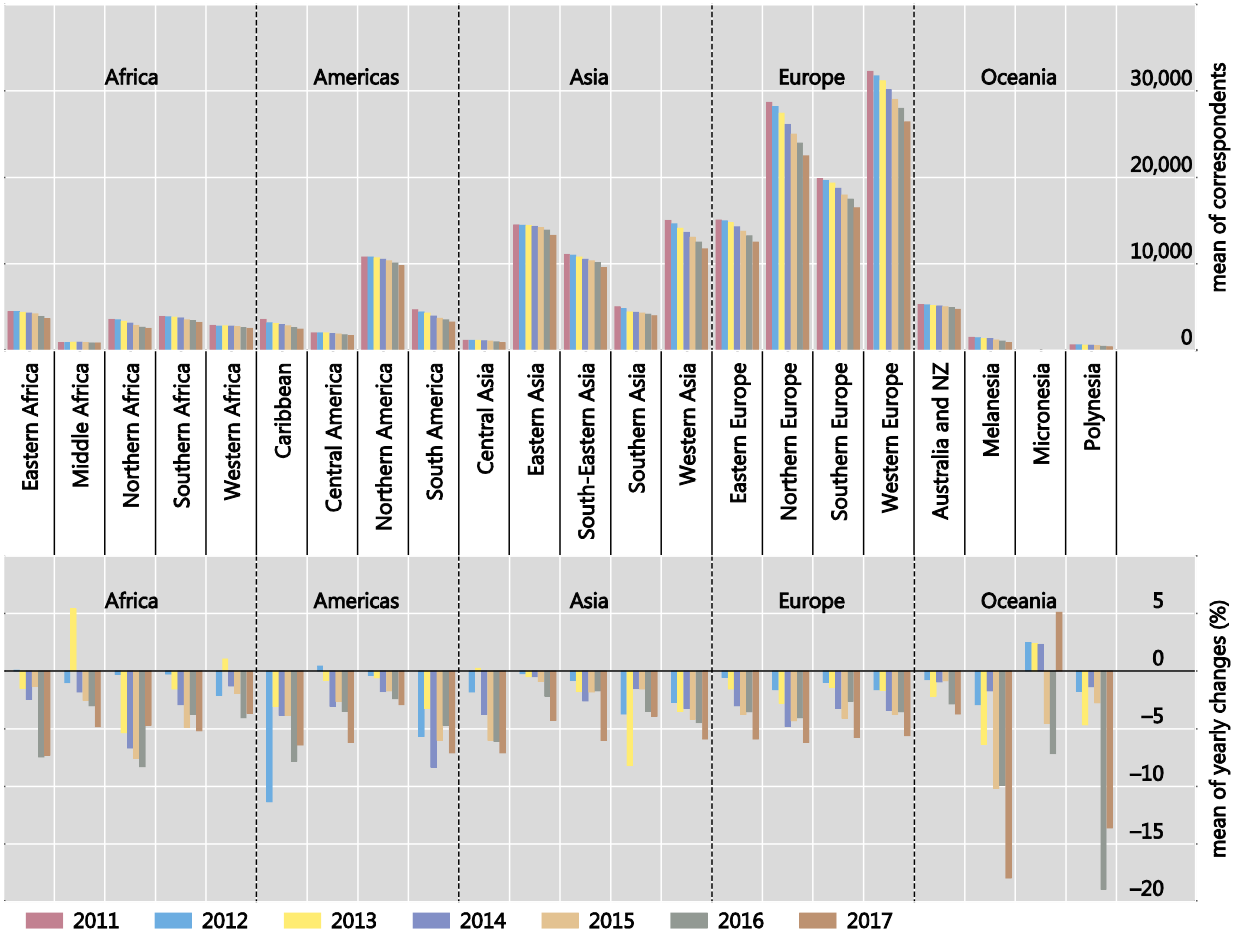
Note: Cells highlighted in red are those showing a greater rate of decline compared to the previous year's rate. Cells highlighted in green are those with an increase in the number of active correspondents compared to the previous year.

Source: SWIFT BI Watch, FSB calculations.

Active correspondents by region (counterparties abroad receiving MT 103 and MT 202 sent from countries in the region, excluding MT 202COV), all currencies, 2011-2017

Yearly average number and average of yearly change

Graph 9



Sources: SWIFT BI Watch, FSB calculations.

Graph 10 and **Table 7** show the changes in the number of correspondent banks that receive messages in the different countries in the regions listed, calculated corridor by corridor. This is therefore a different perspective compared to Graph 9. To simplify, Graph 9 looks at a proxy of the number of foreign correspondent banks that serve a country and Graph 10 at a proxy of the number of country-relationships that local banks have.[30]

From that perspective, all regions except Micronesia have seen a decline in 2017, generally at a similar or greater rate compared to 2016, except 8 regions (Northern and Western Africa, the four regions in Oceania, Caribbean, Northern Europe). Over the period from 2011 to 2017, all

[30] For instance, while Graph 9 is based on data measuring that country A is sending messages to 50 foreign banks, Graph 10 is based on data that takes into account how many local banks in country A are receiving messages, and from how many countries. If there are 10 banks in country A, and one is connected to 50 banks in country C, and the 9 others are each connected to 1 bank in country D, the count will be 10 for country A (1 in corridor A-C and 9 in corridor A-D). If country B also sends messages to 50 foreign banks and also has 10 banks, but these 10 banks are each connected to 50 banks located in 20 different countries, the count for country B will be 200 (10 times 20 corridors).

regions experienced a decline. From the perspective of the number of country-relationships that local banks have, Melanesia, Polynesia, the Caribbean, Northern Africa and South America are again among the regions with the largest decreases, but all European regions also rank among the most impacted, with decreases of more than 15%.

Changes in the number of active correspondents by regions (MT 103 and MT 202 received, excluding MT 202COV), sorted by the magnitude of the decline over 2011-2017

In percentage, except last column

Table 7

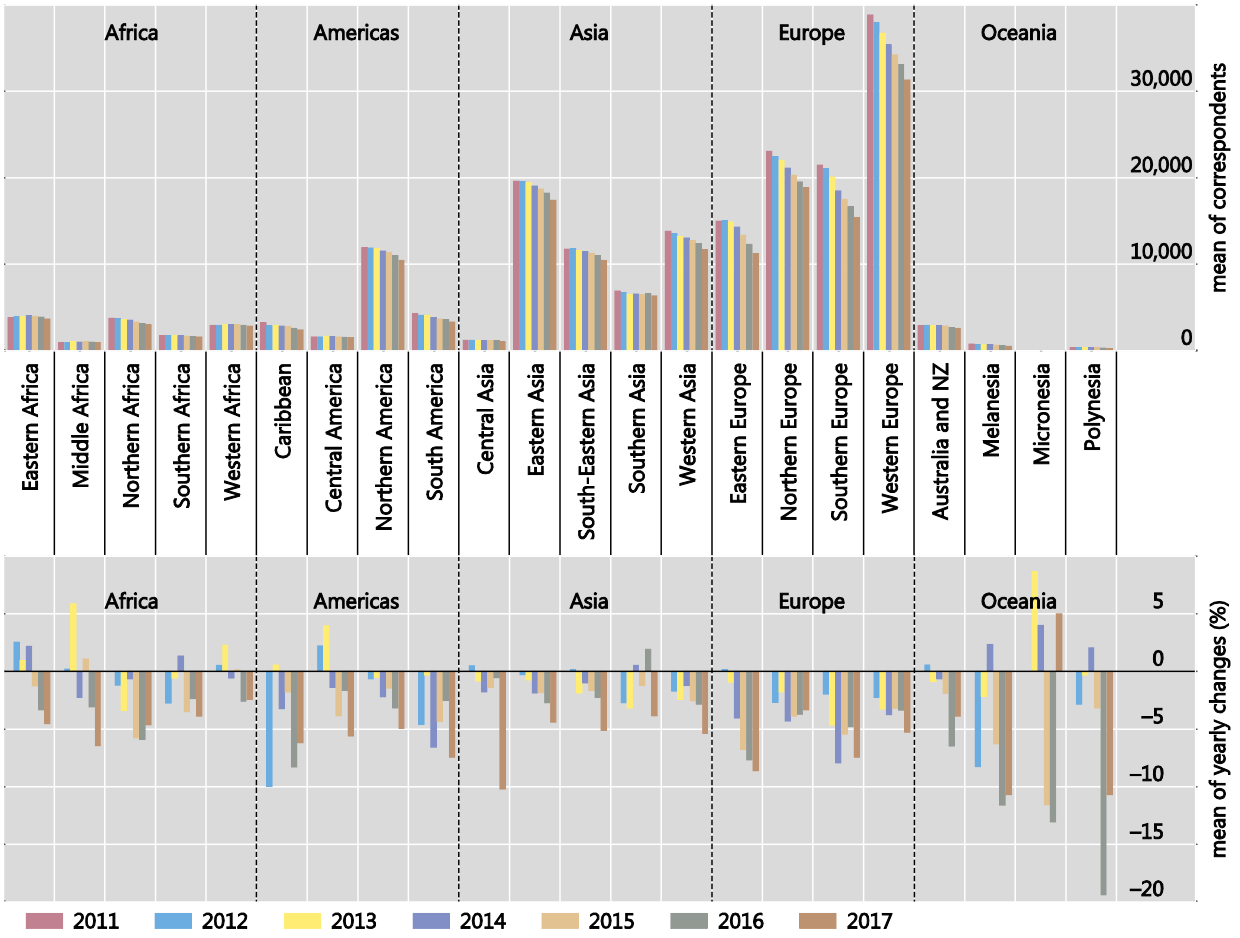
	2012	2013	2014	2015	2016	2017	2011-2017	Number of CBRs 2017
Melanesia	-8.3	-2.1	2.3	-6.3	-11.6	-10.7	-32.0	519
Polynesia	-2.8	-0.3	2.1	-3.2	-19.3	-10.7	-31.1	242
Southern Europe	-2.0	-4.6	-7.9	-5.4	-4.8	-7.4	-28.2	15,423
Caribbean	-10.0	0.5	-3.2	-1.8	-8.3	-6.2	-25.9	2,400
Eastern Europe	0.2	-0.9	-4.0	-6.8	-7.7	-8.6	-25.1	11,242
South America	-4.6	-0.3	-6.5	-4.3	-2.5	-7.4	-23.3	3,305
Northern Africa	-1.2	-3.4	-0.6	-5.7	-5.9	-4.6	-19.8	3,006
Western Europe	-2.2	-3.3	-3.8	-3.2	-3.4	-5.3	-19.3	31,336
Northern Europe	-2.7	-1.8	-4.3	-3.9	-3.7	-3.3	-18.1	18,888
Western Asia	-1.7	-2.4	-1.2	-2.5	-2.8	-5.4	-15.1	11,707
Central Asia	0.5	-0.8	-1.8	-1.4	-0.5	-10.2	-13.7	1,033
Australia and New Zealand	0.5	-0.9	-0.6	-1.9	-6.5	-3.9	-12.6	2,548
Northern America	-0.7	-0.5	-2.2	-1.5	-3.2	-4.9	-12.3	10,450
Eastern Asia	-0.3	-0.7	-1.9	-1.8	-2.7	-4.4	-11.3	17,399
Southern Africa	-2.7	-0.6	1.3	-3.5	-2.3	-3.9	-11.2	1,568
South-Eastern Asia	0.2	-1.8	-1.0	-1.6	-2.2	-5.1	-11.2	10,457
Micronesia	0.0	8.7	4.0	-11.5	-13.0	5.0	-8.7	42
Southern Asia	-2.7	-3.2	0.5	-1.2	1.9	-3.8	-8.3	6,350
Central America	2.2	4.0	-1.4	-3.8	-1.6	-5.6	-6.4	1,468
Middle Africa	0.2	5.9	-2.2	1.1	-3.1	-6.4	-4.9	918
Eastern Africa	2.5	0.9	2.2	-1.2	-3.3	-4.5	-3.6	3,680
Western Africa	0.5	2.3	-0.6	0.1	-2.6	-2.4	-2.6	2,853

Note: Cells highlighted in red are those showing a greater rate of decline compared to the previous year's rate Cells highlighted in green are those with an increase in the number of active correspondents compared to the previous year

Source: SWIFT BI Watch, National Bank of Belgium.

Active correspondents by region (received messages), all currencies, 2011-2017

Yearly average number and average of yearly change — Graph 10



Sources: SWIFT BI Watch, National Bank of Belgium.

Table 8 shows the changes in the number of active correspondents, based on messages sent, for the three major currencies (Graphs illustrating these numbers can also be found in the annex). Over the entire period, all 22 regions have seen a decline across all currencies, except Eastern Europe for GBP and Micronesia for EUR and GBP. In 2016 and 2017, year-on-year declines affected all regions for USD and all regions but Micronesia for EUR, although the situation is more differentiated by region for GBP, perhaps because the lower volumes for this currency affect the measure of active correspondents based on the message activity. The decline accelerated in 2017 compared to 2016 in most regions, except several regions in Africa (most notably Northern Africa for each of the three currencies), South America for EUR, the Caribbean and Australia and New Zealand for USD, Polynesia for USD and GBP.

The overall pattern of the most affected regions is broadly similar to what was described above for all currencies: the Caribbean and the small states of the Pacific (except Micronesia) are the regions with the highest rates of declines for both USD and EUR since 2011, together with Northern Africa and South America. These five regions have seen declines of more than 30% for

both USD and EUR. The decline is significantly larger for EUR than USD in the Caribbean and Eastern Africa -38.3% against -33.7% for USD, -30.7% against -22.9%). Conversely, among the other most affected regions, North Africa and Polynesia see higher declines for USD than EUR (-39.9% against -32.5% and -45.9% against -35.3% respectively), whereas for South America and Central Asia the figures are similar for both currencies (around -33% and -27%).

Changes in the number of active correspondents by regions (MT 103 and MT 202 sent, excluding MT 202COV), for the three major international currencies

Table 8

Currency	USD			EUR			GBP		
Year	2016	2017	2011-2017	2016	2017	2011-2017	2016	2017	2011-2017
Eastern Africa	-10.8%	-8.2%	-30.7%	-8.1%	-11.2%	-23.8%	-8.2%	-9.2%	-22.9%
Middle Africa	-5.8%	-7.3%	-20.0%	-9.7%	-5.4%	-13.7%	-8.4%	-10.8%	-20.2%
Northern Africa	-10.3%	-4.1%	-32.5%	-9.1%	-7.1%	-36.7%	-10.0%	-7.4%	-39.9%
Southern Africa	-5.9%	-8.0%	-20.6%	-0.7%	-4.1%	-15.9%	-4.1%	-5.7%	-21.8%
Western Africa	-4.2%	-7.1%	-21.9%	-5.0%	-8.8%	-10.0%	-5.8%	-3.3%	-14.3%
Caribbean	-9.0%	-11.2%	-38.3%	-5.8%	-8.1%	-30.5%	-11.0%	-5.2%	-33.7%
Central America	-3.4%	-5.2%	-19.1%	-8.4%	-10.7%	-0.8%	-4.2%	-8.2%	-21.2%
Northern America	-2.6%	-4.3%	-12.8%	-3.0%	-5.3%	-14.8%	-2.4%	-2.6%	-9.0%
South America	-6.7%	-5.4%	-33.0%	0.5%	-7.8%	-15.6%	-6.1%	-8.1%	-32.7%
Central Asia	-4.4%	-10.5%	-26.7%	7.7%	-10.2%	-16.2%	-6.5%	-7.7%	-26.5%
Eastern Asia	-2.4%	-6.8%	-14.8%	-0.5%	-5.6%	-7.8%	-2.8%	-4.5%	-10.8%
South-Eastern Asia	-0.9%	-6.6%	-18.9%	-1.3%	-5.2%	-10.7%	-2.1%	-6.8%	-16.6%
Southern Asia	-3.8%	-5.2%	-27.0%	-1.2%	-4.5%	-20.2%	-4.6%	-7.2%	-28.5%
Western Asia	-5.5%	-5.5%	-28.5%	-1.1%	-5.4%	-24.3%	-6.9%	-9.2%	-34.4%
Eastern Europe	-3.2%	-7.1%	-19.4%	0.7%	-1.4%	3.5%	-5.1%	-7.7%	-20.7%
Northern Europe	-4.1%	-6.3%	-22.5%	-2.0%	-5.9%	-14.1%	-5.4%	-7.1%	-25.4%
Southern Europe	-1.4%	-4.5%	-14.5%	-3.9%	-4.7%	-16.8%	-5.2%	-9.3%	-25.1%
Western Europe	-3.6%	-6.1%	-19.7%	-0.4%	-7.0%	-9.1%	-6.0%	-7.6%	-24.9%
Australia and NZ	-3.1%	-5.1%	-23.9%	1.2%	-3.3%	-10.6%	-3.3%	-3.3%	-14.4%
Melanesia	-12.4%	-21.5%	-49.7%	-11.7%	-14.3%	-44.7%	-14.1%	-26.2%	-49.6%
Micronesia	0.0%	33.3%	100.0%	0.0%	50.0%	50.0%	-8.0%	-13.0%	-13.0%
Polynesia	-13.1%	-14.1%	-35.3%	-39.5%	-26.9%	-47.2%	-28.6%	-14.0%	-45.9%

Note: Red font in 2017 shows a greater rate of decline compared to the previous year's rate.

Sources: SWIFT BI Watch, National Bank of Belgium

1.7 Results by country

Annex 2 shows the evolution of the volume of messages sent and received through SWIFT, their value, and the number of active CBRs, based on the three methodologies described in Section 3, for the entirety of the 2012-2017 period. When looking at the old methodology (with corrections for 2012 data), only 16 countries or territories (in majority in Africa) saw an increase in the

number of CBR between 2012 and 2017.[31] Two hundred ten countries or territories saw a decrease of the number of CBR over that period, and for 57 of them[32], there was also a decrease in the volume of messages over the same period, unlike what can be seen at the global level.

As regards the number of foreign banks receiving messages from a country (new methodology), two hundred seven countries or territories saw a decrease of the number of CBR between 2012 and 2017, and for 55 of them[33], there was also a decrease in the volume of messages over the same period.

Annex 2 also presents the trend in 2017 for the change in the number of counterparties abroad compared to 2016 (CBR, new methodology): 196 countries saw a decrease of 1% of more, 15 saw a stable number of CBRs (change between -1% and + 1%) and 16 saw an increase of 1% or more. Out of these 16 countries with an increase in 2017, 8 are countries or territories that experienced a decrease when looking at the entire period between 2012 and 2017 (Afghanistan, Antigua, Bahamas, Cameroon, Comoros, Iran, Martinique and Mayotte). Similarly, 11 of the 15 countries with a stable number of CBR in 2017 experienced a decline over the six-year period (Aruba, Bonaire, Saint Eustatius and Saba, El Salvador, Ethiopia, Guam, Maldives, Nicaragua, Sierra Leone, Togo, Uzbekistan, Zimbabwe). Considering that technical factors may be at play in some cases, and that this value is only a proxy of the number of relationships, these results should be analysed with caution.

Although the details by year are not presented in Annex 2, in 2017, 144 countries (around 63% of those with available data) saw a decline in the number of relationships when looking at account statement messages (alternative methodology), 201 (88%) when looking at payment messages (old methodology corrected), and 199 when looking at the number of counterparties abroad (88% of countries with available data).

Annex 3 shows more detailed data, including for 2017, for 50 countries or territories with the largest cumulative decline in the number of CBRs between 2012 and 2017 (New methodology). Similarly, Annex 4 shows 50 countries or territories with the largest cumulative decline in the number of CBRs in 2017 (New methodology). The caveats described in section 2 apply, for instance that banks have other means of exchanging payment information than SWIFT. In addition, as noted in the July 2017 report, in some territories, the decline in the number of CBRs and the volume and value of transfers may simply reflect technical factors (the report gave the examples of the reorganisation of back office systems or mergers between group subsidiaries affecting French overseas territories and the transfer in 2014 to French payment systems of payments in EUR between French territories in the Pacific, and between these territories and mainland France, which may have impacted statistics for these territories).

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[31] Bhutan, Congo, Equatorial Guinea, Ethiopia, Georgia, Guinea, Iran, Kenya, Laos, Montserrat, Myanmar, Republic of Kosovo, Rwanda, Rép. Démocratique du Congo, Somalia, Federal Republic of, South Sudan

[32] Afghanistan; Angola; Austria, Belgium, Belize, Bermuda, Bolivia, Bulgaria, Chad, Commonwealth Dominic, Croatia, Cuba, Cyprus, Czech Republic, El Salvador, Eritrea, Faeroe Islands, Finland, French Guiana, Gabon, Germany, Greece, Guadeloupe, Guernsey, C.I., Hungary, Iceland, Indonesia, Ireland, Italy, Jersey, C.I., Korea, Democratic People's Rep. Of, Latvia, Libyan Arab Jamahiriya, Liechtenstein, Lithuania, Malta, Monaco, Netherlands, Poland, Portugal, Puerto Rico, Reunion, Romania, San Marino, , Slovakia, St Pierre and Miquel, St Vincent, Sudan, Switzerland, Syrian Arab Republic, Tajikistan, Vatican City State, Venezuela, Virgin Islands, U.S., Virquin dsl (GB), Yemen, Zimbabwe

[33] The list is the same as for the old methodology corrected, except for Chad, which saw a small increase, and the US Virgin Islands, where there was no change.

Annex 2 shows that in 71 countries (i.e. 43% of those with available data), there was a decline in the number of local banks receiving SWIFT messages between 2012 and 2017, which can contribute to explain the decline in the number of correspondent banking relationships. In 37 of them (20 of which are in Europe), the decrease was of more than 10%, and in 6, of more than 30% (Cook Islands, Greece, North Korea, Russia, San Marino, Ukraine).

To take this factor into account, Annex 2 presents in the last column the change between 2012 and 2017 of the ratio of the number of banks abroad receiving messages from a country, by the number of local banks receiving messages, which is a proxy of the average number of foreign correspondents of a bank in that country. While the proportion of territories with a decline is slightly smaller (88.3 % instead of 92.8%) compared with the proportion of territories with a decline in terms of counterparties abroad, there are also more countries that see a decline of more than 30% of that indicator: 62 countries instead of 49. In a majority of countries, the increase in the number of local banks may be hiding in part the reduction in the average number of foreign correspondents.

The table below show the 50 countries or territories with a decline of one third or more in the ratio between 2012 and 2017.

Changes in the ratio of the number of banks abroad receiving payment messages from the stated country, and the number of banks receiving payment messages in the stated country, 2012-2017, in percent

Table 9

Timor-Leste	-84.6	Brunei Darussalam	-45.6	Vatican City State	-39.4
Vanuatu	-70.8	Bolivia	-44.7	Guadeloupe	-38.5
Syrian Arab Republic	-65.7	St Pierre and Miquel	-44.4	Montenegro	-38.3
Seychelles	-64.4	Namibia	-44.2	Reunion	-37.1
Tajikistan	-63.9	Angola	-43.7	Morocco	-37.0
Jamaica	-56.3	Faeroe Islands	-42.9	Laos	-36.7
Bermuda	-55.2	Mauritius	-42.9	Afghanistan	-36.3
Eritrea	-53.8	Gibraltar	-41.9	Argentina	-36.2
Monaco	-52.9	Yemen	-41.8	South Sudan	-35.5
Mayotte	-52.4	Andorra	-41.2	Bangladesh	-35.5
French Guiana	-51.4	Fiji	-41.0	Sweden	-35.1
Tonga	-50.0	Trinidad and Tobago	-40.9	Ghana	-35.1
Belize	-48.7	Finland	-40.8	Sudan	-34.1
Venezuela	-48.6	Virgin Islands (British)	-40.4	Aruba	-33.8
Cuba	-48.4	Guam	-40.0	Iraq	-33.7
New Caledonia	-46.7	Solomon Islands	-39.8	Tuvalu	-33.3
Libyan Arab Jamahiriya	-46.0	Saudi Arabia	-39.6		

Note: Payment messages are MT 103 and MT 202 (except MT 202 COV)

Source: SWIFT BI Watch, calculation FSB Secretariat

At the other end of the spectrum, 6 territories have seen an increase in the ratio of more than 20%: Sao Tomé & Principe (+20.5), Russia (+24.1%), Greece (+24.9), Ukraine (+33.2), Georgia (+50.9) and Montserrat (+73.3). Except the two last ones, these are countries that have seen both a large decrease in the number of local banks and a decrease in the number of counterparties abroad.

There can be a range of other factors that explain a change in the number of correspondent banking relationships, some of which may be specific to a country, such as political or economic crises or shocks that lead to a general decline of economic activity and/or international capital flows and trade. The 10 countries or territories with the largest decline in the number of correspondents between 2012 and 2017 are the Democratic People's Republic of Korea, the Syrian Arab Republic, Timor-Leste, Mayotte, Venezuela, the Marshall Islands, the British Virgin Islands, Sudan and French Guiana.

The table below compares the various indicators presented in annex 2, by showing the different results depending on the size of GDP. In the old methodology, there is a small difference between the economies of less than 10 billion USD and the largest economies, with a GDP of more than 1 trillion USD. The difference is larger for the alternative methodology, as large economies have probably implemented faster BCBS standards leading to a greater use of account statements, distorting the indicator. The reduction in the average number of counterparties abroad generally decreases with the size of GDP. This is even more true for the ratio of the number of counterparties abroad by the number of local banks, which is a proxy of the number of correspondents that local banks have. This is in part because largest economies have seen on average a decrease in the number of domestic banks, unlike other econonomies.

Change in various indicators of correspondent banking activity depending on the size of the economy

Table 10

Current GDP 2015, billion USD	Number of countries with data	Volume	Value	Old method. corrected	CBR alternative method.	Counterparties abroad	Local Banks	Ratio (counterparties abroad)/local banks
<10	53	34.6	57.7	-14.5	0.7	-17.4	10.7	-23.4
>10 and <100	70	22.3	19.2	-11.6	-4.5	-15.9	5.3	-17.9
>100 and<1000	45	27.7	28.2	-15.4	0.7	-18.1	3.1	-19.0
>1000	15	19.0	17.6	-12.5	6.2	-9.6	0.5	-8.4
Grand Total	**183**	**26.9**	**32.4**	**-13.4**	**-0.8**	**-16.3**	**5.9**	**-19.0**

Source: SWIFT BI Watch, National Bank of Belgium, FSB

Effects of the reduction in correspondent banking relationships

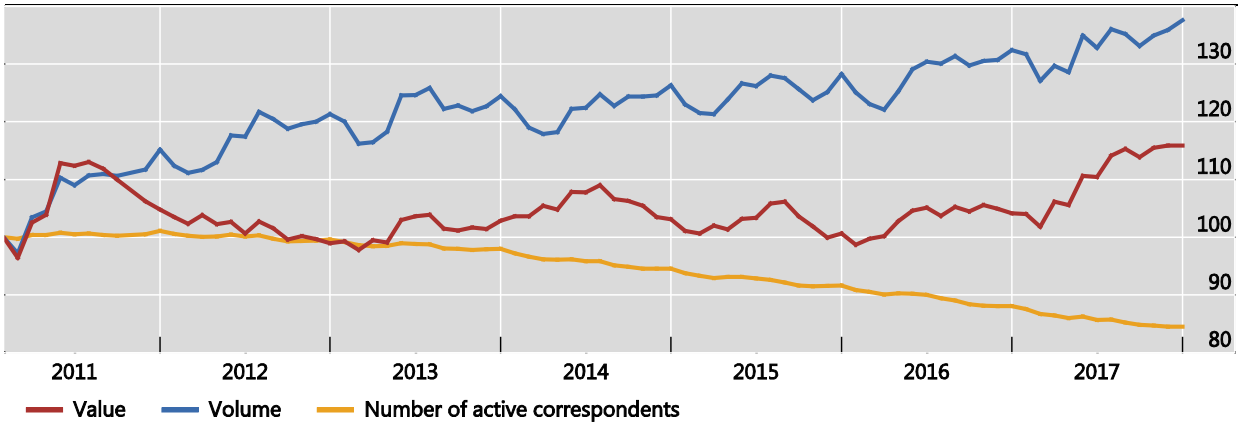
This section examines the effects of the decline of correspondent banking relationships on various variables, including on the volume and value of payments, length of the payment chains, concentration on the correspondent and respondent side, and use of currencies.

1.8 Impact on the volume and value of payments

As noted by CPMI in their July 2016 report, at the global level, the decline in the number of active correspondents (as defined earlier in this report) has not resulted in a lower number of payment messages (volume) or a lower underlying value of the messages processed through SWIFT. On the contrary, the number of messages has increased between 2011 and end-2017 by 38% (Graph 11). The next sections discuss whether this could, at least in part, be a sign of longer chains of payment and concentration of the market and the implications of such market concentration. The broader economic ramifications of such trends are beyond the scope of the report.

Evolution of the number of messages (volume), their total value in USD, and the number of active correspondents[1]

Monthly data, 3-month moving averages, Jan 2011 = 100 Graph 11



[1] MT 103 and MT 202 excluding MT 202 COV.

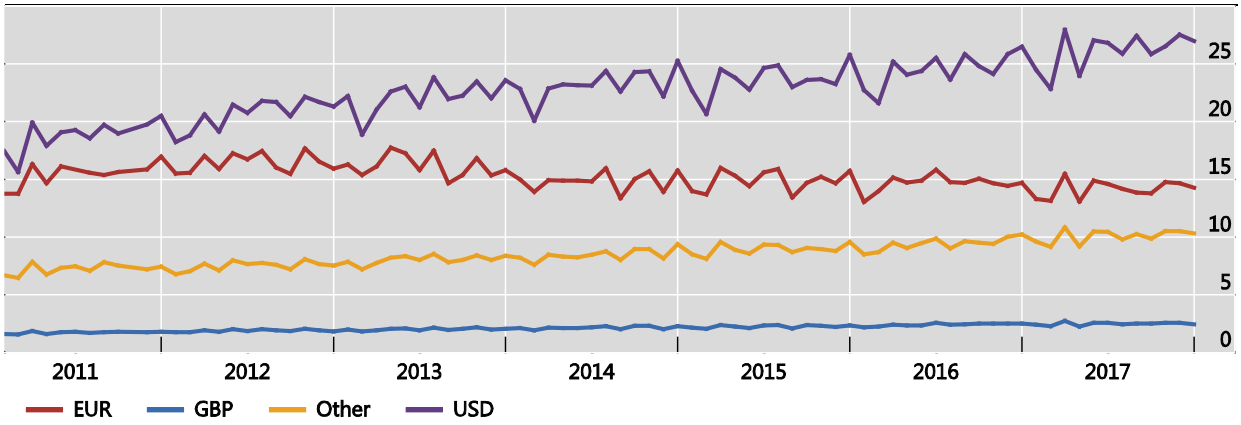
Sources: SWIFT BI Watch; National Bank of Belgium.

The changes to the value may reflect in a large part changes in exchange rates, given that values are converted to USD at the current exchange rate.

Evolution of the number of messages by currency[1]

In millions

Graph 12



[1] Monthly data, MT 103 and MT 202 excluding MT 202 COV.

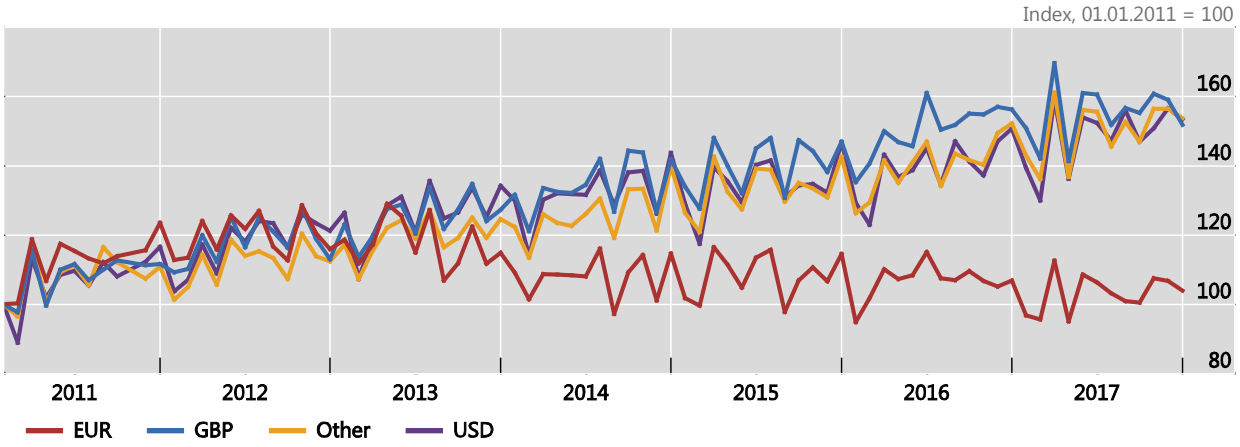
Sources: SWIFT BI Watch; National Bank of Belgium.

The increase in the number of payment messages (volume) can mainly be attributed to payments in USD, GBP and other currencies, while the volume of payments in EUR slightly declined since 2014 (**Graph 12** shows absolute values, and Graph 13 shows the same in index form).

Evolution of the number of messages by currency[1]

Monthly data, Jan 2011 = 100

Graph 13



[1] MT 103 and MT 202 excluding MT 202 COV.

Sources: SWIFT BI Watch; National Bank of Belgium.

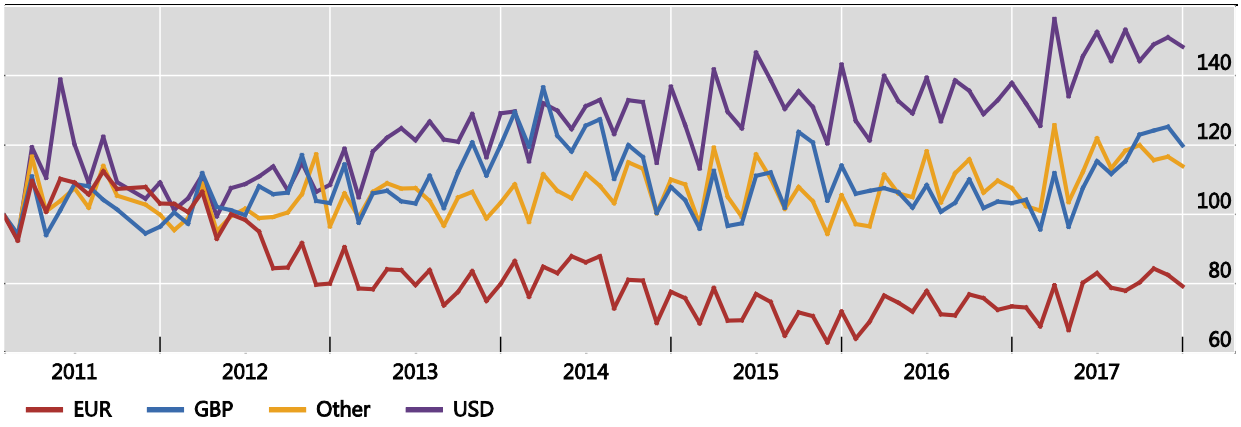
At the country level, a reduction in the number of active correspondents may be associated with a reduction in the volume of both sent and received messages, and reduction in value, as shown in Annex 2.

At the global level and for all currencies taken together, the evolution of the value of transaction in messages sent shows an upward trend since January 2017 (Graph 11). In turn, **Graph 14** shows that USD payments follow a clear upward trend, increasing 48.4% from 2011 to end-2017; whereas EUR payments follow a downward trend, with a decline of 20.9% for the same period.

As mentioned earlier in the report, the decline of EUR payments may in part be attributed to the introduction of the Single European Payment Area but also other developments such as the sovereign debt crisis. GBP payments and other currencies' payments do not follow a discernible trend.

Share of transaction value of MT 103 and MT 202 messages by currency

Jan 2011 = 100 for each currency independently Graph 14



Sources: SWIFT BI Watch, National Bank of Belgium.

1.9 Impact on the length of payment chains

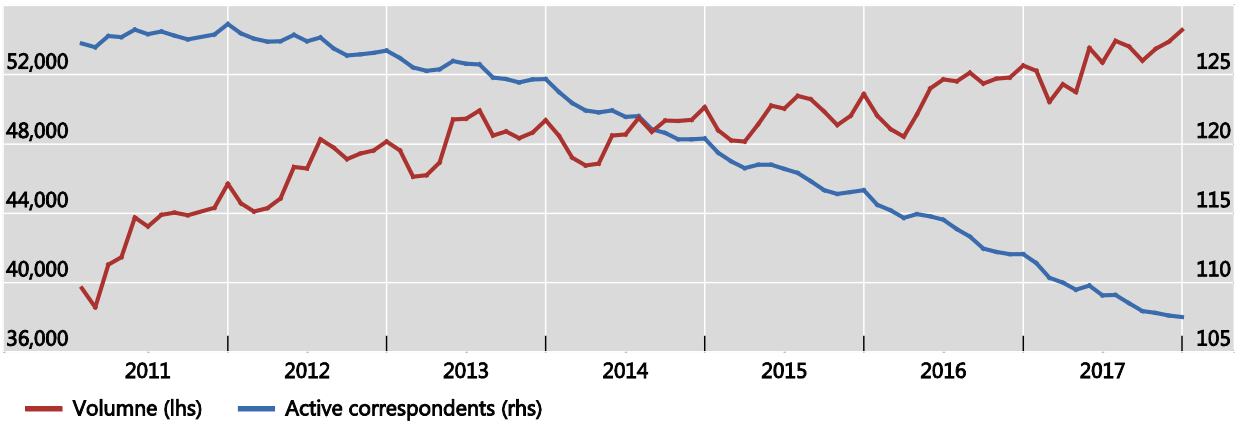
As can be seen in the previous section, the reduction in the number of correspondent relationships does not necessarily lead to a reduction in payments sent and received. In cases where the corridor between countries A and B becomes inactive, payments may continue to flow through a third country C that still has active corridors with A and B.

The increasing volume of payments while the number of relationships decreases could be consistent with a lengthening of payment chains, as shown in **Graph 15**, although the increase in the volume of messages with limited increase in value may also reflect a greater use of correspondent banking for smaller transactions. The CPMI report of July 2016 noted that rerouting payments through third countries could lead to an increase in correspondent banking activity. Indeed, in the serial method described earlier in this report, when a bank X wants to send a payment to bank Z through bank Y, X sends an MT 103 to Y, which then sends an MT 103 to Z. Therefore, two messages are sent instead of one if banks do not have accounts with each other and use instead a third bank as an intermediary. Available statistics do not allow identification of the messages that are part of the same chain of payments, and therefore the lengthening of payment chains cannot be measured accurately.

Over the whole period, the decrease in the number of active correspondents was accompanied by an increase in volume.

Number of active correspondents over all corridors and volume of messages[1]

3-month moving average Graph 15



[1] MT 103 and MT 202 excluding MT 202 COV.

Sources: SWIFT BI Watch; National Bank of Belgium.

1.10 Concentration in correspondent banking

An increase in the concentration of the correspondent banking market increases the market share of remaining participants, and hence could affect competition, raise costs, and especially lead to more fragile networks since failure of a participant could have larger effects on the market and the economy. Another possible hypothesis is that consolidation could strengthen correspondent banking relationships over the medium term as larger volumes address some of the business-related drivers of termination, leading to economies of scale due to increased efficiencies from the remaining correspondent and respondent banks.

The increase in aggregated volume of payments between 2011 and end-2017, and the falling number of active correspondents during the same period, suggests that the concentration in the correspondent banking market has increased over the period. There is statistical evidence suggesting the Gini coefficient on the number of active correspondents on a constant population of corridors slightly increased since April 2015 (**Graph 16**).[34] It should be highlighted that, in addition to relying on the new methodology described in section 2.2 for extracting the data, the calculation of the Gini coefficient has changed in Graph 16 compared with the calculation method used previously (Graph 29 shown Annex 1; Graph 30 also shows the previous calculation method, applied to the number of correspondents computed according to the old methodology described in section 2.1: under this method, concentration among active corridors has slightly decreased, likely due to the fact that smaller corridors have become inactive, and correspondents are more equally spread among the corridors that remain).

The Gini coefficients shown in the CPMI report of July 2016, and in previous FSB Correspondent Banking Data reports, were calculated exclusively on active corridors for each given time period. This illustrated better the level of concentration at any point in time, but may misrepresent the

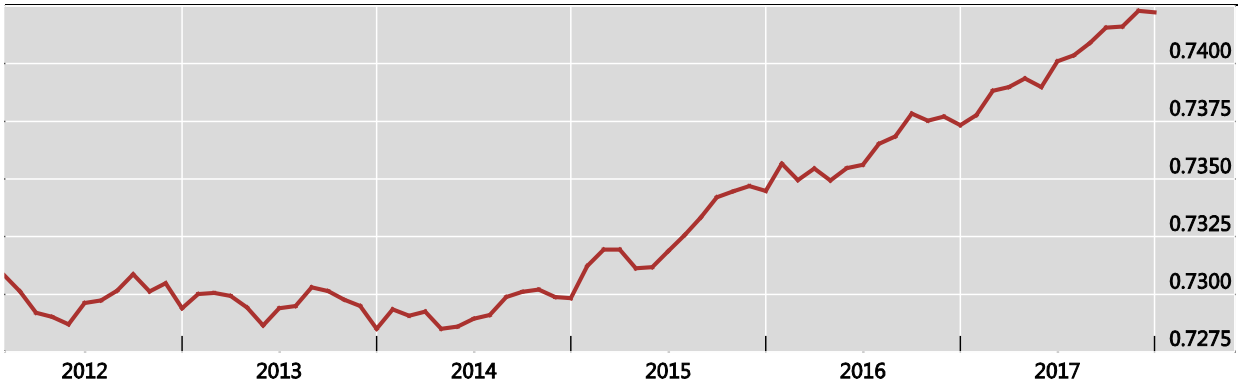
[34] A Gini coefficient of 1 would mean that there is only one active bank.

trend, as corridors that become inactive are removed from the calculation. The closure of corridors with a small number of correspondents tends to reduce inequality on the number of active correspondents between corridors (lower coefficient).

Graph 16 uses a constant population of corridors active at any point in time during the period under review. This appears preferable to show the evolutions of the concentration of correspondents among corridors over time. This methodology, which calculates the Gini coefficient based on the population of corridors that were active at least once between 2012 and 2017, implies that in the next publication of this graph, all values would need to be recalculated, to the extent new corridors become active in the new period added (e.g., first half of 2018).

Gini coefficient on the number of active correspondents per corridor (calculation on a constant population of corridors)

3-month moving average — Graph 16

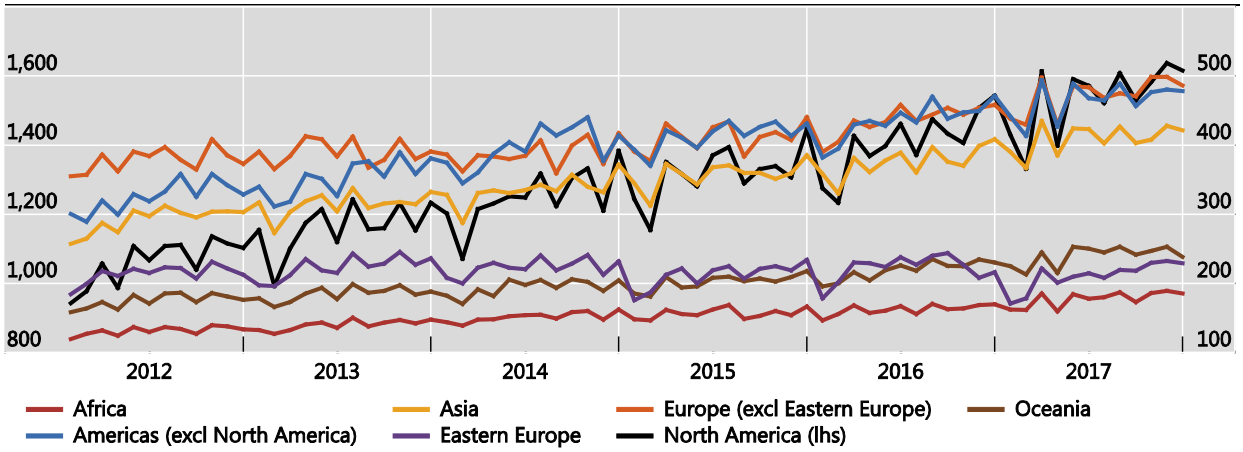


Sources: SWIFT BI Watch; National Bank of Belgium.

Graphs 19 and 20 show an indicator of the average volume of MT 103 and MT 202 messages sent per month by correspondent banks. This indicator shows that the average volume of messages handled by correspondents has increased in most regions, although to a lesser extent in Africa and Eastern Europe. The indicator in Northern America has increased at a higher rate than in other regions and is three times higher than elsewhere, which may be a sign of greater concentration.

Indicator of average volume of messages handled by correspondents in each region

Graph 17

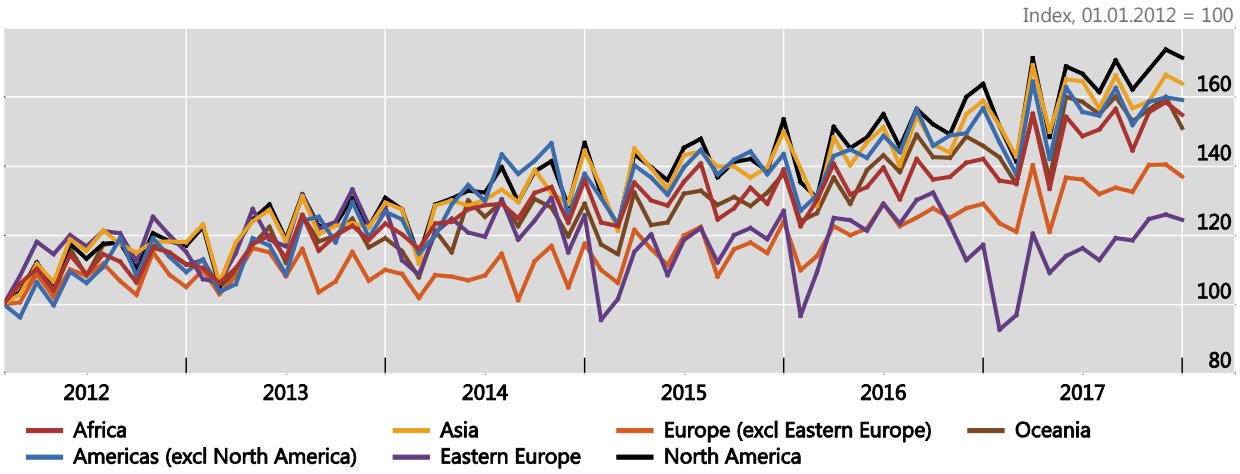


Note: The values provided are an indicator computed by dividing the total number of MT 103 and MT 202 messages sent per region in a month by the total number of counterparties for a region. Because the number of counterparties is first computed at corridor level on an anonymised basis, counterparties are counted several times in the same region if they are active in several corridors. As a result, the indicator is not directly an average number of messages per correspondent bank.

Sources: SWIFT BI Watch; National Bank of Belgium.

Indicator of average volume of messages handled by correspondents in each region (Index)

Graph 18



Note: The values provided are an indicator computed by dividing the total number of MT 103 and MT 202 messages sent per region in a month by the total number of counterparties for a region. Because the number of counterparties is first computed at corridor level on an anonymised basis, counterparties are counted several times in the same region if they are active in several corridors. As a result, the indicator is not directly an average number of messages per correspondent bank.

Sources: SWIFT BI Watch; National Bank of Belgium.

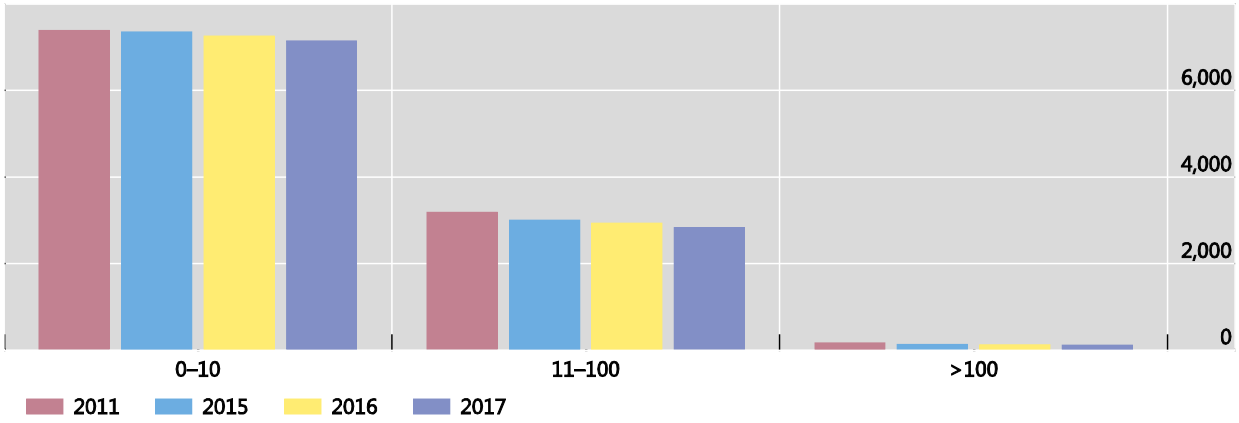
Annex 1: Impact of the change in methodology and additional information by region and currency

This annex explains the impact of the change in methodology, and provides as well additional information, especially regional changes in the number of correspondents by currency.

The differentiated impact of multiple counting is illustrated by the comparison of **Graph 19** and **Graph 20**. Under the old methodology, over 4000 corridors had between 11 and 100 active correspondents, and some 1000 corridors had between 101 and 1000 active correspondents, whereas under the new methodology, the numbers for these active corridors are substantially lower (around 3000 and less than 200 respectively). In contrast, the number of corridors with less than 11 active correspondents is around 7000 under both methodologies.

Changes in the number of corridors ranked by the average number of active correspondents in those corridors (new methodology)

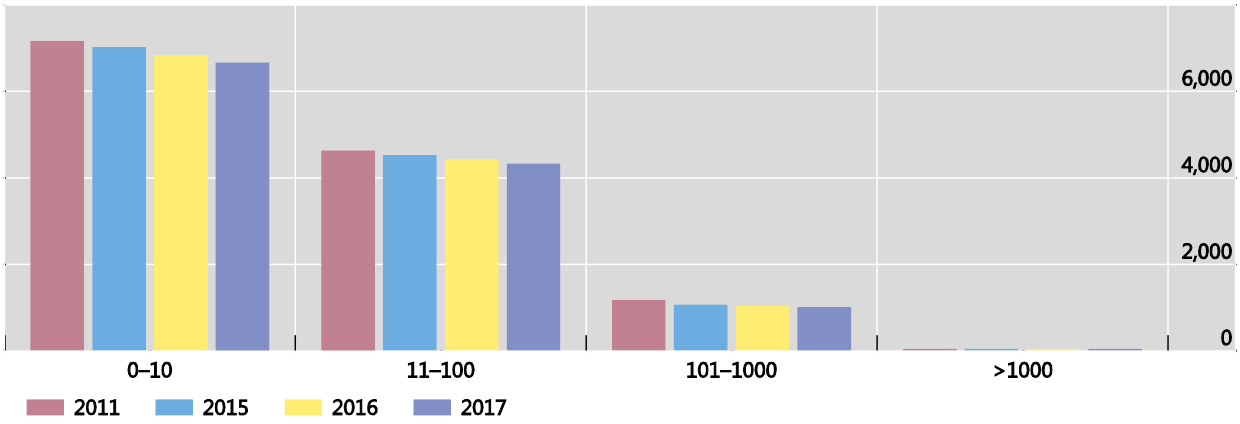
Graph 19



Source: SWIFT BI Watch, National Bank of Belgium..

Changes in the number of corridors ranked by the average number of active correspondents in those corridors (old methodlogy)

Graph 20



Source: SWIFT BI Watch, National Bank of Belgium.

In addition, the old methodology likely increased the seasonality of monthly data (see for instance the monthly number of correspondents in Graph 4 in the main body of the report and Graph 4A in annex). While the number of correspondent banking relationships would generally not be expected to be seasonal, the number of payment sent and received may vary depending on the period of the year (the previous data update mentioned the example of Chinese New Year) and therefore the count of active correspondents based on message flows may vary as well, when looking at monthly data. In the new methodology, such events have an impact only if a bank does not receive or send any of the two categories of messages in a given period.

The issue of multiple counting affecting the old methodology was described in the CPMI report of July 2016 and in the FSB Correspondent Banking Data Report of July 2017 where it had been reduced already compared to the CPMI report for some of the graphs presented in the report (such as regional data in graphs 7 and 8 of the July 2017 report). Nevertheless, further improvements were made in the new methodology applied to the end-2017 data, as there was still some multiple counting of correspondents due to the computation of both the sender and receiver of messages, and for currencies other than USD, EUR and GBP.

In particular, for the count of active corridors, while the intent was to look at unidirectional corridors (i.e., to analyse separately the corridor Austria-Belgium from the corridor Belgium-Austria), the old methodology was considering that a corridor was active if there was a flow in either direction. The new methodology looks only at one direction, which results in a reduction in the count of active corridors of around 16% to 17% compared to the old methodology, as shown in Table 11 below.[35] As the difference between the old and new methodology was slightly

[35] The reasons for a corridor to record activity in one direction only can be manyfold, for instance:

- there are flows in one direction only, for instance because country A imports from country B, but does not export to that country.
- There are no correspondent banking relationships between countries A and B, and unilateral messages are due to cover payments. These are used by banks in country A to send messages to country B, which are settled through country C, but result in messages being sent from A to B. Banks in country B do not use the cover method for transfers to country A.

larger at the beginning of the period, this results in computing a lower reduction of the number of active corridors over the period.

Comparison of the number of active corridors in the old and new methodology

Table 11

	Old	New	Comparison Old-New
2011	13039	10806	-17.1%
2012	12967	10788	-16.8%
2013	12937	10755	-16.9%
2014	12831	10674	-16.8%
2015	12609	10500	-16.7%
2016	12317	10310	-16.3%
2017	12012	10092	-16.0%
change 2011-2017	-7.9%	-6.6%	-16.1%

Note: numbers of active corridors in this table are yearly averages of the monthly data presented in Graph 2
Source: SWIFT BI Watch, National Bank of Belgium.

Finally, problems that had affected the extraction of the data for some messages for the years 2011 and 2012 used in the old methodology were resolved, resulting in revised data for those two years. At the global level, the number of relationships in 2011 is 2.2% higher than what was previously measured, which mechanically increases the extent of the decline measured since that year. The difference in most regions is around that level (Table 12), but is significantly higher in the Caribbean (around 10%). The impact of the revision is smaller for 2012 (0.7% at the global level).

– Pricing differences: bank X in country A has a correspondent banking relationship with bank Y in country B, which bank X uses to pay pensions to retirees of country B living in country A; however, bank X prefers to use its relationship with bank Z in country C to send money to country B, as bank Z is cheaper than bank Y.

Comparison of the number of correspondents in the old and new methodology

Table 12

	2011		2012	
	Count of active CBR (local banks)	Count of active CBR (banks abroad)	Count of active CBR (local banks)	Count of active CBR (banks abroad)
Eastern Africa	1.0%	0.5%	0.5%	0.2%
Middle Africa	0.6%	2.1%	0.2%	0.2%
Northern Africa	1.4%	0.7%	0.6%	0.2%
Southern Africa	1.5%	1.3%	0.6%	0.0%
Western Africa	2.3%	3.2%	0.2%	0.7%
Caribbean	9.4%	10.0%	0.5%	0.3%
Central America	1.8%	0.1%	0.7%	0.0%
North America	2.8%	2.0%	0.9%	0.6%
South America	2.3%	2.7%	0.8%	0.7%
Central Asia	2.0%	2.7%	0.5%	0.6%
Eastern Asia	1.8%	1.0%	0.6%	0.3%
South-Eastern Asia	1.5%	2.1%	0.5%	0.8%
Southern Asia	1.7%	2.4%	0.8%	0.6%
Western Asia	1.7%	1.9%	0.7%	0.5%
Eastern Europe	2.0%	2.2%	0.7%	0.6%
Northern Europe	2.2%	1.5%	0.7%	0.1%
Southern Europe	2.1%	4.6%	0.8%	2.4%
Western Europe	2.8%	2.1%	1.0%	0.9%
Australia and NZ	1.9%	0.8%	0.7%	0.3%
Melanesia	0.8%	3.0%	0.1%	0.0%
Micronesia	0.0%	0.0%	0.0%	0.0%
Polynesia	1.3%	0.0%	0.3%	0.0%
All regions	**2.2%**	**2.2%**	**0.7%**	**0.7%**

Note: numbers shown are calculated as: (new methodology – old methodology figures as used in the July 2017 report) / old methodology figures as used in the July 2017 report

Source: SWIFT BI Watch, National Bank of Belgium, Calculation FSB

Finally the new methodology reduces the impact of the masking of the number of correspondents for corridors with less than four correspondents described in the previous section. In both methodologies, these corridors are assumed to have two correspondents.[36] To address this, the new methodology counts the number of banks abroad receiving MT 103 and MT 202 messages (except MT 202 COV) from a given country, computed for that country. At this level, only very few countries have masked data. As shown in Table 13 in Annex 1, this has no impact or almost no impact for regions with large correspondent banking activity. Over 2011-2017, the country count almost always shows similar or larger decreases than the corridor count (except for Southern Africa and Central America), but at most of 1.4 percentage point (for Polynesia and Middle Africa). However, in certain years, and for regions with a large proportion of countries with few foreign correspondents, the impact can be larger. For instance the number of foreign

[36] If for instance country A has 5 banks, of which 3 send messages to 2 UK bank, 3 send messages to 1 Canadian bank and 3 sent messages to 1 German bank, the old methodology gives a result of 4 foreing banks receiving messages from country A (because for the three corridors A-UK, A-CA and A-DE, the number was below 4 and therefore masked and assumed to be 2, which is the average of the 3 possible values that the number could take), whereras the new count by country gives a result of 4 banks.

banks is assessed to have decreased by 14.3% in 2016 in the count by corridor, whereas the decrease that year is of only 7.1% with the count by country. This is an exception, and when looking at both 2016 and 2017, there are only three cases where differences exceed 1 percentage point, for Polynesia (-1.6 and -1.5 percentage point) and the Caribbean (+1.1 in 2016). Additionally, the new methodology also provides the count of banks receving messages from abroad in a given country, computed at country level, instead of corridor level. However, this count is more a proxy of the number of local banks in a country, than a proxy of the number of correspondent banking relationships. This is why in section 3 of the report, the data at the level of continents or regions:

- Relies on a count at country level, for the number of banks abroad receiving messages from a given country (for all currencies taken together, and also for USD, EUR, GBP and "Other" currencies).

- Relies on a count at corridor level, for the number of banks in a given country that receive messages from abroad, as this is a proxy of the number of "country relationships" that banks in a given country have with the rest of the world.

Table 13 in Annex 1 also shows (column before last) the cumulative impact of all changes affecting regional data for the calculation of the changes in the number of banks abroad receiving messages from a given country between 2011 and 2016, presented for the 22 regions defined by the United Nation Statistical Division. As multiple counting was already addressed in the July 2017 report for regional data, and the other revisions for other currencies do not affect the data across all currencies (i.e. without currency details), only two types of changes affect the results: the correction of the data for 2011 and 2012,[37] and the count at country level instead of corridor level to reduce the impact of the masking of data when the number of banks is below 4. For all regions, decreases over 2011-2016 are larger than previously assessed, with the largest impact for the Caribbean (decrease by 26.7% instead of 19.8%, i.e. revision of -6.9 percentage points). The other regions most affected by the revisions are Western Africa (-4 points at -8%), Central Asia (-3 points at -16.3%) South America (-2.7 points at -25%), North America and Western Europe (both -2.6 points at -6.6% and 13.2% respectively). For other regions, revisions are between -0.7 points and -2.2 points.

[37] The column "revised 2011-2012" shows the cumulative change between 2011 and 2016 when including the correction of data for 2011 and 2012.

Active correspondents by region (counterparties abroad receiving MT 103 and MT 202 from the stated region, excluding MT 202COV)

Table 13

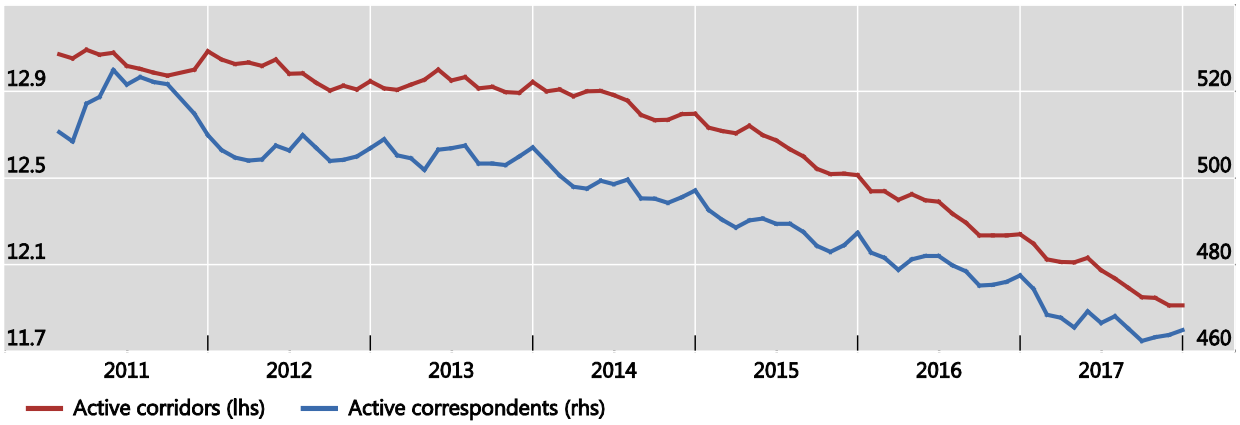
	Count at country level				Count at corridor level					Comparison corridor vs country count				
	Yearly change				Yearly change		2011-2016			Yearly change		2011-2016		
	2016	2017	2011-2016	2011-2017	2016	2017	revised 2011-2012	as in 2017 report	2011-2017	2016	2017	Impact of count method	Total impact of revisions	2011-2017-
Caribbean	-7.8	-6.4	-26.7	-31.4	-8.9	-5.6	-26.6	-19.8	-30.8	1.1	-0.8	-0.1	-6.9	-0.6
Western Africa	-4.0	-3.7	-8.0	-11.4	-3.3	-4.4	-6.2	-4.1	-10.3	-0.7	0.7	-1.9	-4.0	-1.1
Central Asia	-6.1	-7.1	-16.3	-22.2	-5.5	-7.7	-15.0	-13.3	-21.6	-0.6	0.6	-1.3	-3.0	-0.6
South America	-4.7	-7.1	-25.0	-30.3	-4.5	-6.9	-24.0	-22.3	-29.3	-0.2	-0.1	-1.0	-2.7	-1.0
Northern America	-2.4	-2.9	-6.6	-9.3	-2.3	-2.9	-6.6	-4.0	-9.3	0.0	0.0	0.0	-2.6	0.0
Western Europe	-3.5	-5.6	-13.2	-18.0	-3.4	-5.6	-13.0	-10.6	-17.9	-0.1	0.0	-0.2	-2.6	-0.2
Middle Africa	-3.0	-4.8	-3.1	-7.8	-2.8	-5.0	-1.5	-0.9	-6.4	-0.2	0.2	-1.6	-2.2	-1.4
Northern Europe	-4.0	-6.2	-16.3	-21.5	-4.1	-6.1	-16.2	-14.4	-21.3	0.0	-0.1	-0.1	-2.0	-0.2
Southern Europe	-2.6	-5.8	-11.7	-16.8	-2.6	-5.5	-11.7	-9.8	-16.6	0.0	-0.2	-0.1	-1.9	-0.2
Southern Asia	-3.5	-3.9	-17.2	-20.5	-3.5	-3.5	-16.8	-15.3	-19.7	0.0	-0.4	-0.5	-1.9	-0.7
Eastern Asia	-2.2	-4.2	-4.1	-8.2	-2.2	-4.2	-4.1	-2.4	-8.1	0.1	-0.1	-0.1	-1.8	-0.1
Western Asia	-4.4	-5.9	-16.8	-21.7	-4.2	-5.8	-16.5	-15.1	-21.4	-0.3	-0.1	-0.2	-1.7	-0.3
Australia and NZ	-2.9	-3.7	-7.3	-10.7	-2.9	-3.6	-7.4	-5.6	-10.7	0.1	-0.1	0.1	-1.7	0.0
Eastern Europe	-3.5	-5.9	-11.7	-16.9	-3.8	-5.7	-11.9	-10.2	-17.0	0.2	-0.2	0.2	-1.5	0.0
Central America	-3.5	-6.2	-9.2	-14.8	-3.2	-6.5	-9.3	-7.7	-15.2	-0.3	0.3	0.1	-1.5	0.4
Northern Africa	-8.3	-4.7	-25.3	-28.8	-8.0	-4.3	-24.9	-23.8	-28.1	-0.3	-0.4	-0.4	-1.5	-0.7
South-Eastern Asia	-1.7	-6.0	-8.4	-13.9	-1.9	-6.0	-8.3	-6.9	-13.8	0.1	-0.1	0.0	-1.4	-0.1
Polynesia	-18.9	-13.6	-27.1	-37.0	-17.3	-12.1	-26.7	-25.7	-35.6	-1.6	-1.5	-0.4	-1.3	-1.4
Southern Africa	-3.7	-5.1	-12.7	-17.1	-4.1	-5.0	-13.0	-11.7	-17.3	0.4	-0.1	0.3	-1.0	0.2
Micronesia	-7.1	5.1	-4.9	0.0	-14.3	4.2	-4.0	-4.0	0.0	7.1	1.0	-0.9	-0.9	0.0
Eastern Africa	-7.5	-7.3	-12.2	-18.6	-7.6	-6.5	-12.3	-11.5	-17.9	0.1	-0.8	0.1	-0.7	-0.6
Melanesia	-9.9	-17.9	-27.6	-40.6	-9.0	-17.5	-27.8	-27.2	-40.4	-0.9	-0.5	0.1	-0.4	-0.2

Source: SWIFT BI Watch, National Bank of Belgium, FSB Secretariat

Number of active corridors per month and number of active correspondents (Old methodology)

Three month moving averages

Graph 2A



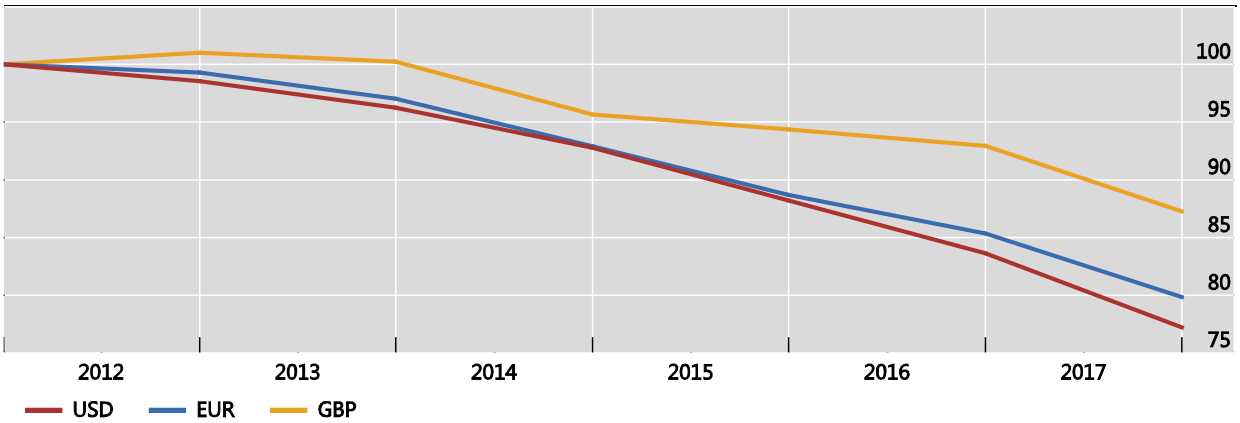
Note: An active corridor is defined as a country pair that processed at least one transaction. The count of active correspondents measures, corridor by corridor, the number of banks that have sent or received messages. As a result, correspondents present in more than one corridor are counted several times. Moreover, the data set is at BIC8 level (branch/subsidiary level depending on the legal set-up). In addition, in this graph, there is a multiplication effect as activity was counted separately by currencies and message types. There are approximately 11,000 financial institutions connected to SWIFT.

Sources: SWIFT BI Watch; National Bank of Belgium.

Evolution of the number of active correspondents by currency of the transaction[1] (Old methodology, count of local banks receiving MT 103 and MT 202, except MT 202 COV, by corridor)

Graph 3A

Jan 2011 = 100

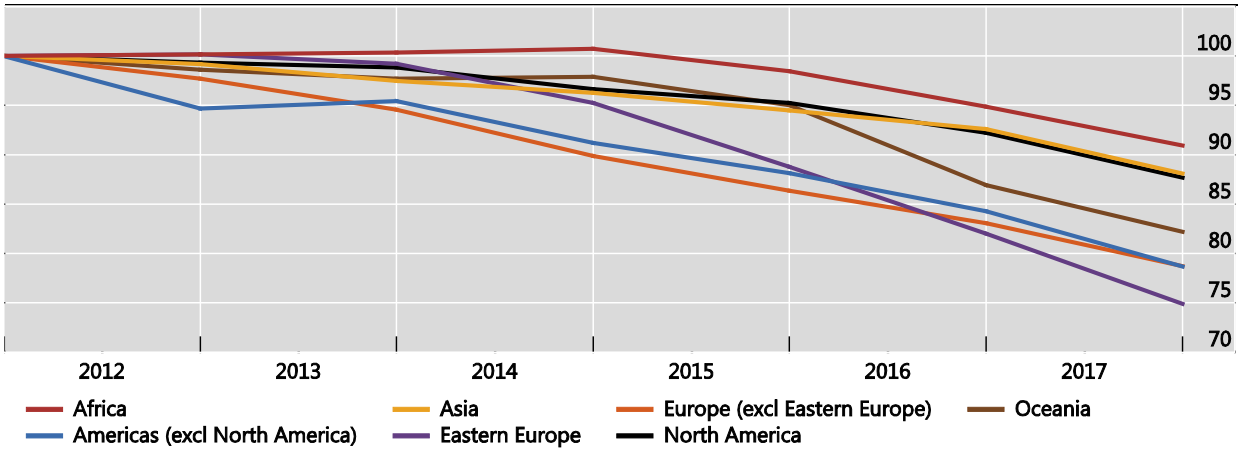


[1] Correspondents are counted multiple times across corridors, but not across message types and months.

Sources: SWIFT BI Watch; National Bank of Belgium; Bank of Mexico..

Number of active correspondents in each region (Old methodology)

2011 = 100 Graph 4A



[1] Correspondents are counted multiple times across corridors, but not across message types and months.

Sources: SWIFT BI Watch; National Bank of Belgium; Bank of Mexico.

Changes in the number of active correspondents by continent (count of local banks receiving MT 103 and MT 202 excluding MT 202COV, by corridor)

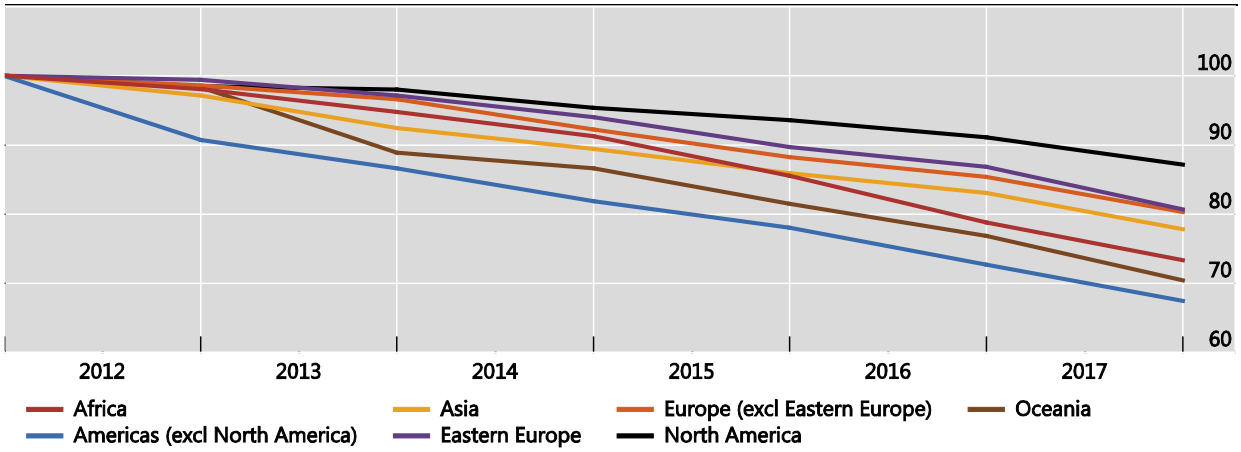
Table 2A

	Africa	Americas (excl. Northern America)	Asia	Eastern Europe	Europe (excl. Eastern Europe)	Northern America	Oceania
2012	0.2%	-5.3%	-0.8%	0.2%	-2.3%	-0.7%	-1.4%
2013	0.2%	0.8%	-1.7%	-0.9%	-3.2%	-0.5%	-0.9%
2014	0.3%	-4.4%	-1.2%	-4.0%	-5.0%	-2.2%	0.2%
2015	-2.2%	-3.4%	-1.9%	-6.8%	-3.9%	-1.5%	-2.9%
2016	-3.7%	-4.3%	-2.0%	-7.7%	-3.8%	-3.2%	-8.5%
2017	-4.1%	-6.7%	-4.9%	-8.6%	-5.3%	-4.9%	-5.4%
2011-2017	-9.1%	-21.3%	-11.9%	-25.1%	-21.3%	-12.3%	-17.8%

Source: SWIFT BI Watch, National Bank of Belgium.

Evolution of the number of active EUR correspondents by region (count of counterparties abroad)

2011 = 100 Graph 5A

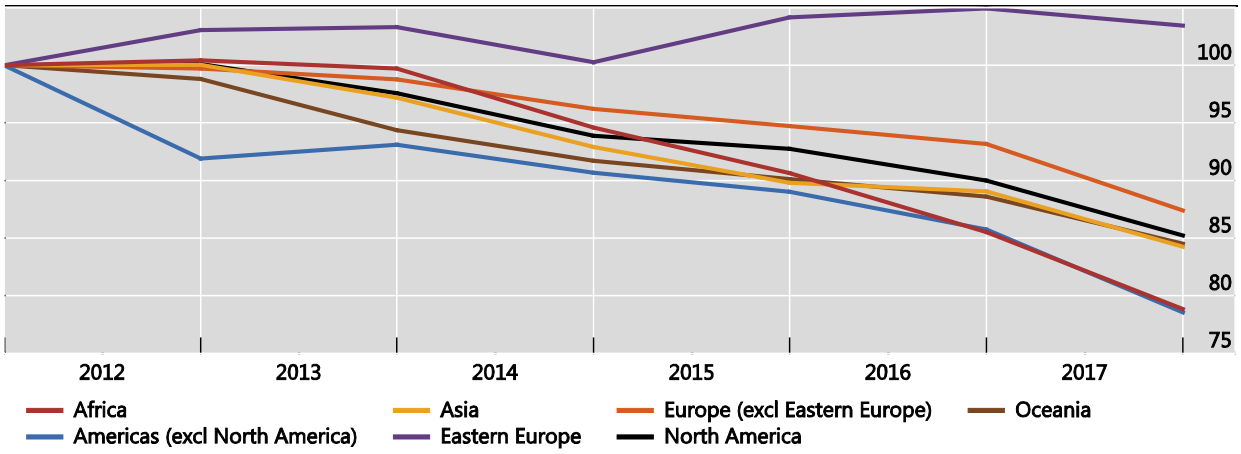


[1] Correspondents are counted multiple times across corridors, but not across message types and months.

Sources: SWIFT BI Watch; National Bank of Belgium; Bank of Mexico.

Evolution of the number of active GBP correspondents by region (count of counterparties abroad)

2011 = 100 Graph 21



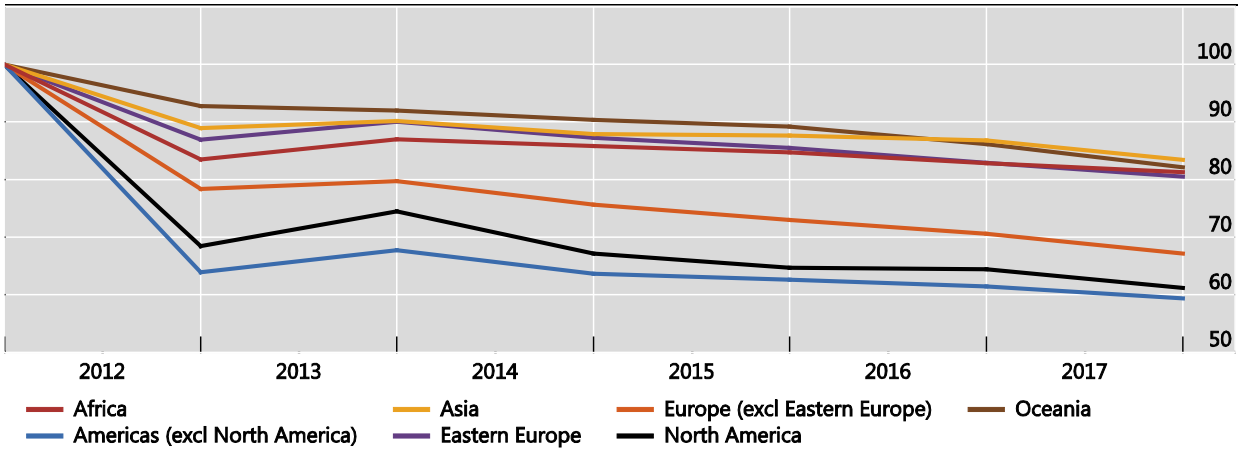
[1] Correspondents are counted multiple times across corridors, but not across message types and months.

Sources: SWIFT BI Watch; National Bank of Belgium; Bank of Mexico.

Evolution of the number of active other currency correspondents by region (count of counterparties abroad)

2011 = 100

Graph 22



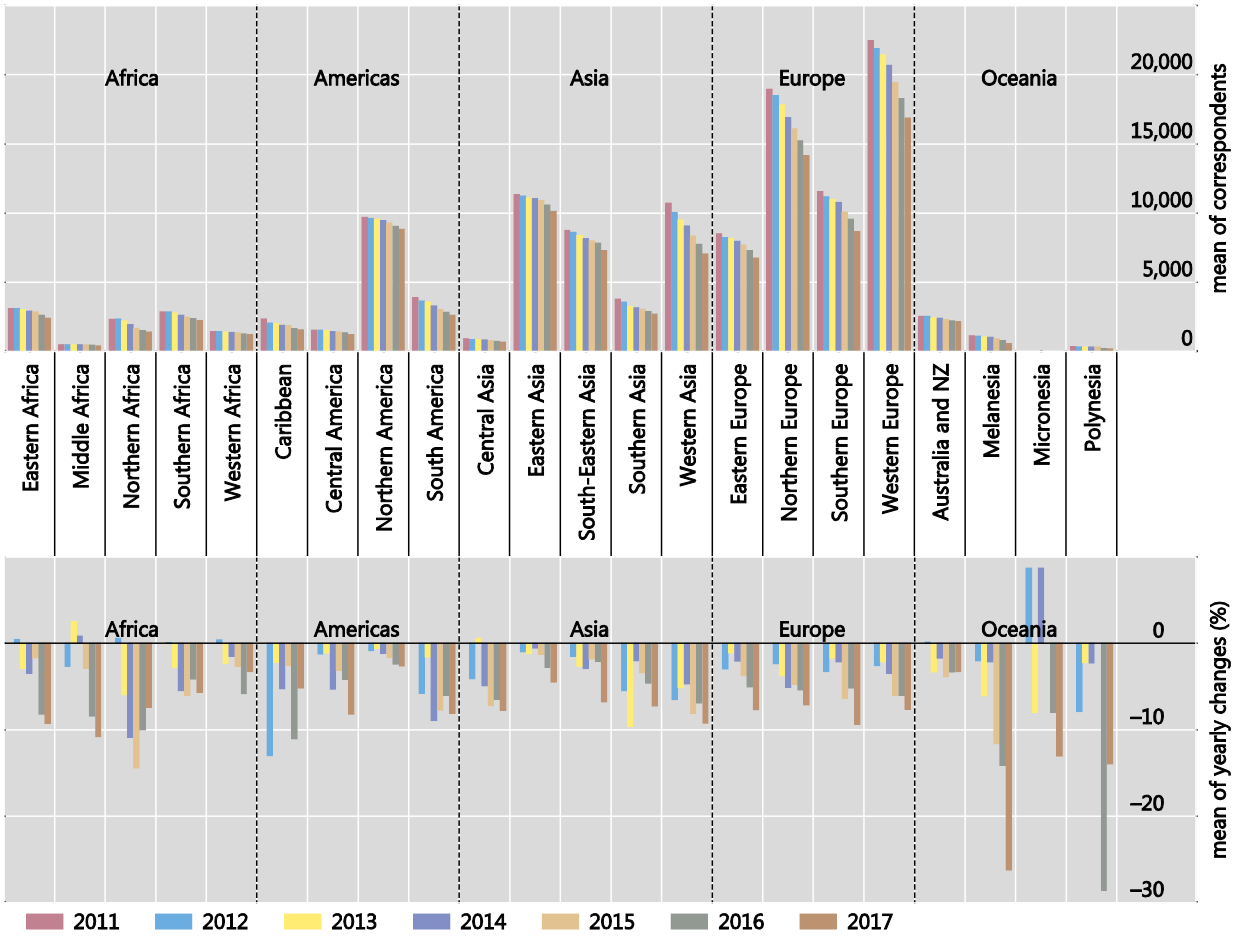
[1] Correspondents are counted multiple times across corridors, but not across message types and months.

Sources: SWIFT BI Watch; National Bank of Belgium; Bank of Mexico.

Active correspondents by region (counterparties abroad receiving MT 103 and MT 202 from the stated region, excluding MT 202COV), USD, 2011–2017

Yearly average number and average yearly change

Graph 23

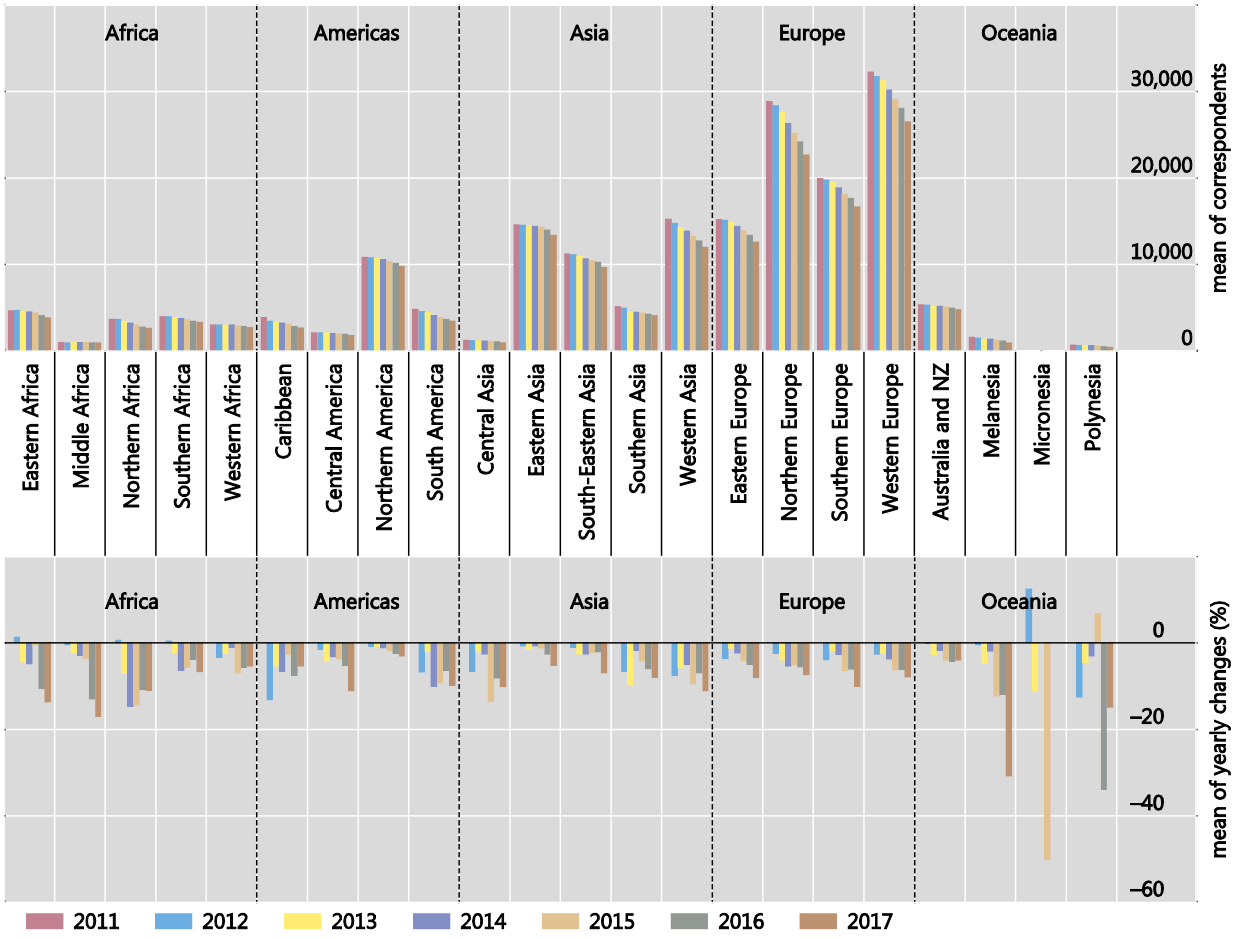


Source: SWIFT BI Watch, National Bank of Belgium.

Active correspondents by region (count of local banks in the stated region receiving MT 103 and MT 202, except MT 202 COV, by corridor), USD, 2011–2017

Yearly average number and average yearly change

Graph 24

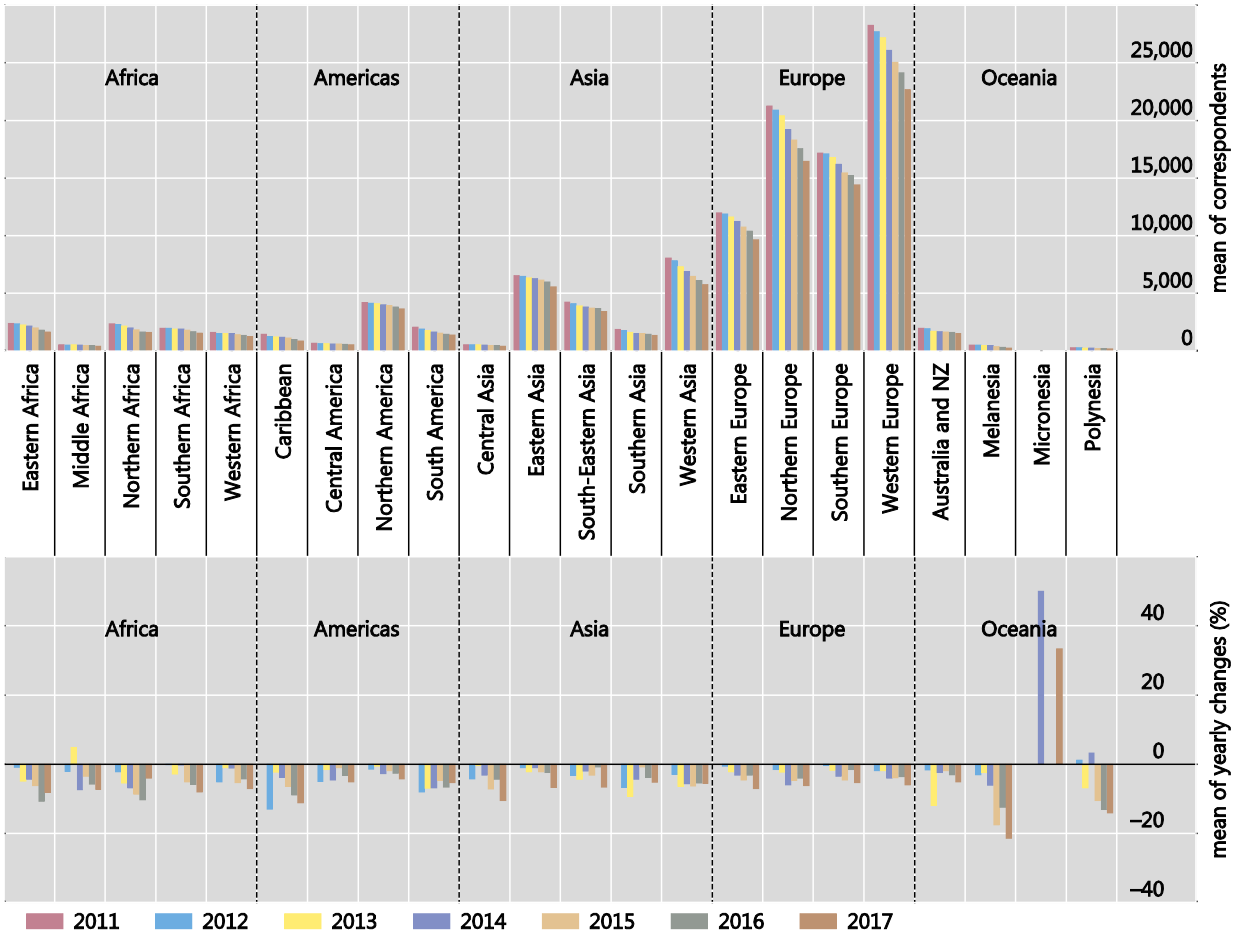


Source: SWIFT BI Watch, National Bank of Belgium.

Active correspondents by region (counterparties abroad receiving MT 103 and MT 202 from the stated region, excluding MT 202COV), EUR, 2011–2017

Yearly average number and average yearly change

Graph 25

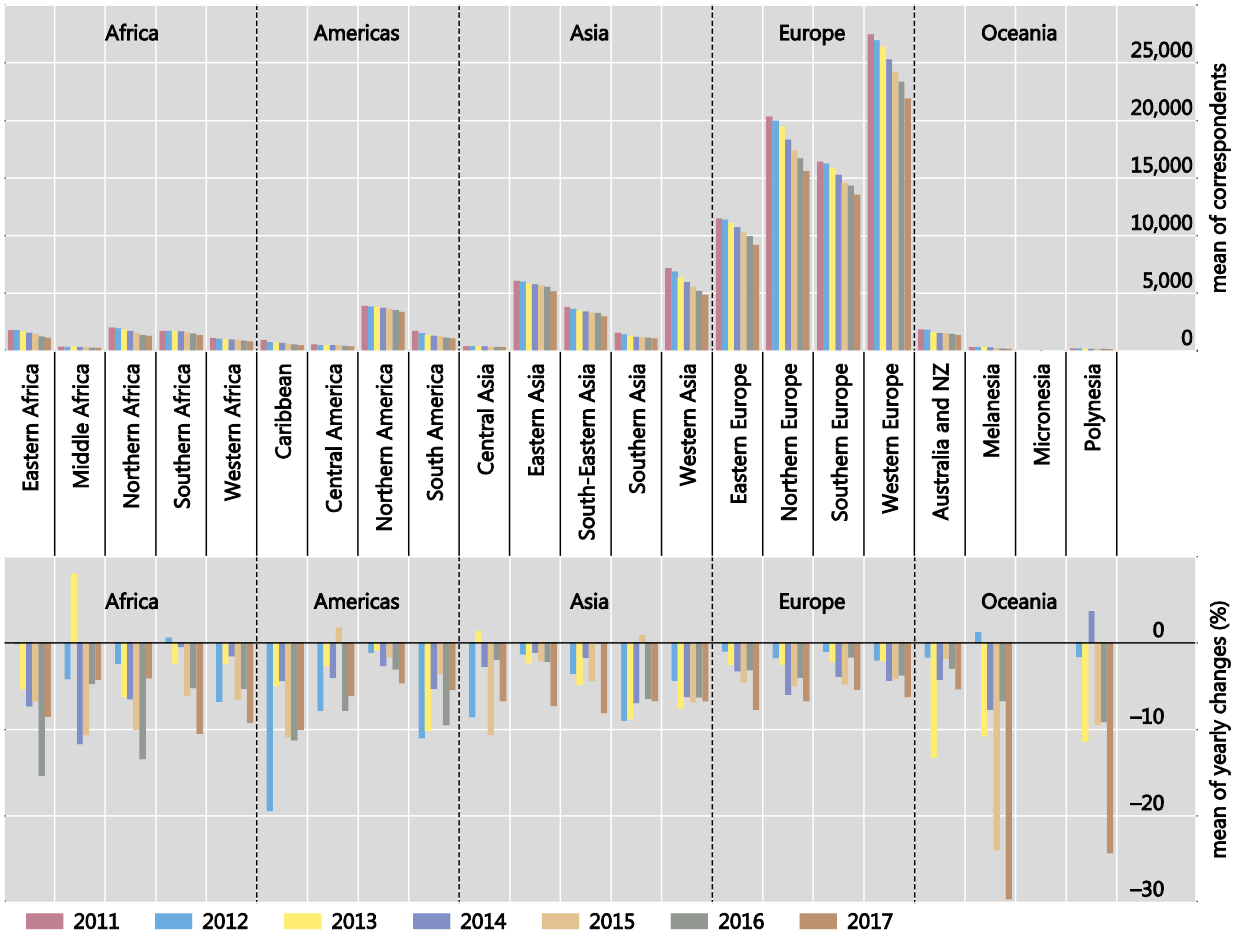


Source: SWIFT BI Watch, National Bank of Belgium.

Active correspondents by region (count of local banks in the stated region receiving MT 103 and MT 202, except MT 202 COV, by corridor), EUR, 2011–2017 (new methodology)

Yearly average number and average yearly change

Graph 26

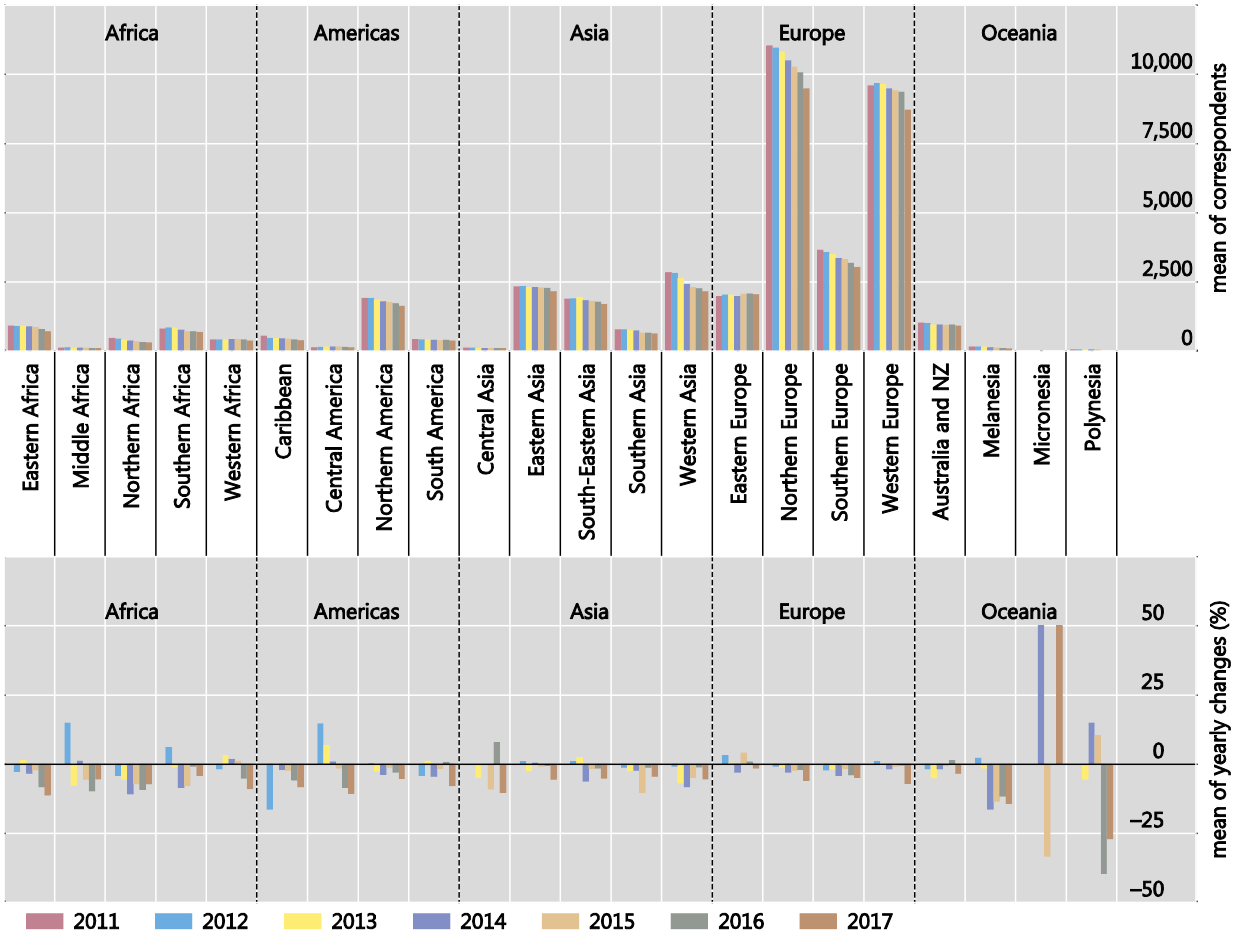


Source: SWIFT BI Watch, National Bank of Belgium.

Active correspondents by region (counterparties abroad receiving MT 103 and MT 202 from the stated region, excluding MT 202COV), GBP, 2011–2017

Yearly average number and average yearly change

Graph 27

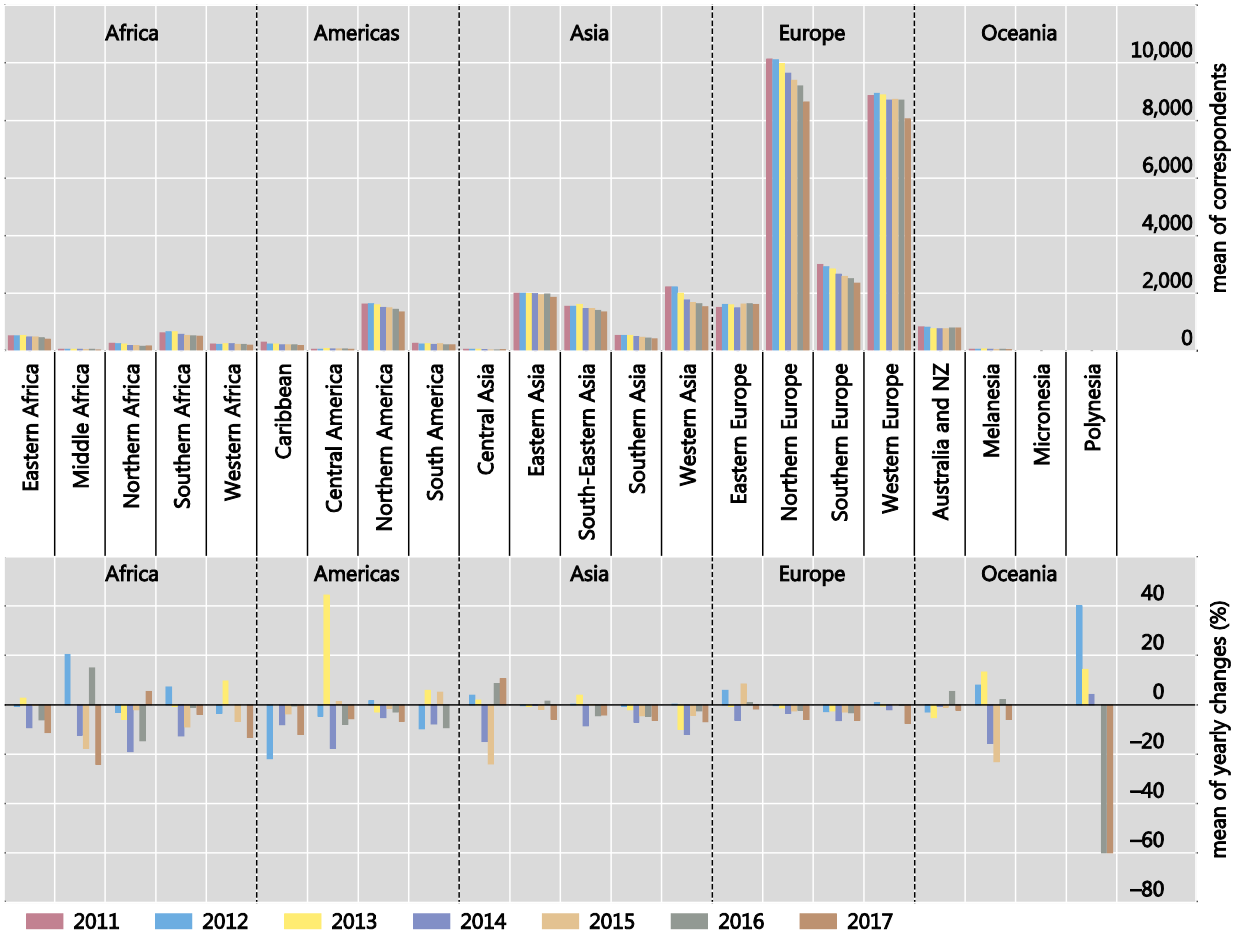


Source: SWIFT BI Watch, National Bank of Belgium.

Active correspondents by region (count of local banks in the stated region receiving MT 103 and MT 202, except MT 202 COV, by corridor), GBP, 2011–2017 (new methodology)

Yearly average number and average yearly change

Graph 28

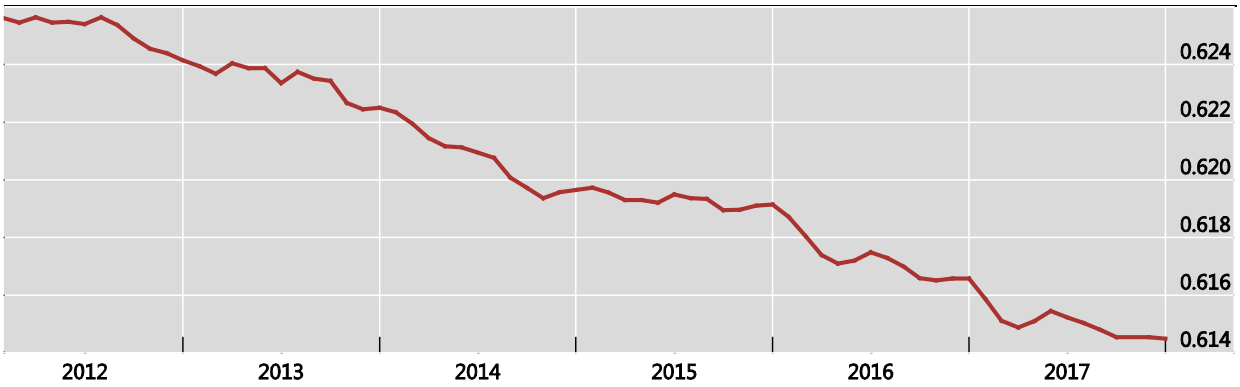


Source: SWIFT BI Watch., National Bank of Belgium

Gini coefficient on the number of active correspondents per corridor (calculation on active corridors only, new methodology)

3-month moving average

Graph 29

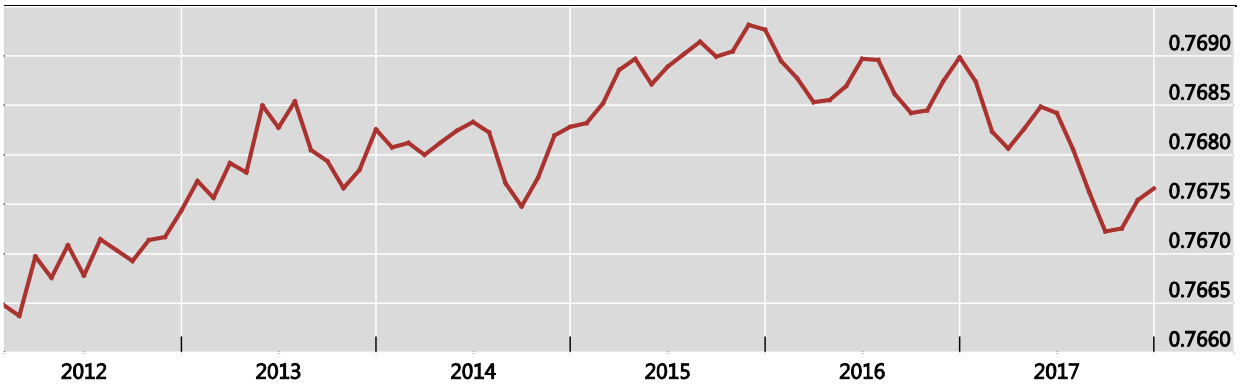


Source: SWIFT BI Watch, National Bank of Belgium.

Gini coefficient on the number of active correspondents per corridor (calculation on active corridors only, old methodology)

3-month moving average

Graph 30



Source: SWIFT BI Watch, National Bank of Belgium.

Annex 2: Change between 2012 and 2017 and trend in 2017[38]

This table shows in the first columns the change in the volume of messages sent and received through SWIFT, their value, and the number of active CBRs, based on the three methodologies described in Section 3, between 2012 and 2017:

- Old methodology corrected: the method is comparable to the one used for changes in SWIFT data between 2012 and 2016 in Annex 2 the report of July 2017, except that the corrections for the year 2012 were included in the calculation. Otherwise, this remains the average, year by year, of the change in the number of banks abroad receiving messages from the stated country, and the change in the number of banks in the stated country sending messages abroad, both computed at corridor level. [39]
- CBR alternative methodology: this is the method described in Section 3.3, based on account statements.
- New methodology:
    - Counterparties abroad: this is the change in the number of banks abroad receiving MT 103 and MT 202 messages (except MT 202 COV) from the stated country, calculated at country level.
    - Local banks: this is the change in the number of banks in the stated country receiving MT 103 and MT 202 messages (except MT 202 COV), counted at country level (not by corridor)
    - Ratio (counterparties abroad) / (local banks), this is the change in the ratio of the number of banks used to calculate changes in the two previous columns. It shows the evolution in the average number of counterparty per local bank.

In all cases, the table shows changes for the entirety of the 2012-2017 period. For instance, the evolution of the volume shows the evolution over 2012-2017 of the average change in the volume of messages sent and received calculated each year.

The last column shows the trend in 2017 for the number counterparties abroad: this is the change in the number of banks abroad receiving MT 103 and MT 202 messages (except MT 202 COV) from the stated country, calculated at country level:

"+" the number of CBR has increased by 1% or more compared to 2016;

"=" the number of CBR is stable (change between -1% and +1% compared to 2016);

"-" the number of CBR has decreased by 1% or more compared to 2016.

[38] The value presented here is based on the new methodology and are not always comparable with the data presented in the July 2017 report (e.g., differences in the treatment of currencies).

[39] For instance, if the volume sent increased by 2% from 2012 to 2013, and by 3%, 4%, 5% and 6% each of the 4 following years and if the volume received increased by 4% from 2012 to 2013, and by 4%, 5% , 5% and 7% each of the following years, we calculated the average for 2013 (average between sent and received, ie 3%), 2014 (3.5%), 2015 (4.5%) 2016 (5%) and 2017 (6.5%) and then the cumulated change for 2012 to 2017 (1.03x1.035x1.045x1.05x1.065).

	Change 2012-2017 (in percent)							2017
					New methodology			CBR (counter parties abroad) trend
jurisdiction	Volume (number of messages	value	CBR Old methodology corrected	CBR alternative methodology	CBR (counterparties abroad)	local banks	ratio CBR/(local banks)	
Afghanistan	-48.6	-41.4	-24.7	31.1	-39.8	-5.6	-36.3	+
Albania	63.8	18.9	-13.2	-30.9	-16.6	0.0	-16.6	-
Algeria	7.9	-9.9	-17.9	-10.8	-21.7	-4.5	-18.0	-
American Samoa	36.3	332.3	-33.2	0.0	-30.8	0.0	-30.8	-
Andorra	29.1	117.1	-34.6	-23.0	-41.2	0.0	-41.2	-
Angola	-48.2	-25.2	-21.4	-1.8	-27.2	29.2	-43.7	-
Anguilla (GB)	50.9	86.8	-21.7	-19.5	-10.9	0.0	-10.9	-
Antigua	7.4	43.3	-8.4	-20.1	-6.6	-13.3	7.8	+
Argentina	39.5	108.5	-23.4	-16.1	-28.7	11.8	-36.2	-
Armenia	53.9	74.4	-18.3	-20.7	-19.2	-4.5	-15.3	-
Aruba	52.5	55.4	-12.2	2.6	-22.7	16.7	-33.8	=
Australia	16.0	7.4	-11.8	2.5	-7.5	-3.0	-4.6	-
Austria	-5.2	-26.7	-20.8	-5.0	-23.0	-3.8	-19.9	-
Azerbaijan	47.0	-30.1	-25.4	-44.7	-28.5	-21.7	-8.7	-
Bahamas	24.7	-33.2	-15.4	-1.3	-18.0	-4.0	-14.6	+
Bahrain	19.0	24.3	-19.6	-9.1	-23.5	-17.1	-22.5	-
Bangladesh	6.3	85.6	-10.5	-1.3	-20.0	13.3	-35.5	-
Barbados	12.8	-45.9	-20.4	10.2	-19.2	-16.7	-28.7	-
Belarus	39.2	-3.2	-24.4	-20.8	-29.7	-15.2	-17.2	-
Belgium	-18.0	-13.0	-14.3	1.9	-10.2	23.9	-12.3	-
Belize	-33.5	-35.5	-31.2	-24.4	-37.3	22.2	-48.7	-
Benin	43.7	86.8	-6.5	-9.6	-9.9	22.2	-27.9	-
Bermuda	-2.8	-2.5	-44.7	-17.5	-55.2	25.0	-55.2	-
Bhutan	67.3	315.4	3.6	25.6	13.8	0.0	13.8	+
Bolivia	-0.5	-3.4	-14.4	-2.7	-21.7	25.0	-44.7	-
Bonaire, Saint Eustatius and Saba	50.0	-37.6	-21.7	-33.3	-16.1	-14.3	-2.2	=
Bosnia-Herzegovina	30.3	16.1	-23.0	-39.8	-23.6	41.7	-8.4	-
Botswana	36.1	70.3	-16.2	6.0	-17.4	0.0	-17.4	-
Brazil	10.8	41.6	-14.8	-4.7	-18.2	9.1	-25.0	-
Brunei Darussalam	17.8	-67.9	-24.9	22.3	-32.0	0.0	-45.6	-
Bulgaria	-8.0	-16.4	-17.4	-14.4	-20.0	7.7	-3.4	-
Burkina Faso	5.7	132.8	-13.5	-6.4	-18.8	2.4	-24.6	-
Burundi	14.8	-16.8	-15.6	-3.9	-18.3	-1.3	-33.1	-
Cambodia	69.7	111.1	-3.1	19.9	-10.5	17.9	-24.1	-
Cameroon	10.5	-31.2	-5.9	-12.8	-3.9	-11.1	8.1	+
Canada	35.1	9.9	-10.8	9.5	-11.5	12.7	-21.5	-
Cape Verde	18.1	27.1	-3.8	-11.5	-7.6	-8.3	0.8	-
Cayman Islands	30.3	-31.6	-15.4	-11.1	-17.1	0.0	-17.1	-
Central African Republic	226.0	67.1	-8.2	3.8	-13.0	0.0	-13.0	-

	Change 2012-2017 (in percent)							2017
					New methodology			CBR (counter parties abroad) trend
jurisdiction	Volume (number of messages	value	CBR Old methodology corrected	CBR alternative methodology	CBR (counterparties abroad)	local banks	ratio CBR/(local banks)	
Chad	-0.9	-62.8	-4.0	2.0	2.4	0.0	2.4	+
Chile	22.5	6.0	-23.9	-4.8	-31.0	0.0	-31.0	-
China	23.3	134.4	-4.9	29.1	-7.5	23.2	-24.9	-
Colombia	20.3	1.0	-14.7	10.8	-19.0	3.0	-21.4	-
Commonwealth Dominic	-3.2	-27.2	-22.5	0.1	-16.9	16.7	-28.8	-
Comoros	13.4	29.8	-4.5	11.1	-26.9	0.0	-26.9	+
Congo	8.1	-56.6	10.5	13.1	12.1	30.0	-13.8	-
Cook Islands	2.2	-66.5	-43.8	4.3	-55.6	-50.0	-11.1	-
Costa Rica	23.6	63.6	-15.5	-10.0	-21.0	0.0	-21.0	-
Cote d'Ivoire	74.3	69.3	-1.2	13.0	-6.9	24.0	-24.9	-
Croatia	-42.7	-0.2	-6.5	-29.1	-10.1	-15.2	6.0	-
Cuba	-11.5	-34.2	-42.8	-14.7	-48.4	0.0	-48.4	-
Curacao	3.6	224.1	-24.7	-13.9	-27.0	-7.4	-21.2	-
Cyprus	-39.2	-70.7	-26.1	-31.5	-27.6	0.0	-27.6	-
Czech Republic	-36.0	31.1	-7.3	-5.3	-4.6	12.9	-15.5	-
Denmark	13.5	-16.4	-22.7	-7.6	-21.1	-6.1	-15.9	-
Djibouti	38.0	127.0	-13.1	54.5	-17.9	0.0	-17.9	-
Dominican Rep.	47.9	12.5	-10.7	-20.9	-15.9	23.5	-31.9	-
Ecuador	4.4	35.0	-22.0	-32.2	-28.1	-29.2	1.5	-
Egypt	1.0	2.4	-21.4	-9.4	-28.1	-4.3	-24.9	-
El Salvador	-14.5	31.4	-10.7	12.8	-18.3	9.1	-25.1	=
Equatorial Guinea	-23.1	-79.5	37.0	59.4	22.5	20.0	2.1	-
Eritrea	-19.7	-19.7	-39.2	-32.4	-53.8	0.0	-53.8	-
Estonia	27.3	-58.3	-9.3	-15.0	-16.2	-5.9	-11.0	-
Ethiopia	43.1	-12.0	1.9	14.3	-11.8	5.6	-16.4	=
Faeroe Islands	-31.2	-34.5	-36.5	-48.0	-42.9	0.0	-42.9	-
Falkland Islands	6.4	-48.5	-44.8	0.0	-25.0	0.0	-25.0	-
Fiji	29.3	278.0	-22.9	41.0	-31.2	16.7	-41.0	-
Finland	-6.8	-4.1	-20.3	7.3	-32.4	14.3	-40.8	-
France	3.4	-1.4	-10.9	28.1	-8.4	-5.5	-3.0	-
French Guiana	-83.0	-87.0	-45.2	0.0	-51.4	0.0	-51.4	-
French Polynesia	25.0	-29.6	-21.6	-23.5	-30.3	0.0	-30.3	-
Gabon	-11.6	-8.5	-10.8	27.6	-12.8	0.0	-12.8	-
Gambia	16.6	34.7	-14.7	-22.0	-22.5	0.0	-22.5	-
Georgia	72.0	71.6	14.0	-24.3	29.3	-14.3	50.9	-
Germany	-9.1	0.7	-14.6	9.3	-14.1	1.4	-15.3	-
Ghana	20.1	64.9	-16.9	-6.4	-23.5	17.9	-35.1	-
Gibraltar	74.5	119.2	-32.4	-24.6	-41.9	0.0	-41.9	-
Greece	-40.2	-72.9	-43.9	-47.3	-28.7	-42.9	24.9	-
Greenland	103.5	49.3	-24.3	-16.2	-25.0	0.0	-25.0	-
Grenada	26.8	24.4	-13.2	-1.1	-16.7	0.0	-16.7	-

	Change 2012-2017 (in percent)							2017
					New methodology			CBR (counter parties abroad) trend
jurisdiction	Volume (number of messages	value	CBR Old methodology corrected	CBR alternative methodology	CBR (counterparties abroad)	local banks	ratio CBR/(local banks)	
Guadeloupe	-80.9	-83.6	-41.8	-34.6	-50.8	-20.0	-38.5	-
Guam	20.2	-52.4	-29.0	0.0	-40.0	0.0	-40.0	=
Guatemala	25.1	27.3	-9.6	-20.5	-7.4	0.0	-7.4	-
Guernsey, C.I.	-2.5	-22.3	-26.3	0.0	-30.1	-3.8	-27.3	-
Guinea	41.4	2.2	14.5	-0.8	12.6	7.1	5.1	+
Guinea Bissau	105.8	140.4	-8.4	33.7	2.9	25.0	-17.6	+
Guyana	20.5	-5.0	-3.3	16.2	-6.8	0.0	-6.8	-
Haiti	32.8	47.9	-12.7	-21.2	-9.8	0.0	-9.8	-
Honduras	42.4	33.1	-20.7	-22.3	-22.0	0.0	-22.0	-
Hong Kong	40.5	96.1	-13.9	1.2	-11.5	4.7	-15.5	-
Hungary	-52.6	-21.7	-16.6	-16.0	-16.6	-12.8	-4.3	-
Iceland	-16.0	17.9	-16.6	16.8	-19.9	-22.2	3.0	-
India	45.9	16.9	-7.8	-4.3	-10.0	7.5	-16.3	-
Indonesia	-14.8	88.3	-16.3	2.7	-17.7	5.4	-22.0	-
Iran	744.1	847.9	28.3	156.7	-5.2	3.7	-8.6	+
Iraq	27.9	-32.5	-18.2	8.0	-20.4	20.0	-33.7	-
Ireland	-31.3	-27.3	-14.2	-3.3	-14.8	-6.8	-8.6	-
Isle of Man	84.0	-37.9	-43.2	-25.8	-45.0	-20.0	-31.2	-
Israel	19.6	-10.4	-20.8	1.9	-20.7	-20.0	-0.9	-
Italy	-16.4	-13.2	-24.4	-20.2	-13.3	-21.0	9.7	-
Jamaica	53.8	35.5	-16.8	-4.1	-27.1	66.7	-56.3	-
Japan	18.1	29.4	-11.3	0.8	-7.8	1.8	-9.4	-
Jersey, C.I.	-11.7	-40.6	-26.2	-17.1	-28.4	-3.1	-26.1	-
Jordan	1.3	-36.1	-20.3	-10.7	-23.6	0.0	-23.6	-
Kazakhstan	37.8	-17.3	-19.8	-22.0	-18.6	-11.6	-7.9	-
Kenya	34.9	-1.1	0.9	0.2	-2.6	4.4	-6.7	-
Kiribati	32.1	702.3	-4.4	0.0	3.7	0.0	3.7	=
Korea, Democratic People's Rep. Of	-94.7	-98.4	-100.0	-74.3	-100.0	-100.0	na	-
Korea, Republic of	28.3	28.9	-3.8	31.5	0.3	17.1	-14.4	=
Kuwait	41.6	22.2	-13.8	-4.5	-20.8	9.5	-27.7	-
Kyrgyzstan	56.5	94.8	-4.1	17.1	-9.1	19.0	-23.7	-
Laos	48.4	-19.3	1.9	17.8	-6.7	47.4	-36.7	-
Latvia	-33.9	-50.7	-19.9	-25.3	-23.9	-13.8	-11.8	-
Lebanon	8.6	11.0	-19.0	-15.2	-21.1	-6.8	-15.4	-
Lesotho	68.3	163.9	-6.8	-2.3	-7.4	25.0	-25.9	-
Liberia	42.8	-4.8	-8.9	-21.5	-2.3	10.0	-11.2	-
Libyan Arab Jamahiriya	-46.4	-61.7	-31.8	-19.5	-40.3	10.5	-46.0	-
Liechtenstein	-6.3	-5.3	-17.2	10.9	-24.8	0.0	-24.8	-
Lithuania	-32.3	-24.2	-25.0	-45.7	-31.7	-12.5	-22.0	-
Luxembourg	37.8	-6.4	-10.6	4.3	-10.5	2.2	-12.4	-

	Change 2012-2017 (in percent)							2017
					New methodology			CBR (counter parties abroad) trend
jurisdiction	Volume (number of messages	value	CBR Old methodology corrected	CBR alternative methodology	CBR (counterparties abroad)	local banks	ratio CBR/(local banks)	
Macau	18.0	46.8	-10.3	2.2	-10.3	-7.4	-3.1	-
Macedonia	27.9	-42.8	-21.2	-34.5	-24.6	-5.6	-20.1	-
Madagascar	33.3	58.4	-34.2	-15.0	-35.3	-9.1	-28.8	-
Malawi	55.8	120.8	-3.4	-7.6	-8.0	-15.4	8.7	-
Malaysia	22.3	-12.9	-14.3	-2.4	-15.9	6.8	-21.2	-
Maldives	26.7	166.6	-7.9	7.1	-17.2	12.5	-26.4	=
Mali	36.4	152.6	-6.4	-16.1	-7.2	7.1	-13.4	-
Malta	-10.9	-23.5	-2.5	-3.4	-9.5	25.0	-27.6	-
Martinique	83.0	10.3	-14.4	650.2	-17.9	0.0	-17.9	+
Mauritania	21.9	1.5	-1.3	16.7	-6.3	28.6	-27.1	-
Mauritius	43.1	80.3	-20.3	0.3	-26.6	28.6	-42.9	-
Mayotte	13.4	-53.9	-56.7	0.0	-52.4	0.0	-52.4	+
Mexico	29.8	-10.2	-8.7	7.8	-10.3	5.3	-14.7	-
Moldova	19.9	-37.3	-35.7	-54.9	-38.4	-25.0	-17.8	-
Monaco	-10.5	-37.5	-45.2	1.9	-55.4	-5.3	-52.9	-
Mongolia	32.8	-1.0	-1.3	17.3	-5.1	14.3	-17.0	-
Montenegro	38.1	10.4	-7.6	6.8	-17.7	33.3	-38.3	-
Montserrat	25.6	276.7	50.2	50.1	73.3	0.0	73.3	-
Morocco	25.5	-11.7	-22.4	-8.5	-33.5	5.6	-37.0	-
Mozambique	6.1	16.6	-15.1	20.4	-22.3	12.5	-30.9	-
Myanmar	335.5	380.9	180.2	263.9	139.3	209.1	-22.6	+
Namibia	27.6	234.8	-8.6	1.9	-19.5	44.4	-44.2	-
Nepal	83.9	91.2	-18.1	1.1	-24.9	-8.6	-17.9	-
Netherlands	-33.0	-28.9	-23.1	6.0	-21.5	7.4	-26.9	-
New Caledonia	5.0	-32.5	-38.5	-4.1	-46.7	0.0	-46.7	-
New Zealand	38.9	14.6	-8.8	10.4	-14.0	25.0	-31.2	-
Nicaragua	41.7	33.9	-9.4	-13.1	-9.5	14.3	-20.8	=
Niger	68.9	88.5	-11.0	-4.9	-14.4	18.2	-27.6	-
Nigeria	29.5	-8.8	-4.0	-7.5	0.3	7.7	-6.8	-
Northern Mariana Islands	0.0	0.0	0.0	0.0	na	na	na	na
Norway	10.5	-40.8	-15.8	-5.3	-14.4	-3.1	-11.6	-
Oman	26.9	88.9	-12.1	4.0	-17.9	5.0	-21.8	-
Pakistan	40.6	36.1	-14.8	-6.9	-14.5	-11.1	-3.8	-
Palestine	23.1	20.1	-13.9	16.2	-12.2	-11.1	-1.2	-
Panama	6.7	-12.5	-11.6	-6.8	-20.2	3.3	-22.8	-
Papua New Guinea	25.4	-41.9	-24.1	6.2	-31.9	0.0	-31.9	-
Paraguay	15.1	41.3	-8.1	-4.8	-20.3	11.8	-28.7	-
Peru	7.7	27.9	-19.5	-2.5	-20.9	0.0	-20.9	-
Philippines	11.2	24.6	-16.9	-1.6	-16.2	8.5	-22.8	-
Poland	-7.7	22.7	-19.4	-14.2	-14.4	-11.3	-3.5	-
Portugal	-7.4	-49.5	-13.4	-8.7	-14.2	4.3	-17.7	-
Puerto Rico	-12.7	-70.7	-3.2	-19.3	-8.4	21.4	-24.6	-

	Change 2012-2017 (in percent)							2017
					New methodology			CBR (counter parties abroad) trend
jurisdiction	Volume (number of messages	value	CBR Old methodology corrected	CBR alternative methodology	CBR (counterparties abroad)	local banks	ratio CBR/(local banks)	
Qatar	58.6	13.8	-3.1	20.2	-5.7	6.3	-11.3	-
Republic of Kosovo	1254.7	860.6	35.3	375.8	na	na	na	-
Republic of Serbia	14.2	-13.3	-20.6	-40.4	-14.3	-18.4	5.0	-
Republic of the Marshall Islands	474.5	1079.2	-50.0	0.0	na	na	na	=
Reunion	-29.2	-51.4	-35.1	-46.1	-37.1	0.0	-37.1	-
Romania	-31.8	-12.7	-13.9	-25.2	-12.6	-5.1	-7.9	-
Russia	24.2	-0.4	-26.4	-40.8	-17.1	-33.2	24.1	-
Rwanda	57.8	104.6	15.3	23.9	11.0	45.5	-23.7	+
Rép. Démocratique du Congo	37.3	19.0	3.1	27.4	0.0	-10.0	11.1	-
Saint Helena	12399.2	244022.9	0.0	0.0	na	na	na	=
Saint Kitts and Nevis	17.9	13.9	-20.5	4.8	-19.1	0.0	-19.1	-
San Marino	-32.4	-55.8	-36.7	-29.7	-55.6	-36.4	-30.2	-
Sao Tomé & Principe	51.3	-37.2	-11.2	-18.9	-6.3	-22.2	20.5	-
Saudi Arabia	40.0	26.6	-10.5	9.0	-19.4	33.3	-39.6	-
Senegal	44.9	135.0	-1.0	6.0	-4.6	23.8	-22.9	-
Seychelles	6.4	-16.4	-40.4	15.8	-54.3	28.6	-64.4	-
Sierra Leone	16.6	11.5	-10.9	-21.2	-20.3	0.0	-20.3	=
Singapore	36.5	14.0	-9.7	6.7	-6.2	2.3	-8.4	-
Sint Marteen	40.0	4.2	-26.1	1.3	-32.1	0.0	-32.1	-
Slovakia	-63.4	-39.9	-17.3	-19.7	-20.8	-6.1	-15.7	-
Slovenia	4.4	-25.1	-15.3	-30.1	-16.2	-23.1	9.0	-
Solomon Islands	13.9	80.2	-39.3	-31.1	-39.8	0.0	-39.8	-
Somalia, Federal Republic of	19951.5	1254.3	186.7	325.2	na	na	na	+
South Africa	25.5	17.2	-14.1	17.6	-17.3	3.4	-20.1	-
South Sudan	181.7	-34.9	7.4	24.6	21.7	88.9	-35.5	-
Spain	9.2	-22.8	-18.4	6.2	-8.3	-10.1	2.0	-
Sri Lanka	15.2	12.5	-21.8	-3.6	-29.0	0.0	-29.0	-
St Lucia	16.5	-3.8	-3.8	9.3	-6.3	11.1	-15.7	-
St Pierre and Miquel	-96.9	-100.0	-39.5	-63.6	-44.4	0.0	-44.4	-
St Vincent	-18.9	-11.7	-11.7	21.9	-19.5	0.0	-19.5	-
Sudan	-31.6	10.3	-45.5	-56.5	-39.2	-7.7	-34.1	-
Surinam	11.7	-6.7	-25.1	-24.7	-32.7	-10.0	-25.3	-

	Change 2012-2017 (in percent)							2017
					New methodology			CBR (counter parties abroad) trend
jurisdiction	Volume (number of messages	value	CBR Old methodology corrected	CBR alternative methodology	CBR (counterparties abroad)	local banks	ratio CBR/(local banks)	
Swaziland	46.0	97.4	-3.6	9.8	-10.2	0.0	-10.2	-
Sweden	15.2	-6.8	-20.2	16.1	-24.7	16.0	-35.1	-
Switzerland	-1.2	10.1	-22.1	7.0	-20.7	-11.7	-10.2	-
Syrian Arab Republic	-89.6	-86.6	-67.2	-50.3	-67.7	-5.9	-65.7	-
Taiwan	14.6	77.4	-10.8	-1.7	-9.7	0.0	-9.7	-
Tajikistan	-10.1	-55.2	-23.8	-8.0	-38.4	70.6	-63.9	-
Tanzania	21.7	50.8	-2.8	7.6	-8.5	10.5	-17.2	-
Thailand	31.4	25.4	-12.0	3.6	-12.8	0.0	-12.8	-
Timor-Leste	43.5	-23.8	-61.8	4.1	-69.2	100.0	-84.6	-
Togo	78.9	142.4	-0.9	22.9	-6.0	7.1	-12.3	=
Tonga	14.0	69.7	-33.2	8.8	-37.5	25.0	-50.0	-
Trinidad and Tobago	1.2	-11.4	-21.3	-6.3	-27.8	22.2	-40.9	-
Tunisia	15.8	-42.5	-14.8	-22.6	-19.6	3.8	-22.6	-
Turkey	35.6	7.7	-9.6	-3.4	-14.6	9.6	-22.1	-
Turkmenistan	127.4	-50.5	-7.2	-7.0	-10.8	-9.1	-1.9	-
Turks & Caicos	5.6	-11.8	-21.1	-1.9	-18.0	0.0	-18.0	-
Tuvalu	64.8	39.0	-50.1	-9.1	-33.3	0.0	-33.3	-
Uganda	35.3	-7.0	-3.3	3.2	-5.1	3.7	-8.5	-
Ukraine	1.4	-62.0	-36.3	-58.2	-27.1	-45.3	33.2	-
United Arab Emirates	40.5	75.9	-12.8	16.8	-16.8	19.8	-30.6	-
United Kingdom	34.9	5.3	-10.0	7.3	-6.3	5.2	-10.9	-
United States	31.9	37.2	-8.2	31.0	-4.7	-2.7	-2.0	-
Uruguay	7.9	136.3	-32.1	-24.2	-30.6	-5.3	-26.8	-
Uzbekistan	40.0	27.8	-16.5	-18.2	-24.5	-3.8	-21.5	=
Vanuatu	16.5	-16.2	-43.0	21.1	-56.2	50.0	-70.8	-
Vatican City State	-33.6	-82.7	-28.2	-30.8	-39.4	0.0	-39.4	-
Venezuela	-61.9	-31.8	-54.5	-16.8	-58.2	-18.8	-48.6	-
Vietnam	65.2	136.3	-12.9	-4.0	-17.8	0.0	-17.8	-
Virgin Islands, U.S.	-21.9	54.1	-20.5	0.0	0.0	0.0	0.0	+
Virquin dsl (GB)	-5.8	-8.8	-46.1	139.2	-40.4	0.0	-40.4	-
Western Samoa	40.0	329.0	-26.1	27.8	-26.6	0.0	-26.6	-
Yemen	-81.1	-79.4	-40.8	-15.1	-45.2	-5.9	-41.8	-
Zambia	39.4	29.7	-3.2	5.8	-3.7	0.0	-3.7	-
Zimbabwe	-30.7	-25.8	-21.8	-29.5	-23.3	-26.9	5.0	=

Annex 3: 50 countries or territories with the largest cumulative decline in the number of CBR between 2012 and 2017 (New methodology)

In addition to the data presented in Annex 2 for changes between 2012 and 2017, this table shows the evolution of the volume (number) of messages sent and received through SWIFT, their value, and the number of active CBRs, based on the three methodologies described in Section 3 for the 2017 period. For the new methodology the first column (CBR) gives the change in the number of counterparties abroad receiving payment messages from the stated country and the second (local banks) the change in the number of banks in that country receiving payment messages.

	Change in 2017 (in percent)							Change 2012-2017 (in percent)						
					New methodology							New methodology		
jurisdiction	volume	value	CBR Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks	volume	value	Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks
Korea, Democratic People's Rep. Of	-	-	-100.0	0.0	-100.0	-100.0	-	-94.7	-98.4	-100.0	-74.3	-100.0	-100.0	-
Timor-Leste	-6.5	-7.3	-44.0	25.0	-55.2	100.0	-77.6	43.5	-23.8	-61.8	4.1	-69.2	100.0	-84.6
Syrian Arab Republic	-29.3	-38.8	-24.4	-16.7	-20.5	0.0	-20.5	-89.6	-86.6	-67.2	-50.3	-67.7	-5.9	-65.7
Venezuela	-39.1	-40.9	-14.9	-11.7	-15.1	0.0	-15.1	-61.9	-31.8	-54.5	-16.8	-58.2	-18.8	-48.6
Vanuatu	5.2	113.6	-34.2	2.6	-40.4	0.0	-40.4	16.5	-16.2	-43.0	21.1	-56.2	50.0	-70.8
San Marino	-33.1	-10.4	-7.0	-6.4	-9.1	0.0	-9.1	-32.4	-55.8	-36.7	-29.7	-55.6	-36.4	-30.2
Cook Islands	-6.9	87.5	-20.2	-3.8	-16.4	-60.0	109.0	2.2	-66.5	-43.8	4.3	-55.6	-50.0	-11.1
Monaco	-1.1	-17.4	-8.6	2.5	-14.8	0.0	-14.8	-10.5	-37.5	-45.2	1.9	-55.4	-5.3	-52.9
Bermuda	2.1	10.6	-21.9	1.6	-29.1	7.1	-33.8	-2.8	-2.5	-44.7	-17.5	-55.2	25.0	-55.2
Seychelles	14.9	-2.1	-10.3	2.2	-15.7	0.0	-15.7	6.4	-16.4	-40.4	15.8	-54.3	28.6	-64.4
Eritrea	14.1	-12.2	-19.0	-10.7	-18.2	0.0	-18.2	-19.7	-19.7	-39.2	-32.4	-53.8	0.0	-53.8

	Change in 2017 (in percent)							Change 2012-2017 (in percent)						
					New methodology							New methodology		
jurisdiction	volume	value	CBR Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks	volume	value	Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks
Mayotte	-18.6	8.2	8.4	0.0	25.0	0.0	25.0	13.4	-53.9	-56.7	0.0	-52.4	0.0	-52.4
French Guiana	-72.7	-60.4	-33.2	0.0	-29.2	0.0	-29.2	-83.0	-87.0	-45.2	0.0	-51.4	0.0	-51.4
Guadeloupe	-68.6	-57.3	-20.0	-22.7	-29.8	-20.0	-12.2	-80.9	-83.6	-41.8	-34.6	-50.8	-20.0	-38.5
Cuba	-6.5	8.5	-22.0	-2.2	-22.2	0.0	-22.2	-11.5	-34.2	-42.8	-14.7	-48.4	0.0	-48.4
New Caledonia	-0.4	2.8	-2.5	-1.1	-10.3	0.0	-10.3	5.0	-32.5	-38.5	-4.1	-46.7	0.0	-46.7
Yemen	-25.4	-11.4	-18.1	-5.6	-17.9	0.0	-17.9	-81.1	-79.4	-40.8	-15.1	-45.2	-5.9	-41.8
Isle of Man	9.7	-8.5	-17.3	-11.1	-20.8	-14.3	-7.7	84.0	-37.9	-43.2	-25.8	-45.0	-20.0	-31.2
St Pierre and Miquel	-96.3	-100.0	-40.0	-50.0	-44.4	0.0	-44.4	-96.9	-100.0	-39.5	-63.6	-44.4	0.0	-44.4
Faeroe Islands	-0.5	-35.8	-2.3	-18.1	-7.8	0.0	-7.8	-31.2	-34.5	-36.5	-48.0	-42.9	0.0	-42.9
Gibraltar	12.0	74.1	-18.0	-5.7	-22.8	0.0	-22.8	74.5	119.2	-32.4	-24.6	-41.9	0.0	-41.9
Andorra	3.7	27.5	-12.0	-2.5	-17.2	0.0	-17.2	29.1	117.1	-34.6	-23.0	-41.2	0.0	-41.2
Virgin Islands (British)	-6.1	17.3	-6.6	-1.5	-13.9	0.0	-13.9	-5.8	-8.8	-46.1	139.2	-40.4	0.0	-40.4
Libyan Arab Jamahiriya	-0.4	-16.2	-6.5	-4.9	-5.0	5.0	-9.5	-46.4	-61.7	-31.8	-19.5	-40.3	10.5	-46.0
Guam	-27.9	-51.6	0.0	0.0	0.0	0.0	0.0	20.2	-52.4	-29.0	0.0	-40.0	0.0	-40.0
Afghanistan	-22.3	-8.0	4.5	0	4.1	6.3	-2.1	-48.6	-41.4	-24.7	31.1	-39.8	-5.6	-36.3
Solomon Islands	8.0	101.6	-0.4	5.1	-2.8	0.0	-2.8	13.9	80.2	-39.3	-31.1	-39.8	0.0	-39.8
Vatican City State	-11.9	-5.5	-3.7	0.0	-8.5	0.0	-8.5	-33.6	-82.7	-28.2	-30.8	-39.4	0.0	-39.4
Sudan	-7.2	6.8	-6.9	-8.6	-12.6	5.9	-17.5	-31.6	10.3	-45.5	-56.5	-39.2	-7.7	-34.1

	Change in 2017 (in percent)							Change 2012-2017 (in percent)						
					New methodology							New methodology		
jurisdiction	volume	value	CBR Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks	volume	value	Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks
Moldova	9.3	16.3	-17.9	-13.4	-21.6	0.0	-21.6	19.9	-37.3	-35.7	-54.9	-38.4	-25.0	-17.8
Tajikistan	-3.0	17.0	-17.8	-15.5	-22.1	0.0	-22.1	-10.1	-55.2	-23.8	-8.0	-38.4	70.6	-63.9
Tonga	5.7	102.7	-9.6	0.0	-13.3	-16.7	4.0	14.0	69.7	-33.2	8.8	-37.5	25.0	-50.0
Belize	20.1	15.7	-18.0	2.4	-22.9	10.0	-29.9	-33.5	-35.5	-31.2	-24.4	-37.3	22.2	-48.7
Reunion	-27.9	-36.3	-11.3	-13.7	-14.0	0.0	-14.0	-29.2	-51.4	-35.1	-46.1	-37.1	0.0	-37.1
Madagascar	8.8	12.5	-5.8	-3.4	-10.8	0.0	-10.8	33.3	58.4	-34.2	-15.0	-35.3	-9.1	-28.8
Morocco	6.5	1.7	-4.3	-2.3	-4.9	0.0	-4.9	25.5	-11.7	-22.4	-8.5	-33.5	5.6	-37.0
Tuvalu	14.9	2.1	-18.4	0.0	-11.1	0.0	-11.1	64.8	39.0	-50.1	-9.1	-33.3	0.0	-33.3
Surinam	22.5	10.5	-15.0	0.0	-15.9	0.0	-15.9	11.7	-6.7	-25.1	-24.7	-32.7	-10.0	-25.3
Finland	3.0	-6.9	-8.2	-2.1	-11.5	4.3	-15.2	-6.8	-4.1	-20.3	7.3	-32.4	14.3	-40.8
Sint Maarten	7.2	19.5	-3.5	3.9	-2.7	0.0	-2.7	40.0	4.2	-26.1	1.3	-32.1	0.0	-32.1
Brunei Darussalam	-0.4	-23.6	-19.5	2.0	-18.6	22.2	-33.4	17.8	-67.9	-24.9	22.3	-32.0	0.0	-45.6
Papua New Guinea	-4.7	-50.9	-9.1	-2.7	-14.6	0.0	-14.6	25.4	-41.9	-24.1	6.2	-31.9	0.0	-31.9
Lithuania	4.7	27.4	-4.9	-0.7	-6.2	0.0	-6.2	-32.3	-24.2	-25.0	-45.7	-31.7	-12.5	-22.0
Fiji	4.4	2.2	-13.5	-1.2	-16.3	0.0	-16.3	29.3	278.0	-22.9	41.0	-31.2	16.7	-41.0
Chile	5.1	3.8	-5.5	-2.9	-7.7	-7.4	-0.3	22.5	6.0	-23.9	-4.8	-31.0	0.0	-31.0
American Samoa	-0.9	-42.2	-22.2	0.0	-25.0	0.0	-25.0	36.3	332.3	-33.2	0.0	-30.8	0.0	-30.8
Uruguay	-1.4	33.3	-15.8	-12.3	-9.6	-25.0	20.5	7.9	136.3	-32.1	-24.2	-30.6	-5.3	-26.8
French Polynesia	7.1	-14.9	-5.6	-8.3	-13.4	0.0	-13.4	25.0	-29.6	-21.6	-23.5	-30.3	0.0	-30.3
Guernsey, C.I.	-7.8	13.0	-10.1	0.7	-12.2	-7.4	-5.2	-2.5	-22.3	-26.3	0.0	-30.1	-3.8	-27.3

	Change in 2017 (in percent)							Change 2012-2017 (in percent)						
					New methodology							New methodology		
jurisdiction	volume	value	CBR Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks	volume	value	Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks
Belarus	10.9	23.8	-7.3	-6.1	-9.6	-3.4	-6.3	39.2	-3.2	-24.4	-20.8	-29.7	-15.2	-17.2

Annex 4: 50 countries or territories with the largest cumulative decline in the number of CBR in 2017 (New methodology)

	Change in 2017 (in percent)							Change 2012-2017 (in percent)						
					New methodology							New methodology		
jurisdiction	volume	value	CBR Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks	volume	value	Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks
Korea, Democratic People's Rep. Of	-	-	-100.0	0.0	-100.0	-100.0	-	-94.7	-98.4	-100.0	-74.3	-100.0	-100.0	-
Timor-Leste	-6.5	-7.3	-44.0	25.0	-55.2	100.0	-77.6	43.5	-23.8	-61.8	4.1	-69.2	100.0	-84.6
St Pierre and Miquel	-96.3	-100.0	-40.0	-50.0	-44.4	0.0	-44.4	-96.9	-100.0	-39.5	-63.6	-44.4	0.0	-44.4
Vanuatu	5.2	113.6	-34.2	2.6	-40.4	0.0	-40.4	16.5	-16.2	-43.0	21.1	-56.2	50.0	-70.8
Guadeloupe	-68.6	-57.3	-20.0	-22.7	-29.8	-20.0	-12.2	-80.9	-83.6	-41.8	-34.6	-50.8	-20.0	-38.5
French Guiana	-72.7	-60.4	-33.2	0.0	-29.2	0.0	-29.2	-83.0	-87.0	-45.2	0.0	-51.4	0.0	-51.4
Bermuda	2.1	10.6	-21.9	1.6	-29.1	7.1	-33.8	-2.8	-2.5	-44.7	-17.5	-55.2	25.0	-55.2
American Samoa	-0.9	-42.2	-22.2	0.0	-25.0	0.0	-25.0	36.3	332.3	-33.2	0.0	-30.8	0.0	-30.8
Falkland Islands	0.1	61.5	-47.3	0.0	-25.0	0.0	-25.0	6.4	-48.5	-44.8	0.0	-25.0	0.0	-25.0
Belize	20.1	15.7	-18.0	2.4	-22.9	10.0	-29.9	-33.5	-35.5	-31.2	-24.4	-37.3	22.2	-48.7
Gibraltar	12.0	74.1	-18.0	-5.7	-22.8	0.0	-22.8	74.5	119.2	-32.4	-24.6	-41.9	0.0	-41.9
Cuba	-6.5	8.5	-22.0	-2.2	-22.2	0.0	-22.2	-11.5	-34.2	-42.8	-14.7	-48.4	0.0	-48.4
Tajikistan	-3.0	17.0	-17.8	-15.5	-22.1	0.0	-22.1	-10.1	-55.2	-23.8	-8.0	-38.4	70.6	-63.9
Moldova	9.3	16.3	-17.9	-13.4	-21.6	0.0	-21.6	19.9	-37.3	-35.7	-54.9	-38.4	-25.0	-17.8
Isle of Man	9.7	-8.5	-17.3	-11.1	-20.8	-14.3	-7.7	84.0	-37.9	-43.2	-25.8	-45.0	-20.0	-31.2

	Change in 2017 (in percent)							Change 2012-2017 (in percent)						
					New methodology							New methodology		
jurisdiction	volume	value	CBR Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks	volume	value	Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks
Syrian Arab Republic	-29.3	-38.8	-24.4	-16.7	-20.5	0.0	-20.5	-89.6	-86.6	-67.2	-50.3	-67.7	-5.9	-65.7
Brunei Darussalam	-0.4	-23.6	-19.5	2.0	-18.6	22.2	-33.4	17.8	-67.9	-24.9	22.3	-32.0	0.0	-45.6
Eritrea	14.1	-12.2	-19.0	-10.7	-18.2	0.0	-18.2	-19.7	-19.7	-39.2	-32.4	-53.8	0.0	-53.8
Yemen	-25.4	-11.4	-18.1	-5.6	-17.9	0.0	-17.9	-81.1	-79.4	-40.8	-15.1	-45.2	-5.9	-41.8
Andorra	3.7	27.5	-12.0	-2.5	-17.2	0.0	-17.2	29.1	117.1	-34.6	-23.0	-41.2	0.0	-41.2
Cook Islands	-6.9	87.5	-20.2	-3.8	-16.4	-60.0	109.0	2.2	-66.5	-43.8	4.3	-55.6	-50.0	-11.1
Fiji	4.4	2.2	-13.5	-1.2	-16.3	0.0	-16.3	29.3	278.0	-22.9	41.0	-31.2	16.7	-41.0
Surinam	22.5	10.5	-15.0	0.0	-15.9	0.0	-15.9	11.7	-6.7	-25.1	-24.7	-32.7	-10.0	-25.3
Seychelles	14.9	-2.1	-10.3	2.2	-15.7	0.0	-15.7	6.4	-16.4	-40.4	15.8	-54.3	28.6	-64.4
Venezuela	-39.1	-40.9	-14.9	-11.7	-15.1	0.0	-15.1	-61.9	-31.8	-54.5	-16.8	-58.2	-18.8	-48.6
Monaco	-1.1	-17.4	-8.6	2.5	-14.8	0.0	-14.8	-10.5	-37.5	-45.2	1.9	-55.4	-5.3	-52.9
Papua New Guinea	-4.7	-50.9	-9.1	-2.7	-14.6	0.0	-14.6	25.4	-41.9	-24.1	6.2	-31.9	0.0	-31.9
Azerbaijan	17.8	14.7	-13.8	-18.7	-14.3	-20.0	7.1	47.0	-30.1	-25.4	-44.7	-28.5	-21.7	-8.7
Reunion	-27.9	-36.3	-11.3	-13.7	-14.0	0.0	-14.0	-29.2	-51.4	-35.1	-46.1	-37.1	0.0	-37.1
Virquin dsl (GB)	-6.1	17.3	-6.6	-1.5	-13.9	0.0	-13.9	-5.8	-8.8	-46.1	139.2	-40.4	0.0	-40.4
Tanzania	5.5	35.1	-7.4	-1.7	-13.4	2.4	-15.5	21.7	50.8	-2.8	7.6	-8.5	10.5	-17.2
French Polynesia	7.1	-14.9	-5.6	-8.3	-13.4	0.0	-13.4	25.0	-29.6	-21.6	-23.5	-30.3	0.0	-30.3
Macau	-3.1	-0.3	-8.1	-4.4	-13.4	0.0	-13.4	18.0	46.8	-10.3	2.2	-10.3	-7.4	-3.1
Angola	-5.6	-11.9	-15.4	-2.8	-13.4	3.3	-16.2	-48.2	-25.2	-21.4	-1.8	-27.2	29.2	-43.7
Tonga	5.7	102.7	-9.6	0.0	-13.3	-16.7	4.0	14.0	69.7	-33.2	8.8	-37.5	25.0	-50.0
Anguilla (GB)	15.5	47.1	-14.7	-13.4	-12.8	0.0	-12.8	50.9	86.8	-21.7	-19.5	-10.9	0.0	-10.9

	Change in 2017 (in percent)							Change 2012-2017 (in percent)						
					New methodology							New methodology		
jurisdiction	volume	value	CBR Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks	volume	value	Old method. corrected	CBR alternative method.	CBR	local banks	ratio CBR /local banks
Honduras	7.6	3.5	-12.5	-12.0	-12.7	7.1	-18.5	42.4	33.1	-20.7	-22.3	-22.0	0.0	-22.0
Sudan	-7.2	6.8	-6.9	-8.6	-12.6	5.9	-17.5	-31.6	10.3	-45.5	-56.5	-39.2	-7.7	-34.1
South Sudan	82.3	24.7	-20.9	-20.1	-12.5	-22.7	13.2	181.7	-34.9	7.4	24.6	21.7	88.9	-35.5
Guernsey, C.I.	-7.8	13.0	-10.1	0.7	-12.2	-7.4	-5.2	-2.5	-22.3	-26.3	0.0	-30.1	-3.8	-27.3
Sao Tomé & Principe	23.1	0.0	-8.9	-15.3	-11.8	-12.5	0.8	51.3	-37.2	-11.2	-18.9	-6.3	-22.2	20.5
Finland	3.0	-6.9	-8.2	-2.1	-11.5	4.3	-15.2	-6.8	-4.1	-20.3	7.3	-32.4	14.3	-40.8
Iceland	-39.2	0.6	-3.2	10.7	-11.3	16.7	-24.0	-16.0	17.9	-16.6	16.8	-19.9	-22.2	3.0
Western Samoa	4.0	4.8	-8.9	5.2	-11.3	0.0	-11.3	40.0	329.0	-26.1	27.8	-26.6	0.0	-26.6
Namibia	7.4	31.5	-6.1	0.8	-11.3	0.0	-11.3	27.6	234.8	-8.6	1.9	-19.5	44.4	-44.2
Montenegro	6.1	-8.6	-9.1	2.2	-11.1	0.0	-11.1	38.1	10.4	-7.6	6.8	-17.7	33.3	-38.3
Tuvalu	14.9	2.1	-18.4	0.0	-11.1	0.0	-11.1	64.8	39.0	-50.1	-9.1	-33.3	0.0	-33.3
Commonwealth Dominic	-6.4	-15.0	-14.3	-7.0	-11.1	-12.5	1.6	-3.2	-27.2	-22.5	0.1	-16.9	16.7	-28.8
Liechtenstein	-3.2	2.6	-6.8	5.0	-11.0	0.0	-11.0	-6.3	-5.3	-17.2	10.9	-24.8	0.0	-24.8
Madagascar	8.8	12.5	-5.8	-3.4	-10.8	0.0	-10.8	33.3	58.4	-34.2	-15.0	-35.3	-9.1	-28.8