

# The use of payments data to improve monetary and financial analysis

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## Introduction

Payments data can be relevant in a variety of domains. In the words of Gerdes *et al.* (2005), *"The information may aid in understanding the purposes for which different payment types are used, helping financial institutions, payments networks, service providers, and other payments organisations better understand and serve the public. Depository institutions can use the information to compare the relative use of payments with the relative use of payments at groups of similar depository institutions. Historical trends in the use of payments and information on patterns of substitution and replacement among payment types may aid in forecasting trends."*

Based on Garcia (2011), the aim of this paper is to illustrate the use of payments data covering, namely, statistics' compilation, and monetary and financial analysis.

## Characteristics of payments data

The Blue Book, a publication issued by the European Central Bank/Eurosystem, contains the description of the payment systems and instruments/ means of payment in every EU country. The Bank for International Settlements publishes the Red Book, which is an annual publication that provides data on payments and payment, clearing and settlement systems in the CPSS (Committee on Payment and Settlement Systems) countries.

Banco de Portugal publishes payment systems statistics covering the aggregate interbank operations processed in Portugal, either via clearing, or in gross, in the different payment instruments available: cheques, credit transfers, direct debits, bills of exchange and Multibanco (Portuguese ATM and POS network). Indicators of the overall settlement system transactions are presented by type of system, indicating quantity and value.

In general these data have the advantage of being very timely and cost-effective.

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## Balance of payments

In Portugal, card payments have been used for the estimation of the travel item in the Balance of Payments (BoP). As Gonçalves and Matos (2012) describe, Portugal has a favourable institutional environment in what concerns payment cards, since there is only one large company involved in processing payment cards data, SIBS – Forward Payment Solutions. SIBS and the other payments institutions report to Banco de Portugal, on a monthly basis, information related with the payments system. This report is managed by the Payments Systems Department which shares the data with the Statistics Department to use it in the compilation of travel statistics. Data include the number and value of operations performed in Portuguese automated teller machines (ATMs) and points of sale (POS) with cards issued abroad, and performed abroad with cards issued by Portuguese entities, as well as the characteristics associated with the cards and the type of channel used. This provides, on a monthly basis, a significant measure of travel expenditure both for credits and debits. In the course of 2013 a new report is expected to start, and it will provide more complete and detailed information, with an increased number of variables used to characterise the operations and a better coverage of payments' networks.

## Financial integration

Payments data can also be used to measure the evolution of monetary and financial services as illustrated by Cadete de Matos and D'Aguiar (2009). The authors describe the "boom in retail financial services". The most striking one is Multibanco, a sophisticated network shared by every bank operating in the economy that fully integrates ATM and POS terminals, where, in addition to cash withdrawals and balance inquires, customers can carry out a wide range of operations through ATM (currently more than 60 different services, of which 30 also available at POS terminals), *inter alia*: money transfers (both to other customers in the same bank and to other banks), payments for utilities bills, payments to the State and the Social Security, mobile phone top-ups, transport ticketing and event booking and ticketing.

## Short-term forecasting

Forecasters are always in search of new indicators that are related with the macroeconomic variable of interest and available earlier. With an application for Portugal, Esteves (2009) proposes the use of the ATM/POS data as an indicator to estimate private consumption. According to Banco de Portugal (2011), *"Speed of access to relevant information for assessing the economic situation at any point of time is highly useful to the extent that macroeconomic forecasts and policy decisions are highly affected by the quality of this assessment. It is, therefore, important to track the evolution of available indicators related with the variable whose growth is to be estimated. In this context, the use of ATM and POS data appears to be a natural option for now casting private consumption. These data on electronic withdrawals and*

*payments are related with consumption expenditure and are rapidly available – usually in the first few days following the end of the month.”*

More recently, on a methodological review of the short-term forecasting for the Portuguese economy, Esteves and Rua (2012) also highlight, in the case of private consumption, the data referring to ATM/POS terminals.

## Other purposes

On a different vein, concerning the use of ATM data, it is worth mentioning the work of Attanasio and Japelli (2002) who estimate the demand for currency using a data set that provides detailed information on the management of cash balances, interest rates on alternative assets, and the adoption of new technology. They find substantial differences in the equations for ATM cardholders and non-holders: indeed, the demand for currency of those who choose to have an ATM card is considerably more elastic to the interest rate than that of the households that do not hold such a card. The evidence they obtain from average balances is also confirmed by their study of withdrawals, trips to the bank, and types of payments for income.

Occasionally, specific surveys can be conducted which can provide additional information on payment behaviour. In this regard, Jonker (2005) provides a valuable literature review, from which the picture emerging is that the use of electronic payment cards (debit and e-purse) is negatively related with age and positively related with the educational level of consumers. Furthermore, women seem to use more different payment instruments than men. Cash is regarded as a universally accepted, but relatively unsafe means of payment, whereas the debit card is considered to be modern, easy to use and practical. This evidence is also found in Banco de Portugal (2007): *“The survey focusing on consumers produces findings in line with studies in other countries (the U.S., Belgium and the Netherlands) to the effect that the use of electronic payment instruments (payment cards) is directly related to income and education and inversely to age”*.

## Final remarks

The implementation of the Single Euro Payments Area (SEPA) constitutes a major window opportunity for NCBs to benefit from harmonised payments' data across Europe; SEPA is an initiative of the European banking industry that will make all electronic payments across the euro area – e.g. by credit card, debit card, bank transfer or direct debit – as easy as domestic payments within one country are now.

The use of payments data confirms the typical advantages of using administrative data: reduced burden on respondents and more cost-effective compilation of statistics. Similarly, these data have the advantage of being very timely and cost-effective. NCBs and NSIs should be aware of the potential usage of these data: it is an excellent example of how response burden and costs can be reduced while, at the same time, timeliness and quality of statistics can be improved. This potential should be explored by both NCBs and NSIs.

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