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## The statistical classification of cash pooling activities

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## Statistics Paper Series

Antonio Colangelo    The statistical classification of  
cash pooling activities

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# Abstract

Cash pooling is a bank service that allows corporates to externalise the intra-group cash management, and thus manage their global liquidity effectively with lower costs. Although there is little quantitative information on the significance of the phenomenon, cash pooling appears to have become increasingly popular after the onset of the financial crisis when, in an environment characterised by limited access to capital markets, reduced bank lending, low returns and higher risks on banks' deposits, corporate groups started to maximise their use of internal sources of financing. In particular, cash pooling is currently very relevant in Western and Northern European countries, and is mainly offered in the United Kingdom, France and the Netherlands.

This paper first analyses cash pooling agreements with a focus on the aspects that are relevant from a statistical viewpoint. It then addresses their statistical recording in compliance with ESA 2010 and, specifically, the methodological framework of Monetary Financial Institutions (MFI) balance sheet item statistics. It is proposed that positions related to cash pooling shall be recorded on a gross basis vis-à-vis the actual beneficiaries and obligors of the corresponding accounts. However, the proposed treatment goes beyond MFI balance sheet statistics and affects other data domains as well, ranging from financial accounts to balance of payments and international investment positions. While the statistical approach may seem straightforward, applying it in practice is more difficult, not least because of the treatment of cash pooling contracts in accounting terms. The analysis is complemented by numerical examples and also includes data for the Netherlands, which show the importance of clarifying the statistical treatment of cash pooling in light of the large impact it may have on macroeconomic aggregates.

**Keywords:** cash pooling, cash management, MFI balance sheet statistics, statistical standards, accounting standards, monetary aggregates, credit

**JEL codes:** G21, G32, E51, E43, M41

## Non-technical summary

Different (legal) entities of corporate groups normally manage their liquidity independently. In particular, each entity would have its own current account and use this to make and receive payments, as well as to obtain credit (depending on the overdraft limit agreed with the bank) when necessary. This approach, however, may have disadvantages for both individual entities and the group as a whole. For instance, in adverse market conditions a bank may decide to withdraw an uncommitted line of credit from an individual entity. In addition, banks normally charge implicit margins on loans and deposits, and the entity running an overdraft would thus pay a higher rate of interest on its liability position than that which would be applied by another group entity with excess liquidity if the two entered into an inter-company loan.

Pooling cash within the group thus represents a significant opportunity to ensure that the use of internal funds is maximised and the cost of capital is minimised. Traditionally, one way to pool cash consists of mandating the parent company to manage the liquidity of the group (e.g. by setting up a treasury management company or an in-house bank). However, this option requires the setting up of in-house complex and costly infrastructures, and corporates may thus have incentives for externalising the service. Financial innovation has responded to these market needs by creating cash pooling contracts, which are in fact agreements between a bank and the entities of a group that allow the *de facto* pooling of cash in real time. Specifically, the bank creates individual positions for the entities of a group but then pools these together, either virtually or physically, for the purposes of calculating interest and applying fees. In addition, the bank may also offer foreign-exchange services, as pools can be multi-currency. This mechanism creates a system of intragroup positions or implicit guarantees and allows the corporate group to reduce the overall transaction costs. By the perspective of the members, however, cash pooling carries the risk of losses on their liquidity contribution in the event of insolvency of other members. In addition, although interest remuneration in the pool is normally at market rates, participants could find more remunerative forms of investment for their liquidity surplus.

This paper reviews the most common types of cash pooling agreements that have been created in the market, and proposes a solution for recording these operations in statistical terms in accordance with international statistical standards, with a particular focus on the Monetary Financial Institutions balance sheet and interest rate statistics. Statistical recording is not always straightforward, partly because in some cases accounting standards, which normally underpin statistical compilation, provide for treatments that diverge from statistical principles. Deviation from statistical recording principles, however, may have a major impact on macroeconomic statistics given the significance of the phenomenon. For instance, according to data from De Nederlandsche Bank, at end-2015 claims related to notional cash pooling account for about 9% of the total MFI loans vis-à-vis euro area residents recorded on the aggregated balance sheet of the Dutch banking sector,

while liabilities related to notional cash pooling accounts for about 11% of the total MFI deposits vis-a-vis euro area residents. The paper also seeks to offer a perspective on the calculation of statistics for bank interest rates, which may themselves be significantly biased by cash pooling contracts.

# 1 Introduction

Entities of corporate groups often manage their cash on an individual basis using current accounts with their local banks which normally also offer credit facilities. However, this approach does not allow an optimal use of the internal resources of the group. Traditionally large corporates have set up cash-management companies or in-house banks to support the intra-group flow of liquidity, with a view to reduce costs as well as their dependence from the banking sector. On the other hand, establishing this service in-house can be very costly, as it requires the setting-up of complex technical systems that would support the flow of liquidity and the creation of intra-group positions, and may also involve foreign exchange services. Financial innovation in the area of cash management has resulted in the creation of attractive standardised cash pooling products that allow corporates to externalise the service and further reduce overall costs. In cash pooling contracts a bank creates individual positions (i.e. not necessarily real bank accounts) for the entities of the corporate group but treats these positions as a whole for the purposes of calculating interest and applying fees. Depending on the type of contract, cash surpluses and deficits on individual balances are pooled together either virtually or physically, with the result that recourse to external financing is minimised, as deficit and surplus balances are offset against one another. Tax regulations will ensure that entities with a liquidity surplus will still receive interest from entities with negative balances in the pool at market conditions, but this mechanism optimises interest charges for individual entities and the group as a whole as banks will not charge their implicit loan and deposit margins on the individual positions. Other transaction costs will also be minimised.

While banks have operated cash pooling since the early nineties, the attractiveness of these products increased after the start of the financial crisis. At this time the incentive for groups to maximise their use of internal sources of capital increased in an environment characterised by limited access to capital markets and reduced bank lending on the one side, with low returns and higher risks on banks' deposits on the other. Few data are available, at least in the European Union, to quantify the overall size of cash pooling activities in their various forms. However, according to qualitative information, the phenomenon is very relevant in Western and Northern European countries. In particular, the banking systems in the United Kingdom, France, and especially the Netherlands have been very active providing these services. While access to cash pooling is not limited to multinational groups in principle, these companies are, *de facto*, the major players in the market, probably because they benefit the most from standardised contracts which support their liquidity management globally. This paper will therefore refer primarily to the structure of a multinational group when explaining the details of cash pooling contracts.

Different types of cash pooling exist, but they can be classified in three broad categories that are relevant by a statistical perspective. The simplest cash pooling scheme is often referred to as the "*single legal account cash pool*". The contracts in

this class, also indicated as “*group accounts*”, are popular in Northern European countries. In this case, the bank only opens one real account in which the funds of the group are concentrated, although it also maintains sub-accounts which record intragroup balances. In other cases, the entities maintain their own bank accounts, and the pooling may be either physical, with surplus funds being physically transferred to offset deficit balances, or notional, when no physical movement of funds takes place but charges and interest payments are dealt with on an aggregated (netted) basis. These two categories are indicated as “*physical cash pooling*” and “*notional cash pooling*” respectively.

The statistical recording of cash pooling activities is not always straightforward. According to international statistical standards and, in particular, the European System of Accounts (ESA 2010), the critical factor is to correctly capture claims and liabilities of banks vis-à-vis the actual beneficiaries and obligors of cash pooling accounts. In addition, from a statistical perspective positions are to be recorded on a gross basis, i.e. without netting claims and liabilities at group level. The correct application of these general principles is crucial in order to guarantee consistency across data domains. However, statistical compilation often relies on financial reporting information which, depending on the underlying accounting framework and the fulfilment of certain conditions, may record cash pooling operations on a net basis. Macroeconomic aggregates (e.g. monetary and credit aggregates, debt indicators for the non-financial private sector, international investment positions) may be significantly affected by cash pooling, both in terms of outstanding amounts and transactions, and it is crucial for policy makers to reflect on the way they shall be reflected in the headline series.

Against this backdrop, Section 2 of this paper reviews the main features of cash pooling agreements that are relevant for their statistical classification, in particular because specific characteristics of the contracts may trigger the conditions for net recording in accounting terms. The analysis is of course not exhaustive on other aspects of these services which are relevant, for instance, by a legal perspective or for micro-prudential supervision. Section 3 then discusses the statistical recording of cash pooling activities, with a focus on its treatment in MFI balance sheet item (BSI) statistics<sup>1</sup>, which represents the basis for monetary analysis in the euro area. The section reviews the provisions of ESA 2010 and the BSI methodological framework in relation to gross and net recording, and puts these into perspective to focus on the various types of cash pooling. This analysis is complemented by detailed numerical examples presented in an annex. Whilst this discussion is developed from the perspective of the bank (as a reporting agent in BSI statistics), it also addresses the recording of the cash pool members, and so covers other data domains.<sup>2</sup> The analysis is then supplemented with statistics for the Netherlands, which highlight the

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<sup>1</sup> The statistical requirements of BSI statistics are specified under Regulation (EU) No 1071/2013 of the ECB of 24 September 2013 concerning the balance sheet of the monetary financial institutions sector (recast) (ECB/2013/33), OJ L 297, 7.11.2013, p. 1.

<sup>2</sup> The statistical treatment proposed in this paper can be applied, by analogy, to the case where the corporate group sets up an in-house bank or a cash management company, taking of course into account the specific characteristics of such internalised pooling.



importance of cash pooling at both country and euro area level. The section closes with a review of the implications of the proposal for MFI interest rate (MIR) statistics<sup>3</sup>.

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<sup>3</sup> MIR statistics are collected under the requirements of Regulation (EU) No 1072/2013 of the ECB of 24 September 2013 concerning statistics on interest rates applied by monetary financial institutions (recast) (ECB/2013/34), OJ L 297, 7.11.2013, p. 51.

## 2 The various types of cash pooling

All forms of cash pooling represent an agreement between a group and a bank which provides financial services to the entities of a group via individual bank balances, which may or may not be real bank accounts with a legal value (i.e. accounts creating a legal obligation between the bank and the beneficiary). These individual balances are linked to a top (or master) account, which may itself be a real or virtual bank account in the name of the pool leader, normally the parent company. Cash surpluses and deficits on the various balances are pooled together (virtually or physically) according to the rules specified in the contract. As a consequence, recourse to external financing is minimised since deficit balances are offset against surplus balances within the pool.

Entities that are participating to the pool and have a liquidity surplus receive interest from entities with negative balances. While tax regulations normally require that interest is charged at market conditions, banks will not charge their implicit loan and deposit margins on the individual positions, thus optimising net interest payments. In addition, cash pooling is much faster than a traditional system of individual accounts where internal funds move within the group by means of money transfers, as it entails, *de facto*, the real-time circulation of funds. Moreover, with cash pooling the administration costs for the group are reduced, as payments can be handled directly by the entities without the involvement of the parent company (within the limits imposed by the contract) and foreign exchange services are also provided by the bank. Furthermore, the group has the advantage that the bank normally offers an electronic platform which provides an overview of the total liquidity available to the group and tracks all incoming and outgoing payments affecting the individual balances.<sup>4</sup>

Cash pooling also carries some disadvantages and risks for the members. First, entities with a liquidity surplus may have invested their assets on capital markets for a higher remuneration. In addition, the participants usually also bear the risk of losses on their liquidity contribution to the pool in the event of insolvency of the parent company or other participants with negative balances. These points, however, would equally apply to the case where the group entities would enter in intra-group positions outside of a cash pooling scheme.

As previously mentioned, various types of cash pooling exist, and this paper classifies them in three main categories that are relevant by a statistical point of view. One first category can be referred to as the "*single legal account cash pool*", which is often also indicated as "*group account*". In this structure, the top account is the only bank account with legal validity (i.e. the only account creating a legal

<sup>4</sup> The existence of these electronic platforms may also support the fulfilment of specific reporting duties by cash pool participants. For instance, the requirements of national central banks in relation to cross-border transactions in the area of balance of payments could be met on the basis of data extractions from the system. Similarly, the legal framework of some countries requires the establishment of technical systems that allow group managing directors to monitor the solvency of affiliated companies to which they are exposed. For further information on these aspects, see Jansen (2011).

obligation between the bank and the beneficiary). This account concentrates the funds of the group, aggregating the balances of the individual entities, which remain fictional accounts. The holder of the top account is thus the only real counterparty of the bank by a statistical perspective. In turn, the other categories of cash pooling require all balances to be linked to real bank accounts, and therefore each of the entities covered by the contract is a counterparty of the bank. In these cases the pooling can be either physical, when surplus funds are automatically transferred in a physical manner to offset deficit balances ("*physical cash pool*"), or notional, when no physical movement of funds takes place and only the charges and interest payments are dealt with on an aggregated (netted) basis ("*notional cash pool*").<sup>5</sup>

This section reviews next these types of cash pooling in more details, while numerical examples are included in the Annex to provide further insights.

## 2.1 The single legal account cash pool

This type of cash pooling consists of transaction accounts, which are often directly used by the individual entities and the parent company for their daily operations, and a top account, which concentrates the funds of the group. Only the top account, which is normally held by the parent company, constitutes an obligation of the bank vis-à-vis the beneficiary. In turn, the transaction accounts simply track the intragroup positions, thus facilitating internal accounting, but do not represent a relationship with the bank directly. Under this scheme, the corporate group is not fully externalising the intra-group cash management, but rather using the services of the bank to support its internal functions. In fact, the bank's own accounting system may not even track the individual entities as they are not its direct counterparties.

**Chart 1** shows the structure of a single legal account cash pool agreement between a Dutch bank, and a multinational group with a Dutch parent company and three subsidiaries, located in Italy, Spain and Germany respectively, distinguishing between the top account, with the status of a real bank account (in pink), and the fictional accounts (in light blue).<sup>6</sup>

The cash pool may also include more than one transaction account for each entity. The structure may either be built separately for each currency, or offer a multi-currency functionality where each entity (or the parent) may have various transaction accounts, each denominated in a specific currency, with the top account unifying all underlying balances.<sup>7</sup>

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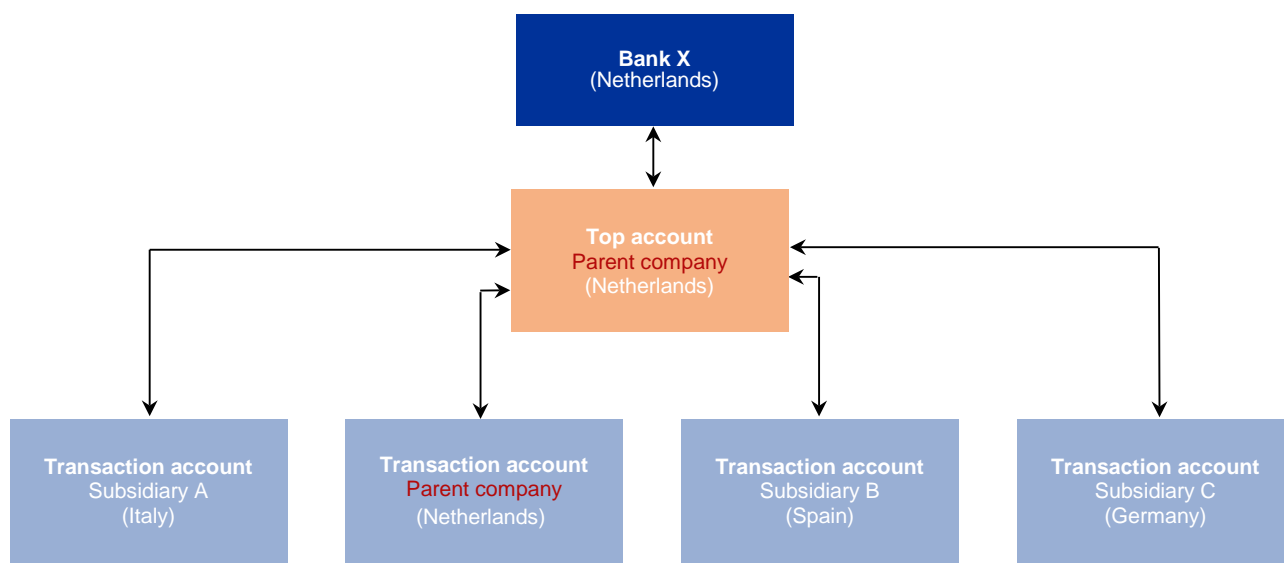
<sup>5</sup> Another type of cash pooling, referred to as the *online customer-initiated account transfer system*, is presented in Jansen (2011). This may be thought of as a physical cash pool without the automatic flow of funds. The transfers can be ordered on an as-needed basis by authorised representatives of the pool leader who have access to the accounts of the pool members. However, for our purposes this type of cash pool is equivalent to the physical cash pool and is therefore not analysed separately.

<sup>6</sup> The same colour convention will be used subsequently when presenting the other structures.

<sup>7</sup> The electronic platform supporting the cash pool may also include summary accounts consolidating any set of transaction accounts; these are normally very useful in the case of a multi-currency structure.

## Chart 1

### The structure of the single legal account cash pool



When a payment transaction is sent (received) by an entity, from the bank's point of view it is the top account that is debited (credited). However, the transaction account of the entity is also adjusted in real time, affecting the entity's inter-company positions with the parent company. In particular, the generation of inter-company loans has various tax and legal implications and requires the calculation of internal interest on the inter-company positions, not least for tax purposes.

It is also worth stressing that in this scheme only the top account can be given a credit facility by the bank, thus resulting in a reduction of costs for the group while making overall cash management easier. At the same time, the parent company (or the holder of the top account in general) normally allocates internal credit limits to improve control of liquidity flows due to transfers by the subsidiaries. Another advantage of the scheme for the groups is that the bank normally offers an electronic platform which (i) provides an overview of the total liquidity available to the group, (ii) tracks all incoming and outgoing payments affecting the individual balances and (iii) records the intragroup positions (i.e. inter-company loans) that are created by the pooling and calculates internal interest, thus supporting the accounting needs of the group and the individual entities. Example 1 in the Annex reviews this type of cash pooling in more detail.

## 2.2 Physical cash pooling

In physical cash pooling all accounts which are part of the agreement represent a resource or an obligation of the bank vis-à-vis the entities that participate in the pool, which thus remain the bank's counterparties. The accounts are sometimes used by their holders to conduct their commercial operations as if they were fully independent accounts, although in the more complex schemes the bank only provides large-value

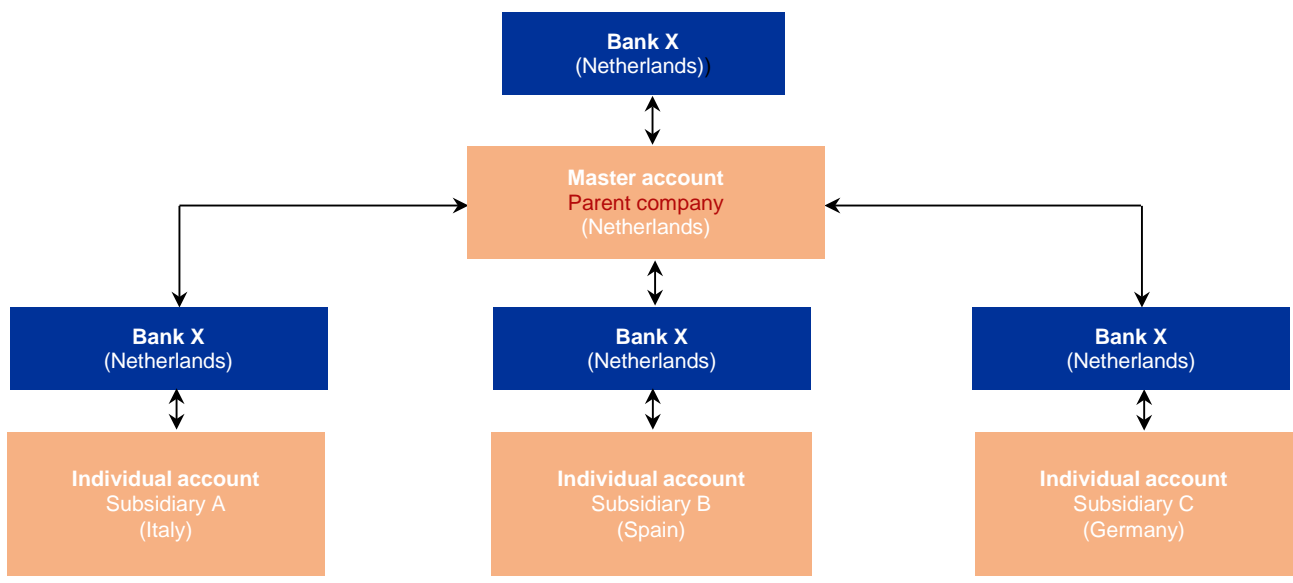
payment services, and the entities thus use the cash pooling accounts for their intra-group cash management operations, while their local banks would support their regular operations. The accounts are linked to a master account which is usually in the name of the parent company.

In a zero-balancing physical cash pool, the balances on the accounts in surplus are transferred to the master account on a regular basis (e.g. normally at the close of each business day). At the same time, the parent company transfers liquidity to the accounts in deficit to balance these out. The physical cash pool can also be target balancing, in which case a (positive) threshold is specified whereby when the balances of the individual accounts exceed the threshold, liquidity is transferred to the master account and, conversely, liquidity is transferred from the master account to the individual accounts when their balances are below the threshold.<sup>8</sup> This distinction is relevant for statistical reporting as these two types of physical cash pooling have different implications.

As in the case of the single legal account cash pool, the framework gives rise to inter-company loans which require the calculation of internal interest allocation.

## Chart 2

The structure of a physical cash pool



**Chart 2** shows the structure of a physical cash pool agreement using the same multinational group as above. The only difference in this case is that the individual accounts opened with the pool provider represent a legal relationship (pink colour), and that the parent company does not need to have an independent individual account.

<sup>8</sup> We assume that the threshold is positive and is unique in both directions. However, it may generally happen that different thresholds are applied depending on the direction of the transfers, and that liquidity transfers to the individual accounts only take place in the case of overdrafts.

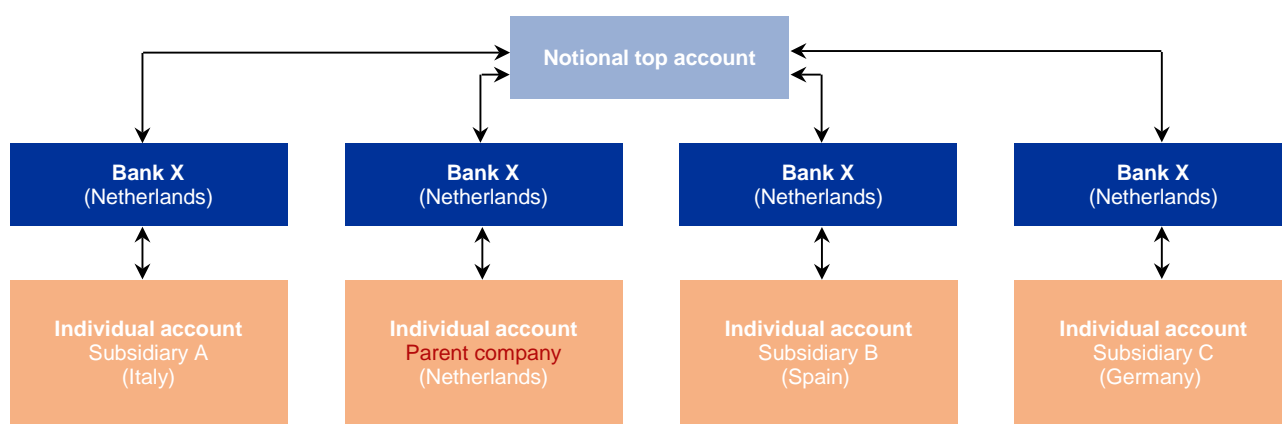
Moreover, in this case the cash pool may also include more than one individual account for each entity but, in contrast to the previous example, the structure normally refers to a single currency. While a physical cash pool requires regular money transfers to take place, these normally remain book transfers within the same banking network<sup>9</sup>, thus keeping transaction costs low. See Example 2 in the Annex for an illustration of physical cash pooling.

## 2.3 Notional cash pooling

Also in notional cash pooling the accounts represent a legal relationship between the bank and the participating entities, which are thus the direct counterparties of the bank by a statistical perspective. However, in contrast to physical cash pooling, no liquidity transfers resulting in inter-company loans take place in this case; this is actually one of the most attractive features of notional cash pooling, as managing intra-group positions for tax purposes can be burdensome, especially for global groups. The pooling is performed by the bank creating a notional top account that virtually consolidates the positions of the pool participants but does not represent itself a resource or an obligation of the bank. This virtual account determines the net pool position and represents the basis for calculating interest to be paid or charged.<sup>10</sup> This interest is then distributed among the participants in accordance with the conditions specified by the agreement concluded by the members of the pool.<sup>11</sup>

**Chart 3**

The structure of a notional cash pool



<sup>9</sup> For the purposes of payments statistics, the nature of these transfers should also be assessed.

<sup>10</sup> While the pooling account is virtual, a pool manager may be still required. Notional cash pooling often requires all accounts being open with the same credit institution, which implies physical liquidity transfers in and out from the country hosting the cash pool. However, more complicated notional cash pooling contracts also exist where the pooling takes place across accounts held with different credit institutions. While this case is not discussed in detail in this paper, the proposed treatment would apply analogously.

<sup>11</sup> This is an aspect of interest for the reporting of MIR statistics; see Section 3.4.

**Chart 3** shows the structure of a notional cash pool agreement using the same multinational group as above. The parent company has its own independent individual account but the notional top account has no legal status in this case (light blue colour).

Notional cash pools can also include more than one individual account for each entity, and refer to either a single currency or to multiple currencies. Example 3 in the Annex provides an illustration of this type of cash pooling.

An interesting common feature of notional cash pools is that participants can only draw credit to the extent the overall pool has a positive net balance, although the parent company may have an additional credit facility with the bank offering the service (or with another bank usually part of the same banking group). In addition, participants are often required to provide cross-guarantees to the bank, normally by committing to pledge their surpluses as collateral for the liquidity drawn by the entities in deficit. In virtue of these guarantees, the bank is able to demonstrate its right to offset deficit balances against surplus balances.<sup>12</sup> The existence of a right to offset requires a more in-depth assessment of the BSI treatment; see Section 3.1.

Moreover, it should be noted that these positions can be large and often show sharp reversals, e.g. when the parent company in its role as pool leader decides to balance out positions in the pool. This may result into high volatility in the balances of the individual accounts.

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<sup>12</sup> The existence of the right to offset by the bank implies that participants with positive balances bear the risk of suffering losses in the case of the insolvency of the parent company or other participants, although no liquidity transfers take place. In some cases, this may also be required by prudential regulation requirements or due to the fact that the bank would otherwise need to consider its claims in a cash pool agreement to be non-performing loans, since no interest is charged on these positions; see Treasury Alliance Group (2012).

## 3 Statistical assessment

International statistical standards describe the general principles for statistical compilation across countries and data domains, but are not exhaustive in recommending detailed compilation practices for all financial instruments. The ECB, in cooperation with Eurosystem national central banks, has set up various statistical datasets in order to support its monetary policy and supervisory functions (as well as other tasks of the Eurosystem and the European System of Central Banks). In each area the relevant legal acts are often supplemented by detailed guidance notes which put international statistical standards into perspective and also provide complementary information on the classification of specific financial instruments; however, no detailed analysis of cash pooling exists. The point is relevant because, especially for those countries where the phenomenon is significant, macroeconomic aggregates (e.g. monetary and credit aggregates, debt indicators for the non-financial private sector, international investment positions) may vary widely. As illustrated in Section 3.3, this is the case for the Netherlands.

For the purposes of this analysis, it is assumed that in statistical terms the entities involved in the cash pooling agreement constitute separate institutional units, which is often the case (and is surely so for cross-border entities). Whenever a number of legal entities constitute one institutional unit, consolidation across the institutional unit is required by statistical standards.<sup>13</sup> As previously mentioned, this paper focuses primarily on the treatment of cash pooling for BSI statistics, but the principles apply more widely and also cover financial accounts and balance of payments.<sup>14</sup>

### 3.1 Netting versus gross recording

When reflecting on the statistical classification of cash pooling operations, a first and general consideration is that banks should record accounts in their statistical returns to the extent that they generate resources or obligations, while notional balances in themselves do not normally have these features. However, it is still necessary to decide whether these balances should always be reported on a gross basis or

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<sup>13</sup> According to ESA 2010, paragraph 1.57, "Institutional units are economic entities that are capable of owning goods and assets, of incurring liabilities and of engaging in economic activities and transactions with other units in their own rights". Paragraph 2.01 of ESA 2010 specifies the preference for netting out cross-positions between entities of the same institutional units: "Transactions between various parts of the same institutional units are, in principle, not recorded in the national accounts".

<sup>14</sup> The treatment also has implications for minimum reserve requirements, whose calculation relies on the methodological framework of BSI statistics. In particular, the proposed approach, specifically on the gross-recording of notional cash pooling balances, may have the immediate impact of increasing the reserve requirements of those credit institutions that would be affected by a change in reporting. However, it is not possible to quantify the impact of such a recording practice at euro area level due to data availability. In addition, the suggested approach may also have implications for administrative purposes. For instance, the debt measures used in the context of the Macroeconomic Imbalance Procedure of the European Commission may be affected by the implementation of the suggested guidance.



whether netting could be applied (at least in some cases). The general preference for gross recording in the statistical accounting of ESA 2010 is expressed in paragraph 1.110, which states that: *“The approach in the ESA is gross recording, apart from the degree of netting which is inherent in the classifications themselves”*. In addition, ESA 2010, paragraph 5.29 defines netting as *“the consolidation at the level of a single institutional unit whereby accounting entries on both sides of the account for the same transaction item are offset against one another”*, and specifies that *“netting is to be avoided unless source data are lacking.”*<sup>15</sup>

Turning specifically to BSI statistics, Article 8(3) of Regulation ECB/2013/33 states that: *“Without prejudice to accounting practices and netting arrangements prevailing in the euro area Member States, all financial assets and liabilities shall be reported on a gross basis for statistical purposes.”* Hence, the BSI methodological framework is in line with the ESA 2010 preference for gross recording, although different practices are allowed to the extent that they are in compliance with the national accounting practices underpinning statistical reporting. In other words, whenever the statistical reporting of MFIs is based on financial reporting under accounting rules that allow netting, NCBs cannot generally be prevented from collecting data on this basis.

The manual on MFI balance sheet statistics (BSI Manual) also notes that:<sup>16</sup> *“This approach ensures consistency between MFI balance sheet statistical reporting and FINREP, as long as the accounting rules follow the guidance provided in international accounting standards (IAS). IAS 1.32-35 establish as a general principle that assets and liabilities, and incomes and expenses, cannot be offset, unless allowed by another international financial reporting standard (IFRS). In addition, as prescribed by IAS 32.422, a financial asset and a financial liability are to be offset and the net amount presented in the balance sheet when, and only when, an entity (a) currently has a legally enforceable right to set off the recognised amounts and (b) intends either to settle on a net basis or to realise the asset and settle the liability simultaneously.”* In particular, it is worth stressing that the two conditions above are very restrictive and in practice netting is rarely applied by financial institutions using the IAS/IFRS. However, these conditions are often met in the case of notional cash pooling, where the bank normally requires participants to provide cross-guarantees, which lead to the right to offset, and is willing to offset the balances. This situation may be seen as supporting the use of net recording in BSI reporting.<sup>17</sup>

On the other side, the BSI methodological framework is more restrictive for deposits and loans and Article 8(2) of Regulation ECB/2013/33 explicitly mentions that:

<sup>15</sup> In line with this general principle, the IMF Balance of Payments Manual (now BPM6), paragraph. 3.114-3.118, shows a preference for the net recording of flows in financial assets and in financial liabilities, but without netting asset positions against liability positions - i.e. net changes in financial assets and liabilities should be understood as increases minus reductions of this particular financial asset or liability. However, BPM6 specifies that there are cases where a clear distinction between assets and liabilities is not feasible (such as, for example, financial derivatives). In these cases a net combination of assets and liabilities is proposed.

<sup>16</sup> See footnote 11 to Chapter 1.

<sup>17</sup> Normally the right to offset does not apply in the case of physical cash pooling, which would seem to make the application of gross recording less controversial in that case.

“Deposit liabilities and loans shall not be netted (against each other or) against any other assets or liabilities.”<sup>18</sup> Hence, for deposits and loans, gross recording represents the preferred option irrespective of the accounting rules underpinning statistical reporting. In the case of cash pooling, the economic rationale of gross recording would be that although multinational groups use cash pooling agreements to maximise the benefits of the group as a whole by building a system of intragroup positions (for the single legal account cash pool and physical cash pooling) or implicit guarantees (for notional cash pooling), at the level of individual institutional units the asset and liability positions related to the agreement continue to represent distinct resources and obligations.

The application of gross recording in BSI would then ensure consistency across reporting MFIs since, as is the case in IFRS, accounting rules may allow netting under specific (and sometimes not objective) conditions only. At the same time, consistency between BSI and other data domains which rely on international statistical standards would be guaranteed.<sup>19</sup> It is also worth stressing that the suggested treatment is also in line with some on-going developments on the prudential side. In particular, Basel III is likely to introduce an obligation to consider gross amounts of assets and liabilities in the calculation of liquidity and capital ratios.<sup>20</sup>

## 3.2 Statistical recording of cash pooling activities

Positive balances relating to cash pooling represent non-negotiable obligations which allow the placement and the later withdrawal of the principal amount and thus satisfy the ESA 2010 definition of deposits. In particular, in those cases where they are exchangeable for currency on demand and directly usable for making payments, such positive balances should be classified as transferable deposits (F.22). In BSI statistics they are normally classified in the (broader) category of overnight deposits, which also includes other deposits which can be converted into currency without being directly transferable.<sup>21</sup> In turn, negative balances normally represent overdrafts (i.e. negative balances on current accounts), thus satisfying the ESA 2010 definition

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<sup>18</sup> The former BSI guidance notes allowed net reporting of deposits and loans under some restrictive conditions. Specifically, netting was allowed for credit and debit balances relating to accounts with the same reporting MFI which had identical features in terms of the same customer (individual institutional unit – i.e. netting across national territorial borders was not permitted), the same currency and the same original maturity, with the right to offset being enforceable by law. These provisions were dropped from the framework with the publication of the BSI Manual in April 2012.

<sup>19</sup> The suggested practice would also establish a level playing field across countries and institutions for the reporting on minimum reserves, as well as for the Macroeconomic Imbalance Procedure. In these contexts, it can be argued that gross recording may result into calculations that do not reflect economic reality, as reserve requirements and private sector debt indicators may increase to reflect intra-group positions. However, should analysts wish to offset non-financial corporations liabilities related to cash pooling by the corresponding assets, the netting should be achieved at the level of the compilation of the reference indicators, and not at the level of primary statistics. In fact, this approach is already in place for the Macroeconomic Imbalance Procedure, where consolidated private sector debt has been agreed on as the headline indicator. This approach is also being followed in the ECB press release on monetary developments in the euro area, as further explained in Section 3.3.

<sup>20</sup> For instance, see Euromoney (2016) and Treasury Alliance Group (2016).

<sup>21</sup> For an exact definition of overnight deposits in BSI statistics, refer to Part 1 of Annex II of Regulation ECB/2013/33 and Section 2.1.2 of the BSI manual.

of loans (F.4).<sup>22</sup> Data on overdrafts are also collected separately in BSI statistics as “*of-which*” positions of loans.

The paper will now turn to the impact of gross recording on statistical reporting, distinguishing among the various types of cash pooling.

In the case of a single legal account cash pool, only the top account, which concentrates the funds of the group, is relevant for the purpose of statistical reporting. Any transaction undertaken by the entities of the cash pool which implies a payment via the top account will be recorded in statistical terms as a transaction in the deposit liabilities of the bank vis-à-vis the parent company. Hence, in this case gross recording means that the bank will report the balance of the top account as a position vis-à-vis the pool leader. Of course, this is equivalent to the bank reporting the balances of the transaction account on an aggregated (netted) basis considering the pool leader as the counterpart. For a numerical representation of the statistical recording of the single legal account cash pool, see Example 1 in the Annex.

In physical cash pooling, the entities of the cash pool retain their individual accounts with the bank and use them for their daily operations. At the end of each business day funds flow from the individual accounts to the master account and vice versa, the transfers being matched by changes in intragroup positions. Recording the balances of the individual accounts on a gross basis in this case means measuring the individual accounts at the end of the reference period (close of business of the last day), i.e. after the flow of funds.

When the pooling is zero balancing, the individual accounts will always have a zero balance at the end of the business day. Hence, this type of cash pooling determines, *de facto*, the same balance sheet structure as the single legal account cash pool after the liquidity flows take place – i.e. at the close of the business day.

Turning to the target-balancing cash pool, liquidity flows in a way that guarantees that a minimum amount of liquidity is available on all individual accounts at the close of each business day. In this case statistical reporting is not neutral to the recording practice in use:

- the individual accounts will normally have a non-negative balance when the statistical measurement takes place; when net recording is applied, the overall balance is recorded vis-à-vis the parent company (as would be the case for a zero-balancing cash pool), although the liquidity remains available to the individual entities;
- the master account can actually be overdrawn; net recording would thus result in an understatement of the claims of the bank managing the cash pool.

Therefore, in this case it is important to make sure that reporting agents record these positions on a gross basis (i.e. measurement after the flow of funds) in order to

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<sup>22</sup> Specifically, these are funds lent by the bank under the conditions of the agreed cash pooling contract. They carry interest and represent an unconditional debt obligation of the debtor, thus fulfilling the conditions of paragraph 5.113 of ESA 2010.

comply with the methodological framework of BSI statistics.<sup>23</sup> Example 2 in the Annex reviews the statistical recording of this type of cash pooling.

In a notional cash pool, no liquidity flows at all and recording the balances on the individual accounts on a gross basis is the correct statistical treatment (see Example 3 in the Annex). In particular, the differences between netting versus gross recording in terms of their implications for the statistical returns are even more significant than in the case of a target-balancing physical cash pool, both in terms of the correct identification of the sector of the counterparty, and the overall reflection of the bank's claims and liabilities.<sup>24</sup>

**Table 1**  
Suggested recording of cash pooling activities by type

<b>Single legal account cash pool</b>	The bank records the balance of the top account as a position vis-à-vis the pool leader
<b>Physical cash pool</b>	The bank records the balances of the individual accounts at the end of the reference period (i.e. after the flow of funds) as positions vis-à-vis the individual participants
<b>Notional cash pool</b>	The bank records the balances of the individual accounts on a gross basis as positions vis-à-vis the individual participants

### 3.3 The case of the Netherlands

In recent years cash pooling services have been a relevant phenomenon in the Netherlands. This popularity is likely to be connected to the large number of multinational corporations whose parent company is resident in the country, but is probably also connected to some features of the Dutch tax system (e.g. the absence of a withholding tax on interest, which simplifies interest payments from the bank as well as those on intragroup positions, when these materialise<sup>25</sup>).

Dutch MFIs are currently offering both physical and notional cash pooling services. Traditionally, the application of gross reporting of physical cash pooling balances in the context of BSI statistics has been uncontroversial. However, according to information obtained from reporting agents, notional cash pooling contracts offered by Dutch MFIs often met the above-mentioned IFRS conditions for netting. Specifically, MFIs providing these services normally have the legally enforceable right to offset and they often seek to settle simultaneously. While in the Netherlands only larger MFIs report under IFRS - also with reference to individual (i.e. unconsolidated) accounts - the issue equally affects smaller MFIs, as the Dutch GAAPs follow the same principles as IFRS with regard to the netting of financial

<sup>23</sup> Additional complications may arise when different thresholds apply for liquidity transfers in and out of the individual accounts or in the case of negative thresholds. However, gross recording remains the preferred treatment.

<sup>24</sup> It should be underlined that the recommended reporting practices *per se* do not imply an increase in reporting burden for credit institutions as the data are anyway available in their internal systems.

<sup>25</sup> See Treasury Alliance Group (2012).

assets and liabilities<sup>26</sup>. These conditions have resulted, in many cases, in the application of net reporting in the statistical recording of these balances.

**Table 2**  
Aggregated balance sheet of the Dutch MFI sector, excluding the NCB

(EUR billions)

Assets				Liabilities			
	2014-11	2014-12	2015-12		2014-11	2014-12	2015-12
<b>Total</b>	2339	2492	2504	<b>Total</b>	2339	2492	2504
<b>Positions vis-à-vis euro area residents</b>							
<b>Loans</b>	1235	1355	1402	<b>Deposits</b>	1056	1171	1172
o/w Loans up to one year to non-MFIs excluding the general government	210	312	273	o/w Overnight deposits by non-MFIs excluding the general government	273	383	369
<b>Insurance corporations and pension funds</b>	3	21	16	<b>Insurance corporations and pension funds</b>	11	29	23
o/w notional cash pooling		18	11	o/w notional cash pooling		19	13
<i>reclassification</i>		17		<i>reclassification</i>		18	
<b>Investment funds and other financial intermediaries</b>	67	80	83	<b>Investment funds and other financial intermediaries</b>	63	75	85
o/w notional cash pooling		12	11	o/w notional cash pooling		15	16
<i>reclassification</i>		12		<i>reclassification</i>		13	
<b>Non-financial corporations</b>	122	192	158	<b>Non-financial corporations</b>	146	227	207
o/w notional cash pooling		146	116	o/w notional cash pooling		137	103
<i>reclassification</i>		73		<i>reclassification</i>		73	
<b>Households</b>	18	19	17	<b>Households</b>	53	53	54
o/w notional cash pooling		1	0	o/w notional cash pooling		1	0
<i>reclassification</i>		1		<i>reclassification</i>		1	
Share of notional cash pooling in total MFI loans to euro area residents		13%	9%	Share of notional cash pooling in total MFI deposits placed by euro area residents		15%	11%
<b>MMF shares/units</b>	0	5	5	<b>MMF shares/units</b>	0	0	0
<b>Debt securities</b>	312	307	284	<b>Debt securities</b>	451	443	448
<b>Holdings of non-MMF IF shares/units and equity</b>	42	45	48	<b>Capital and reserves</b>	118	131	139
<b>Positions vis-à-vis residents of extra-euro area countries</b>							
<b>External assets</b>	453	470	496	<b>External liabilities</b>	410	432	485
Loans up to one year	284	299	305	Deposits up to one year	270	276	319
o/w notional cash pooling		73	73	o/w notional cash pooling		97	98
<i>reclassification</i>		11		<i>reclassification</i>		7	
<b>Area of residency not specified</b>							
<b>Fixed assets</b>	4	4	4	<b>Remaining liabilities</b>	303	315	260
<b>Remaining assets and cash</b>	293	307	265				
Share of notional cash pooling to the total aggregated balance sheet		10%	8%	Share of notional cash pooling to the total aggregated balance sheet		11%	9%

Source: De Nederlandsche Bank.

Notes: In accordance to the BSI compilation framework, reclassifications include, *inter alia*, any change in the balance sheet of the MFI sector that arises as a result of the introduction of new statistical concepts or definitions. Specifically, the reclassifications reported for December 2014 are mostly due to the impact on the balance sheet items of the application by all Dutch MFIs of gross-recording in relation to notional cash pooling agreements. "MMF" and "IF" stand for "money market funds" and "investment funds" respectively.

<sup>26</sup> See KPMG (2014).

The opportunity to consistently apply gross recording for the statistical reporting of notional cash pooling by Dutch MFIs was reviewed in 2014 in the context of the implementation of the new BSI Regulation. In particular, the statistical argumentation discussed above prevailed and MFIs are now reporting the balances of the individual accounts of notional cash pools on a gross basis, as from the reference period December 2014. This change in reporting practices has resulted in sizeable level shifts for deposit and loan aggregates in the aggregated balance sheet of the Dutch MFI sector.

Some new “*of-which*” items on deposit and loan positions relating to notional cash pool balances help in providing an understanding of the significance of the phenomenon in the Netherlands. **Table 2** shows that at end-2015 notional cash pooling claims and liabilities account for about 8% and 9% respectively of the total aggregated balance sheet of the Dutch MFI sector (excluding the NCB). Specifically, at December 2015 Dutch MFIs recorded positions relating to notional cash pooling of about EUR 200 billion on the assets side, mainly affecting short-term loans vis-à-vis euro area non-financial corporations (EUR 116 billion) and extra-euro area residents (EUR 73 billion). Similarly, on the liabilities side notional cash pooling accounted for about EUR 230 billion at December 2015, mainly relating to overnight deposits placed by euro area non-financial corporations (EUR 103 billion) and short-term deposits vis-à-vis the rest of the world (EUR 98 billion). Overall, Dutch MFIs have relevant positions relating to (notional) cash pooling agreements vis-à-vis international clients, as confirmed by the amounts outstanding vis-à-vis extra-euro area residents which account for over one third of the total (notional) cash pooling balances on both sides of the balance sheet. In terms of sectoral distribution, the data relating to intra-euro area claim and liability positions support the view that non-financial corporations are mostly involved in the business, although the positions relating to other financial intermediaries, investment funds, insurance corporations and pension funds also show significant amounts.<sup>27</sup>

Another important consideration is that the notional cash pooling positions in the Netherlands tend to be very volatile, as shown in **Chart 4** in relation to MFI loans to euro area non-financial corporations. In particular, transactions related to notional cash pooling drive the developments in MFI loans, making the interpretation of this key indicators very challenging as these fluctuations do not reflect genuine changes in the provision of liquidity to the economy by MFIs, but rather result from the provision of cash management services.

For this reason De Nederlandsche Bank releases series on MFI loans which remove the impact of notional cash pooling<sup>28</sup>. Analogously, since 27 July 2016 in the ECB press release on monetary developments in the euro area the headline series on MFI loans adjusted for securitisation and other loan transfer also include an adjustment for cash pooling activities based on the available Dutch data.

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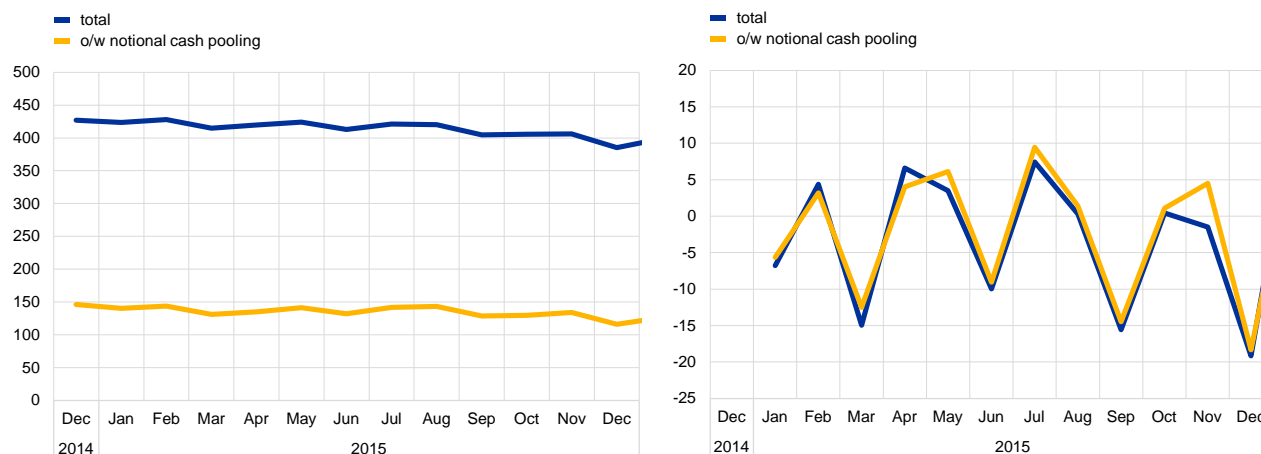
<sup>27</sup> At the same time, comparing the “*of-which*” positions on notional cash pooling with the reclassification values reported at December 2014 to address the series breaks confirms that only a part of the notional cash pools were reported on a net basis.

<sup>28</sup> See tables on [domestic MFI statistics](#).

## Chart 4

### Loans provided by Dutch MFIs to euro area non-financial corporations

(EUR billions)



Source: ECB and De Nederlandsche Bank.

## 3.4 Some considerations for the reporting of MFI interest rate statistics

Balances relating to cash pooling are used in the calculations for the derivation of MIR statistics on overnight deposits, overdrafts and short-term loans (i.e. loans with an original maturity of up to one year) vis-à-vis euro area households and non-financial corporations. The general approach is that the individual balances should be treated consistently with BSI statistics, and should not be netted as long as the accounts have legal status.

In the case of a single legal account cash pool, the bank charges or pays interest on the top account, which is in the name of the pool leader. Hence, these pools are only relevant for the purposes of MIR statistics to the extent that the pool leader is a non-financial corporation (or a household), which may not be the case under the classification of ESA 2010. However, the bank interest rates charged or paid, to be included in the calculations of MIR statistics, are straightforward in this case as they are directly specified by the cash pool contract.

In a physical cash pool, balances are measured on a gross basis, after the flow of funds from the individual accounts to the master account at the close of the business day. Only the balance on the master account is relevant for MIR reporting when the physical cash pool is zero balancing. As above, covering these balances in MIR statistics is straightforward as the interest rates applicable to the master account are specified by the contract. Similarly, for a target-balancing physical cash pool, interest rates applicable on the master account, as well as on the individual accounts, are specified by the contract, although in this case the balances on the individual accounts are not usually zero and are therefore duly taken into account by compilers of statistics.

Addressing the case of a notional cash pool is more complicated. In this respect, this paper does not provide definitive answers, but instead reviews various viable options, also in conjunction with the different viewpoints that can emerge. In addition, based on the current data availability, it is not possible to quantify the potential impact of these options on the calculated interest rates.

In a notional cash pool, while the pool members have their own individual accounts, the bank only charges or pays interest on the notional top account. Thus, as the interest rates on the notional top account have been negotiated at group level, it would seem reasonable that MIR statistics only capture this interest payment for the calculation of the relevant weighted average interest rate, using the netted balance as a weight. However, besides the inconsistency that this would create compared with the suggested approach for BSI statistics, this method would require NCBs to collect netted amounts for MIR purposes and, more importantly, has the limitation that the statistical classification of the notional top account by counterparty sector and residency is not actually straightforward. In fact, considering the notional top account as a position vis-à-vis the pool leader may often result in these contracts being disregarded from MIR statistics, since the holding companies of non-financial corporations are classified as financial intermediaries under ESA 2010.

Another option (which seems to be applied in several EU countries at the moment) would be to allocate zero interest rates to the balances on all the individual accounts. However, this working assumption would result in a significant bias in MIR statistics, especially for interest rates on loans up to one year, and overdrafts. An alternative approach would be to start from the consideration that the cash pool contract often also includes a credit facility on the notional top account, and thus establishes an interest rate to be charged in the case of an overall negative balance on the pool, alongside the interest rate the bank would pay when the notional top account is positive. Allocating these interest rates to the individual accounts on the basis of their balances for the purposes of MIR statistics may therefore represent a valid option to reduce the bias arising from the application of a zero interest rate. Even this option, however, may produce an incorrect picture of the reality from the point of view of the participants in the pool, which in fact receive or are charged interest on their individual accounts on the basis of the provisions of the agreement they have with other pool members (including the pool leader) in relation to interest distribution. This agreement directly involves pool participants rather than the bank, although it is the bank in the role of service provider which normally develops these contractual aspects for its customers. One possibility might be to consider asking the bank to use the interest rates applied in the context of the interest distribution within the pool for the reporting of MIR statistics. This may represent the preferable option to the extent that those variables are known to the reporting bank, and has the additional advantage of correctly capturing the interest rates from the point of view of the borrower, which can be desirable for economic analysis.

A more general remark on the impact of cash pooling on MIR statistics is that the contracts are quite specific and, especially in those countries where the phenomenon is significant, aggregated interest rate statistics for overnight deposits, short-term loans and overdrafts vis-à-vis the non-financial private sector may be heavily driven by the conditions of cash pooling contracts, which also limits the



cross-country comparability of the data. For analytical purposes, it may be worth considering developing additional interest rate statistics which disentangle the effect of these positions.

## 4 Conclusions

Cash pooling is a significant phenomenon in the EU and takes different forms across countries. This paper has conducted a detailed (but not exhaustive) analysis of the various types of cash pooling services that are in use and has put them into perspective from a statistical viewpoint, focusing on the statistical datasets developed by the Eurosystem for the fulfilment of its monetary policy tasks. In particular, it has been argued that balances relating to cash pooling agreements should not be netted for the purposes of BSI primary reporting to the extent that they relate to bank accounts which have legal validity and this could therefore result in claims and liabilities of the bank vis-à-vis the holder of the account. Such treatment is compliant with international statistical standards insofar it records assets and liabilities vis-à-vis the corresponding obligors and beneficiaries of cash pooling accounts.

Gross recording of cash pooling balances therefore represents the preferred approach for statistical recording. This approach preserves consistency across data domains, although differences may materialise in comparison with financial reporting practices to the extent that netting is allowed in the context of the accounting standards underpinning BSI reporting.

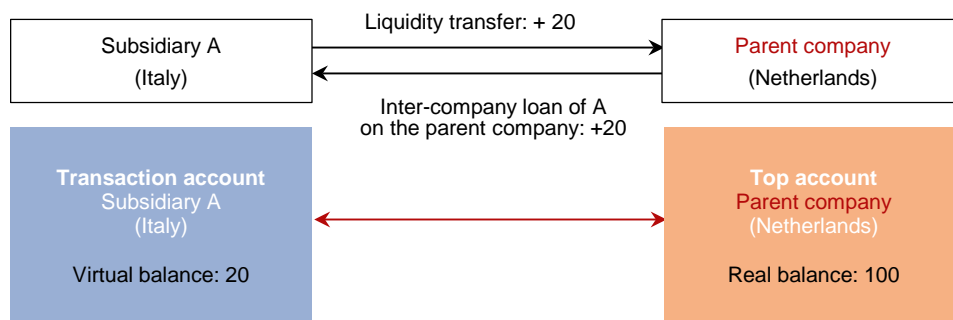
At the same time, it may be of interest for analysts to exclude effects related to cash pooling, and especially the notional type, when studying macroeconomic developments. This can be even more desirable as balances relating to notional cash pooling tend to be very volatile and may thus result into fluctuations in headline statistics which do not reflect genuine changes in the provision of liquidity to the economy by MFIs, but rather result from the provision of cash management services to large corporate groups by some banks. This is the reason behind the decision of the ECB to adjust its headline series on loans for the impact of notional cash pooling. In general, it is therefore crucial to reflect on the impact of cash pooling on macroeconomic aggregates and, when deemed relevant, develop appropriate reference indicators, while preserving the methodological soundness of primary statistics.

# Annex

## Example 1. The single legal account cash pool

Let us suppose that the parent company opens a single legal account cash pool account with Bank X as shown in **Chart 1** in the main text, and that the top account collects 40 from the parent company itself, and 20 from each of the three subsidiaries. The liquidity flows from the subsidiaries to the top account give rise to inter-company loans of the same amount. Limiting the presentation to subsidiary A and the top account, the flows would be as shown below.

### The structure of a single legal account cash pool



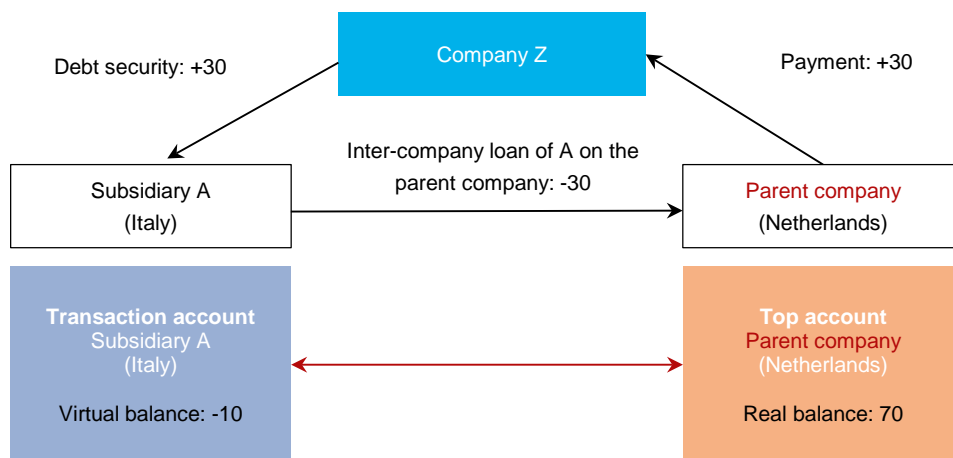
In terms of the statistical balance sheet, the top account is classified by Bank X as an overnight deposit vis-à-vis the parent company, whereas the inter-company loans are classified under loans.

### Statistical balance sheets at the establishment of the single legal account cash pool

Bank X		Parent company				Subsidiary A	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	Overnight deposits 100	Overnight deposits 100	Inter-company loans 60	Inter-company loans 20	Inter-company loans 20		
	PC 100	X 100	A 20	B 20	PC 20		
			C 20				
		Top account		Transaction account			

Let us now suppose that A purchases a debt security of value 30 from company Z and makes the corresponding payment order using the cash pool account (in compliance with the rules of the agreement). The payment would in fact be carried out via the top account, and balanced by a corresponding flow in inter-company loans.

## Payment of a debt security purchase



The transaction results in a decrease of the overnight deposits of bank X by 30 and is matched by a change in inter-company positions. In particular, the (net) claims of A on the parent company decrease by 30, resulting in an inter-company loan liability of 10.

## Statistical balance sheets after the payment of the security

Bank X		Parent company				Subsidiary A	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	Overnight deposits 70	Overnight deposits 70	Inter-company loans 40	Debt securities 30	Inter-company loans 10		
	PC 70	X 70	B 20		PC 10		
		Inter-company loans 10	C 20				
		A 10					

## Example 2. The physical cash pool

Let us suppose that the parent company opens a physical cash pool account with Bank X that reflects the structure of **Chart 2** in the main text. When the cash pool is established, the three subsidiaries transfer their liquidity (20) onto the individual accounts, as does the parent company onto the master account (40). The resulting balance sheets are as shown below.

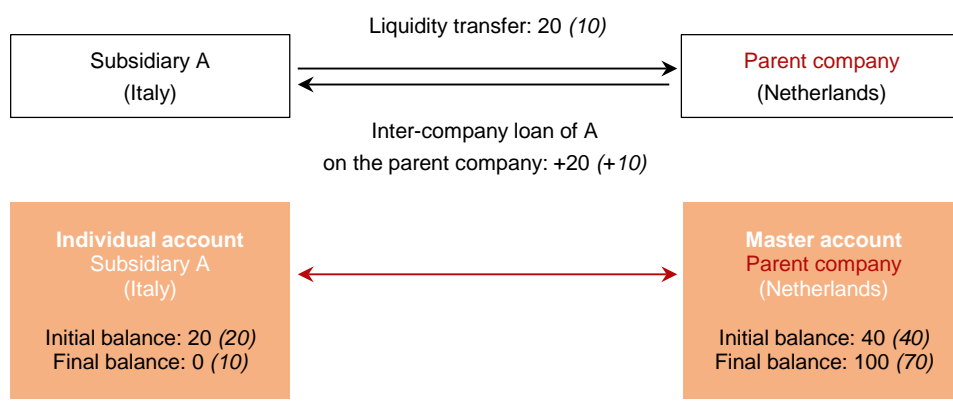
### Statistical balance sheets at the establishment of the physical cash pool

Bank X		Parent company		Subsidiary A	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	Overnight deposits 100	Overnight deposits 40		Overnight deposits 20	
	PC 40	X 40		X 20	
	A 20				
	B 20	Master account	Individual account		
	C 20				

For a zero-balancing physical cash pool, at close of business all liquidity flows from the individual accounts to the master account – i.e. the subsidiaries A, B and C transfer 20 each to the master account, giving rise to inter-company loans of the same amount. Let us suppose that the physical cash pool is target balancing instead and that liquidity only flows above a threshold of 10. In this case the subsidiaries A, B and C only transfer 10 each to the master account.

Limiting the presentation to subsidiary A and the master account, the flows would arise as shown below. The two cases are distinguished by reporting the flows for the target balancing in brackets.

### Liquidity flow at the end of the day after the establishment of the physical cash pool



In terms of balance sheets, in both cases the liquidity flow results in inter-company loan claims by the subsidiaries on the parent company.

## Statistical balance sheets at the close of the business day

### Case 1: Zero balancing

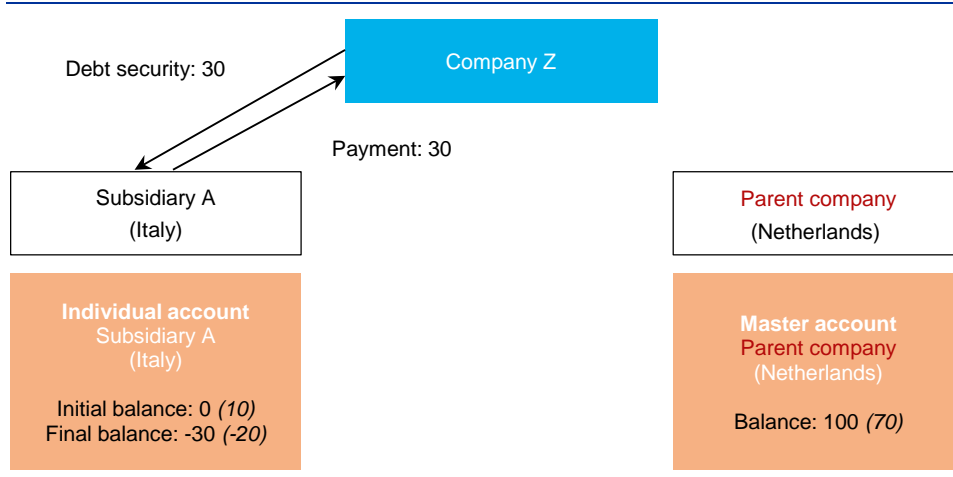
Bank X			Parent company			Subsidiary A		
Assets		Liabilities	Assets		Liabilities	Assets		Liabilities
	Overnight deposits	100	Overnight deposits	100	Inter-company loans	60	Overnight deposits	0
	PC	100	X	100	A	20	X	0
	A	0			B	20		
	B	0			C	20	Inter-company loans	20
	C	0					PC	20

### Case 2: Target balancing

Bank X			Parent company			Subsidiary A		
Assets		Liabilities	Assets		Liabilities	Assets		Liabilities
	Overnight deposits	100	Overnight deposits	70	Inter-company loans	30	Overnight deposits	10
	PC	70	X	70	A	10	X	10
	A	10			B	10		
	B	10			C	10	Inter-company loans	10
	C	10					PC	10

As in Example 1, let us now suppose that A purchases a debt security of value 30 from company Z and makes the corresponding payment order using the cash pool account (in compliance with the rules of the agreement). In this case the payment is carried out via the individual account of A, resulting in a (temporary) overdraft of 30 in the zero balancing case, and of 20 in the target balancing case.

### Payment of the debt security purchase



In terms of balance sheets, the significant change in fact relates to the balance of the individual account of subsidiary A, which has turned negative.

## Statistical balance sheets after the purchase of the debt security

### Case 1: Zero balancing

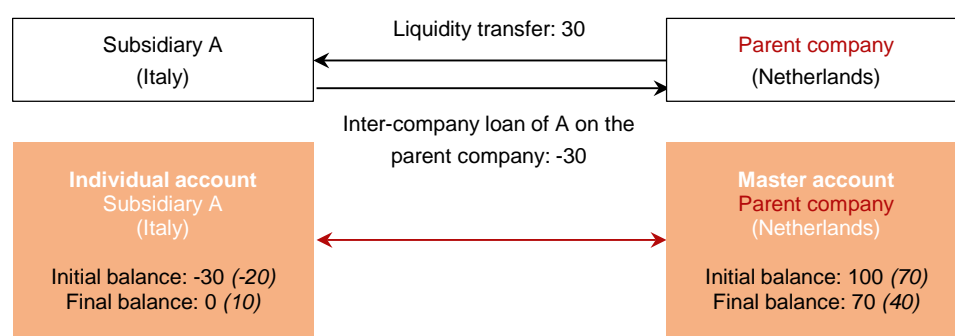
Bank X				Parent company				Subsidiary A			
Assets		Liabilities		Assets		Liabilities		Assets		Liabilities	
Loans o/w Overdrafts	30	Overnight deposits	100	Overnight deposits	100	Inter-company loans	60	Inter-company loans	20	Loans o/w Overdrafts	30
A	30	PC	100	X	100	A	20	PC	20	X	30
		B	0			B	20				
		C	0			C	20	Debt securities	30		

### Case 2: Target balancing

Bank X				Parent company				Subsidiary A			
Assets		Liabilities		Assets		Liabilities		Assets		Liabilities	
Loans o/w Overdrafts	20	Overnight deposits	90	Overnight deposits	70	Inter-company loans	30	Inter-company loans	10	Loans o/w Overdrafts	20
A	20	PC	70	X	70	A	10	PC	10	X	20
		B	10			B	10				
		C	10			C	10	Debt securities	30		

At the end of the business day, liquidity will flow from the master account to the individual account of subsidiary A to balance the overdraft or, in the case of the target-balancing cash pool, to restore the balance of 10. The flow is matched by a decrease of inter-company loans of A to the parent company of 30.

### Liquidity flow at the end of the day after the debt security purchase



In terms of balance sheets, the liquidity flow results once again in changes to the inter-company loan claims of the subsidiaries on the parent company.

## Statistical balance sheets at the close of the business day

### Case 1: Zero balancing

Bank X		Parent company				Subsidiary A	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	Overnight deposits 70	Overnight deposits 70	Inter-company loans 40	Overnight deposits 0	Inter-company loans 10		
	PC 70	X 70	B 20	X 0	PC 10		
	A 0		C 20				
	B 0						
	C 0	Inter-company loans 10		Debt securities 30			
		A 10					

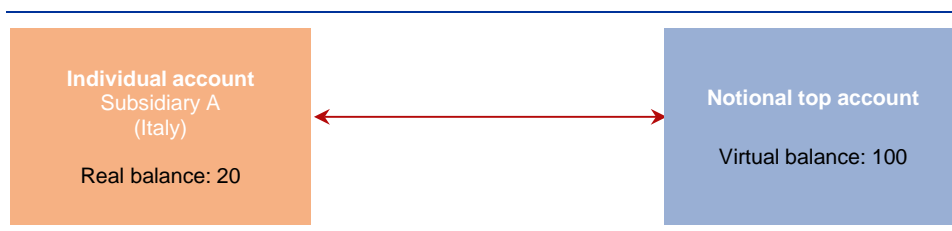
### Case 2: Target balancing

Bank X		Parent company				Subsidiary A	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	Overnight deposits 70	Overnight deposits 40	Inter-company loans 20	Overnight deposits 10	Inter-company loans 20		
	PC 40	X 40	B 10	X 10	PC 20		
	A 10		C 10				
	B 10						
	C 10	Inter-company loans 20		Debt securities 30			
		A 20					

### Example 3. The notional cash pool

Let us suppose that the parent company opens a notional cash pool account with Bank X that reflects the structure of **Chart 3** in the main text. When the cash pool is established, the three subsidiaries and the parent company transfer their liquidity (20 and 40 respectively) to their individual accounts which are part of the pool. At the close of the business day no liquidity flows take place, but the virtual account records a balance of 100, which Bank X uses for internal purposes (e.g. calculation of interest). Limiting the presentation to subsidiary A and the notional top account, the balances are as shown below.

#### Balances at the establishment of the notional cash pool



However, this has no direct impact on statistical reporting in balance sheet terms.

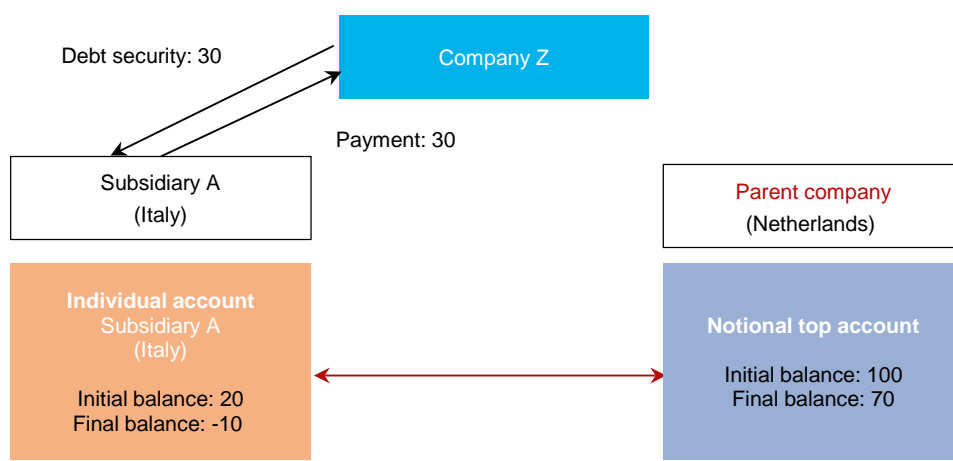


### Statistical balance sheets at the establishment of the single legal account cash pool

Bank X		Parent company				Subsidiary A	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities		
	Overnight deposits 100	Overnight deposits 40		Overnight deposits 20			
	PC 40	X 40		X 20			
	A 20						
	B 20						
	C 20						
		Individual accounts					

As in Example 1, let us now suppose that A purchases a debt security of value 30 from company Z and makes the corresponding payment order using the cash pool account (in compliance with the rules of the agreement). In this case the payment is also carried out via the individual account of A, resulting in a decrease of 30.

### Payment of the debt security purchase



At the end of the business day no liquidity flows take place. In other words, the existence of the cash pool is in this case purely technical, as in terms of balance sheets nothing is different from the case where the group carries out operations via individual accounts.

### Statistical balance sheets after the payment of the security

Bank X		Parent company				Subsidiary A	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities		
Loans o/w Overdrafts 10	Overnight deposits 80	Overnight deposits 40		Debt securities 30	Loans o/w Overdrafts 10		
A 10	PC 40	X 40			X 10		
	B 20						
	C 20						

## References

Euromoney (2016), [Prepare for changes in cash pooling](#).

European Central Bank (2012), *Manual on MFI balance sheet statistics*. ECB, Frankfurt.

European Central Bank (2013), *Regulation (EU) No 1071/2013 concerning the balance sheet of the monetary financial institutions sector (recast) (ECB/2013/33)*, OJ L 297, 7 November, p. 1.

European Central Bank (2013), *Regulation (EU) No 1072/2013 concerning statistics on interest rates applied by monetary financial institutions (recast) (ECB/2013/34)*, OJ L 297, 7 November, p. 51.

European Central Bank (2014), *Guideline (EU) No 810/2014 on monetary and financial statistics (recast) (ECB/2014/15)*, OJ L 340, 4 April, p. 1.

European Council (2013), *Council Regulation (EC) No 549/2013 on the European system of national and regional accounts in the European Union (ESA 2010)*, EC, Brussels.

International Accounting Standards Board, (2003), *IAS 32: Financial Instruments: Disclosure and Presentation*, London.

International Monetary Fund (2010), *Balance of Payments and International Investment Position Manual (BPM6)*, IMF, Washington.

Jansen, D. (2011), *International cash pooling: Cross-border cash management systems and intra-group financing*, Sellier European Law Publishers, Munich.

KPMG (2014), [IFRS compared to Dutch GAAP: An overview](#).

Treasury Alliance Group (2012), [Cash Pooling: a treasurer's guide](#).

Treasury Alliance Group (2016), [Basel III - The End of the Line for Notional Pooling?](#)

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