

Financial Innovations in the Euro area Payment and Securities Settlement Systems

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Introduction

□ *Aim of the study*

- What are the main financial innovations in the euro area payment and securities settlement systems?
- What is the overall performance of the key euro area large-value and retail payment systems?
- What are the major projects in the euro area payment systems?

□ *Importance of the study*

- Remarkable increase in values exchanged in payment and settlement systems over the past decade
- Consolidation and globalization of financial markets
- Launch of the euro as of January 1, 1999 and developments in the technology
- Reshaping the infrastructure for effective payments and for the trading and settlement of securities



Importance of the study

- Market infrastructures – exposed to a wide range of credit, liquidity, operational and legal risks
- Their smooth operation a crucial prerequisite for the proper functioning of the financial system and the overall economy since they channel the flow of payments for goods, services and financial assets
- Any malfunctioning of market infrastructures can have negative repercussions for the implementation of monetary policy, the stability of the financial system and the currency
- Increased financial markets integration and globalization have also enhanced the need for cross-border information-sharing and coordination in the performance of oversight
- Increased importance of arrangements for ensuring close cooperation between overseers, both within the euro area and globally



Literature review

- Relatively recent area of research in finance
- Between 1992 and 1999 - “*Blue Book*” created by the *Committee of Governors of the central banks of the member states of the European Economic Community (EEC)*
- In 1999 – *ECB* started to monitor and oversight the payment system instruments, payment systems and securities settlement systems in the EU
 - First *Blue Book* published by the *ECB* in 2001
 - *ECB* provides a comprehensive description of the payment and SSSs and infrastructures in all EU member states
- *Bank for International Settlements (BIS)*, Basel and its *Committee on Payment and Settlement Systems (CPSS)* – standard setting body for payment and settlement systems



Literature review (cont'd)

- *CPSS base codes, standards and best practices:*
 1. Core principles for systemically important payment systems (BIS, 2001)
 2. Recommendations for securities settlement systems (BIS, 2001)
 3. Recommendations for central counterparties (BIS, 2004)
- *Euro retail payments and payment networks, access criteria, end-to-end payment times, pricing policy, other operational characteristics, integration and innovations (Kohlleppel, 2001, Lichter, 2001, Nieuwenhof, 2001, Humphrey, 2009, etc.)*
- *Large value payment systems (LVPSs) – mostly analyzed by Bech and Soramäki, 2001, Selgin, 2004, Rosati and Secola, 2005, Pagès and Humphrey, 2005, Bolt and Humphrey, 2005, Holthausen and Rochet, 2006, Carbó-Valverde and Liñares-Zegarra, 2009, and others*



Literature review (cont'd)

- *Securities clearing and settlement systems and infrastructures* – Terol and Russo, 2000, Blanco, 2001, Holthausen and Monnet, 2005, etc.
- *Wide range of country reports:*
 - Harrison et al., 2005, Millard and Saporta, 2005, Merrouche and Schanz, 2008, etc. – UK payment system
 - Snellman, 2000, Jyrkönen and Paunonen, 2003, Jyrkönen, 2004, Hasan et al., 2009 and 2010, etc. – retail payment systems in Finland
 - De Sèze, N., 2006, Bardinet, 2003, etc. - French payment system
 - Bech et al., 2008, Kalckreuth et al., 2009, etc. – Germany
 - Rybiński, 2007 - SEPA project and payment system in Poland
 - Racoča, 2004, etc. – Czech Republic
 - SEPA project a large number of publications have been released regarding the integrated market infrastructure. Finocchiaro, 2006, Saccomanni, 2007, Draghi, 2008, Kemppainen, 2008, Bolt and Schmiedel, 2009, etc.



ECB and payment and securities settlement systems

- *Treaty establishing the European Community*
- *Protocol on the Statute of the ESCB and of the ECB*
 - Eurosystem is responsible for the conduct of the single monetary policy and for maintaining price stability in the euro area
 - It has also the task to foster the efficiency and security for all kinds of transfer of funds and securities in Europe
 - ECB (2009): *“The safe and efficient functioning of securities clearing and settlement systems in the euro area is directly relevant to the effective fulfillment of the Eurosystem’s responsibilities”*
 - Eurosystem applies the Core Principles for Systemically Important Systems, with a customised assessment methodology
 - These principles give guidance for the design and operations of the SIPSs, including the requirements for a sound legal basis, adequate management of financial risks, security and operational reliability, efficiency and governance



ECB and payment systems (cont'd)

- *Three forces staying behind the payment environment:*
 1. Broader access to new systems which are not limited to one country or currency, while the systems are able to maintain safety and efficiency
 2. Larger use of LVPSs due to the immense growth in the financial sector and greater globalization of financial institutions
 3. Evolution of central bank policies – central banks become more active in monitoring existing and planned systems and assessing systems according to international standards
- *Key financial innovations in the euro area:*
 1. Completion of the phased migration to the TARGET2 infrastructure
 2. Migration towards a single technical platform for settlement of securities transactions in Europe – TARGET2-Securities
 3. Introduction of a single retail payment market in euro – SEPA



1. TARGET system

- ❑ Established on January 4, 1999 in parallel with the launch of the euro as an EU-real-time gross settlement (RTGS) system
- ❑ Main objectives: (1) to provide a safe and reliable mechanism for the settlement of euro payments on an RTGS basis; (2) to increase the efficiency of inter-member states payments in the euro area; (3) to serve the needs of the Eurosystem's monetary policy
- ❑ BIS (2003): “*TARGET was developed... first and foremost, to facilitate the integration of the euro money market in order to allow for the smooth implementation of the single monetary policy*”
- ❑ Types of transactions handled by TARGET: settlement of central bank operations; settlement of large-value netting systems operating in euro; cross-border and domestic interbank and commercial payments in euro



TARGET system (cont'd)

- Accessible to a large number of participants
 - More than 5,900 banks, including branches and subsidiaries using TARGET for initiating payments
 - Over 55,000 banks addressed via TARGET
 - All national RTGS systems comprising TARGET – operational every working day from 7 a.m. to 6 p.m. CET
- Receiving institution is not exposed to credit or liquidity risk (account of the receiving institution is never credited before the account of the sending institution has been debited)
- Intraday credit is granted to participants against eligible collateral by the respective national central bank
- Liquidity – managed very flexibly and available at a low cost (minimum reserves of credit institutions can be used for settlement purposes during the day)

TARGET system (cont'd)

- Steadily increased turnover figures – total volume of transactions (number of payments) and total value of payments processed by TARGET processed by the system as a whole (i.e. both cross-border and domestic payments)

Volume of transactions (number of payments) processed by TARGET – year average					
1999	2000	2001	2002	2003	2004
3 521 482	3 998 335	4 471 957	5 376 583	5 550 667	5 767 791
2005	2006	2007	2008	2009	2010*
6 345 884	6 931 666	7 781 308	7 892 615	7 376 377	7 892 615

Value of transactions processed by TARGET – daily average (euro billion)					
1999	2000	2001	2002	2003	2004
925	1,033	1,299	1,552	1,650	1,714
2005	2006	2007	2008	2009	2010*
1,902.3	2,092.3	2,419	2,667	2,154.7	2,322.612



2. TARGET2 system

- Smooth and successful migration to the new platform started on November 19, 2007 and ended May 19, 2008
- Migration arranged into three country groups:
 - on November 19, 2007 – first group of countries (Austria, Cyprus, Germany, Latvia, Lithuania, Luxembourg, Malta and Slovenia)
 - on February 18, 2008 – second group (Belgium, Finland, France, Ireland, the Netherlands, Portugal and Spain)
 - on May 19 – third group (Denmark, Estonia, Greece, Italy, Poland and the ECB)
 - on February 1, 2010 – Bulgaria
- Decentralized structure of TARGET system – replaced by a single technical infrastructure – *Single Shared Platform (SSP)* in TARGET2
- SSP jointly provided by Banca d'Italia, Banque de France and Deutsche Bundesbank, which operate on behalf of the Eurosystem
- 3-level governance scheme: tasks are assigned to the Governing Council of the ECB (level 1); the Eurosystem NCBs (level 2) and the SSP-providing central banks (level 3)



TARGET2 system (cont'd)

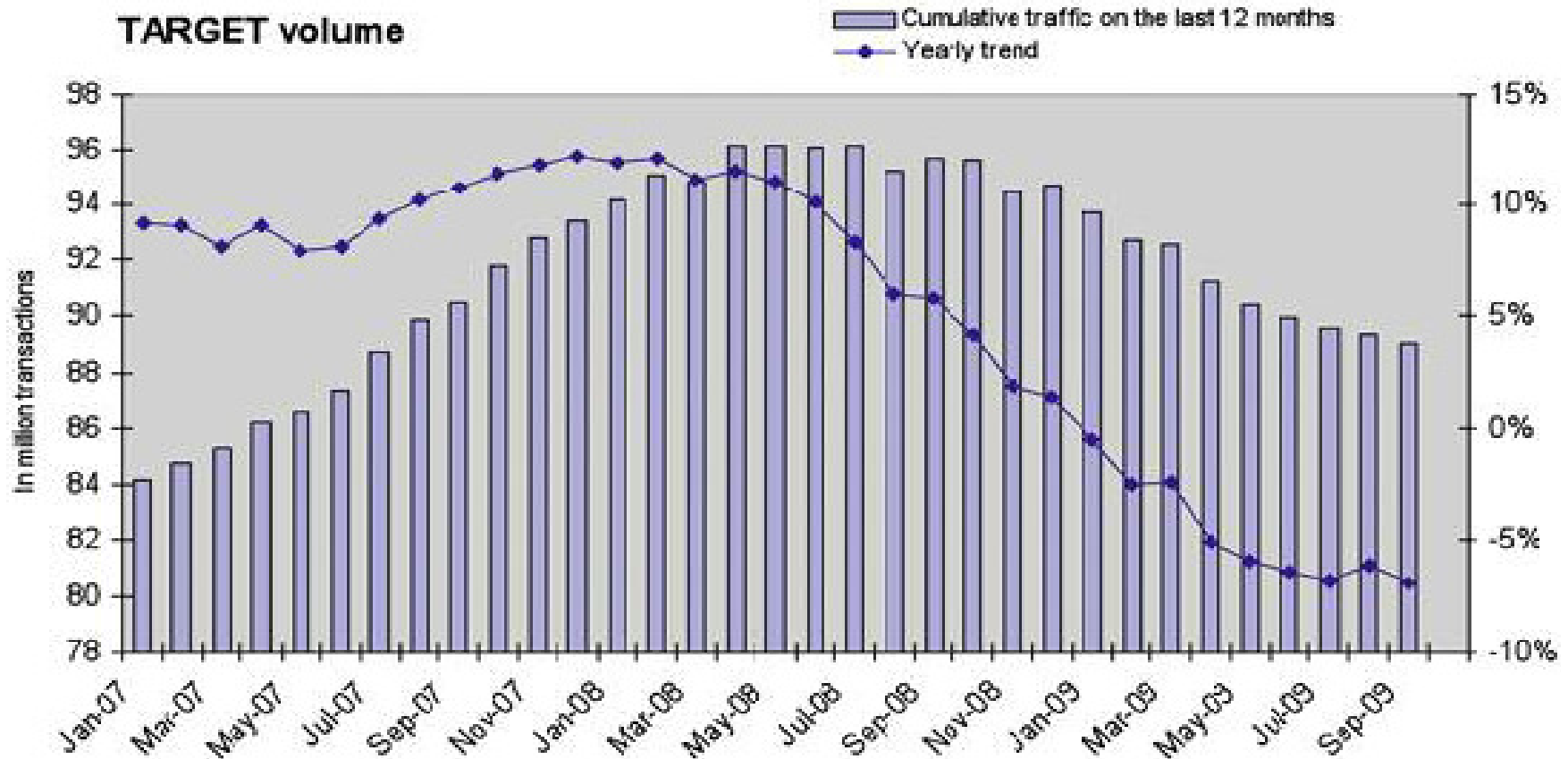
- Modular approach taken in setting up the SSP of TARGET2:
 - Specific service – Payments Module (PM) for the processing of payments – consisting of payments processing and RTGS accounts
 - PM – closely connected with Standing facilities module (SF), Reserve management module (RM), Home accounting module (HAM), Static data module (SD), Contingency module (CM) and Information and control module (ICM)
- SWIFT standards and services used in TARGET2
- SSP uses the SWIFT-NetFin-Y-Copy service for processing all payments (customer and interbank)
- Key benefits in terms of system efficiency and resilience:
 - TARGET2 establishes an advanced and more harmonised service level based on a common pricing scheme for all participants
 - It employs a wide range of tools to promote the optimisation of participants' intraday liquidity management
 - Users of the system have uniform access to comprehensive online information and easy-to-use liquidity control measures



TARGET2 system (cont'd)

- *Main TARGET2 indicators in Q2/2009:*
 - 942 direct participants, 3,744 indirect participants and 11,034 correspondents in TARGET2
 - TARGET2 settled the cash positions of 69 ancillary systems
 - It processed a daily average of 348,071 payments, representing an average daily value of €2.1 trillion
 - Average value of a TARGET2 transaction – €5.9 million
 - 67% of TARGET2 payments with a value of less than €50,000
 - Peak day – 30 June 2009 with 495,223 payments
 - TARGET2's share of total LVPS traffic in euro – 89% in value terms and 60% in volume terms
 - Availability of the system – 100%
 - 99.99% of all the payments processed in less than one minute
- However, during Q3/2009 – decrease in TARGET2 turnover figures due to global financial crisis

TARGET2 system (cont'd)





3. TARGET2-Securities

- *Technical platform for settlement of securities transactions in Europe*
- *Single IT multi-currency platform for settling all traded securities in Europe, eliminating any differences between the settlement of domestic and cross-border transactions*
- Despite the launch of the euro (1999), the provision of post-trading services – clearing and settlement – remained fragmented along national lines – there were 19 CSDs operating in the euro area, and almost 40 CSDs in the whole EU
- July 2008 – decision of Governing Council of the ECB to launch the T2S project to overcome the fragmented European settlement infrastructure
 - This decision was supported by all central securities depositories (CSDs) declared their will to join the T2S initiative
- T2S is run by the central bank rather than by the CSD. Instead of outsourcing its cash accounts to be managed by the CSD, in the T2S the central bank is in sourcing the CSDs' securities accounts



TARGET2-Securities (cont'd)

- T2S takes the integrated model to a new level – not only directly connecting the securities accounts of one CSD with the cash accounts of one NCB, but *connecting any securities account at any participating CSD with any cash account at any participating central bank*
- All changes in the balances of cash and securities accounts, regardless of which CSD or NCB they belong to, can be made in real time. In this way, cross-border settlement become identical to (and as inexpensive as) domestic settlement. As a result all transfers between the two accounts can be done on a real-time basis
- January 2010 – ECB Governing Council adopts the eligibility criteria for CSDs in TS2
- May 2010 – updated version of the General Functional Specifications is approved by the TS2 Programme Board
- T2S has multicurrency dimension - it can also be used to settle transactions in other currencies
- T2S is scheduled to go live in September 2014



4. Single European Payments Area (SEPA)

- SEPA is intended to enable *European citizens to make payments to beneficiaries anywhere in the euro area using a single bank account and a set of harmonized payment instruments*
- *SEPA payment instruments consist of SEPA credit transfer (SCT) and SEPA debit transfer (SDD), as well SEPA card framework*
- Prior SEPA – low-value euro payments handled and processed in many different ways in Europe – therefore, very high fees for making cross-border payments within the EU when compared with those for domestic payments
- 2002 – official start of SEPA with the establishment of the European Payments Council (EPC)
- Payment Services Directive (PSD) – adopted by the European Parliament and the EU Council in 2007
- *ECB (2009e, p. 7) defines SEPA as “an area in which consumers, companies and other economic actors will be able to make and receive payments in euro, whether within or across national borders, with the same basic conditions, rights and obligations, regardless of their location”*



SEPA (cont'd)

- *3 stages for establishing SEPA:*
 1. *Design phase (January 2004 – June 2006) - established new credit transfer and direct debit schemes as well as frameworks for cards and clearing and settlement infrastructures. Credit transfers are the most widely used means of non-cash payment in the euro area, followed by direct debits (BIS, 2003)*
 2. *Implementation phase (June 2006 – January 2008) – banks creates and tests the new SEPA products that need to offer to their customers*
 3. *Migration phase (January 2008 - today) – providers and users of payment services need to move to SEPA (banks, payment institutions, clearing and settlement infrastructures, card processors and card schemes need to adapt their products and services, and users need to adopt them). During the migration phase national payment scheme coexist with the new SEPA schemes. Clearing and settlement infrastructures are able to process payments made using both types of instruments*



SEPA (cont'd)

- Basic elements of SEPA:
 - *Harmonized payment instruments (credit transfers, direct debits and payment cards)*
 - *European infrastructures for handling euro payments*
 - *Harmonized legal framework and common operating standards and practices*
- SEPA credit transfer (SCT) and SEPA card framework launched in January 2008, SEPA debit transfer (SDD) launched in November 2009
- At present, 4,468 banks are members of the SCT scheme, while 2,814 banks have now adhered to SDD scheme
- Increased share of SEPA credit transfers in the interbank domain (as % of total volume of credit transfers, i.e. credit transfers in the “old” as well as in SEPA format) from 0.5% in February 2008 to 7.5% in April 2010
- However, as concerns the share of SEPA direct debits in the interbank market is small – around 0.04 - 0.05%



Eurosystem's oversight in the field of payment and SSSs

- ECB – overseer in close cooperation with the overseers from NCBs
- Comprehensive assessment of TARGET2 – initiated by the ECB in 2006
- 2003 - “Oversight standards for euro retail payment systems” defined by the Eurosystem
- 2006 – Initiative “Business continuity oversight expectations for systemically important payment systems” started by the Eurosystem
- NCBs – responsible for conducting oversight of local features of TARGET2; they contribute to the oversight of the SSP on a voluntary basis
- May 2008 – ECB assessed ex ante the compliance of SIPSs with the applicable oversight standards – *“liquidity mechanisms of the systems are very useful and their operation is successful”*
- Number of cross-border or multi-currency systems cooperative oversight arrangements in place – such as the systems CLS, Euroclear, LCH.Clearnet SA and SWIFT



Conclusions

- An important area for a follow-up action to the global financial crisis is the strengthening of the global financial architecture
- Series of initiatives undertaken by the Eurosystem to fostering the efficiency and security for all kinds of transfer of funds and securities in Europe
- Key innovations in payment and SSSs lead to a better understanding of the payment and settlement systems' behavior in stress situations and to enhance the stability of the euro area financial system
- Successful integration of the European payment and settlement infrastructures will further contribute to the integration of the European financial markets, as well as to their higher competitiveness



Thank you for your attention!

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