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# Governments' payment discipline: The macroeconomic impact of public payment delays and arrears<sup>☆</sup>

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## ABSTRACT

This paper considers the impact of changes in governments' payment discipline on the private sector. We argue that increased delays in public payments can affect private sector liquidity and profits and hence ultimately economic growth. We test this prediction empirically for European Union countries using two complementary approaches. First, we use annual panel data, including a newly constructed proxy for government arrears. Using panel data techniques, including methods that allow for endogeneity, we find that payment delays and to some extent estimated arrears lead to a higher likelihood of bankruptcy, lower profits and lower economic growth. While this approach allows a broad set of variables to be included, it restricts the number of time periods. We therefore complement it with a Bayesian VAR approach on quarterly data for selected countries faced with significant payment delays. With this second approach, we also find that the likelihood of bankruptcies rises when the governments increase the average payment period.

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## 1. Introduction

The issue of government arrears has gained prominence during the European sovereign debt crisis. Particularly in EU/IMF program countries—both in and outside the euro area—but also in other fiscally vulnerable economies, such as Italy and Spain, the identified amounts were considerable, and measures to reduce the stock of arrears featured prominently in government strategies and as program targets. At the same time, the European Commission took initiatives at the EU level to reduce payment delays, such as the 2011 Directive on combating late payment in commercial transactions, which also covers transactions between private undertakings and public authorities.<sup>2</sup>

While sovereign payment arrears and delays have received considerable attention in the political arena, this paper is—to the best of our knowledge—the first to provide a detailed and rigorous assessment of the likely macroeconomic effects. The

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<sup>1</sup> Views expressed in this paper are those of the authors and do not necessarily represent those of the institutions they are affiliated with.

<sup>2</sup> The directive, which entered into force in March 2013, imposes a maximum delay for new government payments of 30 days (60 days for a limited set of exceptions, such as in the health sector) and an 8% surcharge for infringement.

previous literature, which we briefly survey below, discusses and motivates such effects via intuition and example without providing an estimate of its size, e.g., based on an econometric model. One reason for the lack of such estimates might be the lack of precise and reliable data on the amount of sovereign arrears for each country. As we discuss below, these are usually not readily available from standard data sources, such as national accounts. Our key contributions therefore are (i) to put forward a statistical measure that can serve as a proxy for arrears and (ii) to use this and other measures of payment delays to gauge the effect on some key economic variables, such as growth and profitability.

Like private agents, governments have some discretion on when to pay their bills and other obligations. The outstanding payments of governments are, however, different in various respects from trade credit among private sector agents. First, within the private sector, paying a bill shifts liquidity across firms, but does not affect aggregate private sector liquidity. Second, given the size of the government, particularly in European countries, its payment policies are important to a large base of suppliers. Third, the government is at the same time a debtor and a creditor, but in a very distinct way, as most of the funds owed to the government are taxes, i.e., unrequited payments, whose payment terms are set by the government.

The discretion governments have in choosing when to pay may be foreseen already in contracts that include explicit or customary trade credit, but it can also go beyond that if governments miss due dates and fall into arrears. Payment traditions and expectations vary across countries and sectors, but as long as the situation is static the impact should be limited. If a government has a tradition of taking a long time to pay bills, then suppliers will price the cost of such credit into the goods supplied. There could still be some impact, though, as firms with extreme credit constraints may then not be able to do business with the government.

In times of economic crisis, however, payment delays often change in unexpected ways. Most obviously, a government facing a funding constraint could delay payments. This could affect bills for goods supplied, thus increasing trade credits, or it could affect wages and pensions. Typically, delaying payments for interest and amortization on public debt occurs only as a last resort to avoid official defaults. Even governments with full access to cheap financing delay payments sometimes. Depending on the accounting framework used, this can lead to lower public debt or deficit figures. Whether debt turns out to be lower depends on whether trade credit and arrears are counted as government debt. Under the Excessive Deficit Procedure (EDP) definition this is not the case, but EDP submissions include separate reporting of accounts payable.<sup>3</sup> The deficit in selected years would also be reduced if measured on cash basis, but not normally if an accrual definition is used (although in practice, some transactions may be missed until payment takes place).

Governments could also decide to accelerate payments to suppliers or clear previously accumulated arrears, at some stage in a crisis, in particular to support a liquidity-constrained private sector. In this spirit, for instance, the Italian government announced in April 2012 a major program (EUR 40 billion) to clear arrears over two years. This program was later augmented (reaching EUR 66 billion), and by October 2014 already EUR 32.5 billion had been paid out. Similarly, Spain announced in May 2012 a mechanism in the form of a government guaranteed syndicated loan worth EUR 30 billion by which the central government helps regional and local governments clear their arrears. Payment delays may also have purely administrative reasons.<sup>4</sup>

Changes in payment lags can be expected to have implications on the macroeconomic situation through various channels:

- (i) Corporate profits can be affected, because unexpected delays change the present discounted value of payments. If no or a low interest rate applies, this reduces suppliers profitability.
- (ii) The size of the corporate sector can be affected if liquidity-constrained firms, in particular small and medium-sized enterprises (SMEs), go bankrupt. This will also have knock-on effects on creditors of such firms. Potential adverse effects are not necessarily limited to SMEs. Also large firms can be affected by delayed payments, in particular in industries that are very dependent on government purchases, e.g., the pharmaceutical/health industry or the construction sector.<sup>5</sup> Various second-round effects are also likely, e.g., a higher bankruptcy rate could increase the cost of capital even to firms with access to credit; the cost of future orders of goods and services to the government could rise, as suppliers built the anticipated financing costs, including the uncertainty, into offers.
- (iii) Business investment can be affected in liquidity-constrained firms. These may not only be those directly dependent on government payments, but also their own suppliers as payment delays trickle on. Aggregate demand, and finally output and growth, could thus be negatively impacted.

The two most closely related papers to our study are [Erce \(2015\)](#) and [Delgado-Tellez et al. \(2015\)](#), although both papers use accounts payable as a proxy for arrears, without adjusting for actual delays or attempting to estimate arrears. [Erce \(2015\)](#) finds that rising accounts payable reduce growth using international data. [Delgado-Tellez et al. \(2015\)](#) use Spanish data to analyze recent efforts by the Spanish government to reduce outstanding trade credit. They use both a VAR and a simulation based on the Bank of Spain's quarterly macroeconomic model and find with both methodologies that reducing

<sup>3</sup> In the recent update of the public accounting standards (ESA-2010, enforced as of September 2014), the EU governments did not take the opportunity to include the obligation to count trade credits (and arrears) under government debt.

<sup>4</sup> To address these, the Italian government, for example, introduced compulsory electronic invoices for central government administrations in mid-2014 and plans to extend them to local governments by spring 2015. Moreover, to increase transparency the related data will be published on the web.

<sup>5</sup> Due to this dependency, firms from these industries are likely to refrain from making full use of legal procedures to accelerate payments as they may fear (tacit) retaliation from the government. This could also explain why some industries continue to supply goods and services to governments even after significant arrears have been accumulated.

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