



Friends without benefits? New EMU members and the “Euro Effect” on trade ☆

Alina Mika^a, Robert Zymek^{b,c,*}

^a European Central Bank, Sonnemannstraße 20, 60314 Frankfurt am Main, Germany

^b School of Economics, University of Edinburgh, 31 Buccleuch Place, Edinburgh EH8 9JT, United Kingdom

^c CESifo, Germany



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ABSTRACT

We re-visit the evidence about the trade benefits of European Monetary Union (EMU), focusing on the experience of countries which adopted the common currency since 2002. Based on “state of the art” gravity estimations for the period 1992–2013, we reach three main conclusions. First, estimates from an appropriately specified and estimated gravity equation provide no evidence of a euro effect on trade flows among early euro adopters up to the year 2002. Second, this finding is robust to extending the sample period to incorporate data up to 2013, covering five additional euro accessions. Third, while there is no robust evidence of a euro effect, there is evidence that intra-EU trade flows have expanded faster than the global average during the 2002–2013 period. Using the functional form of a theory-consistent gravity equation, we perform pseudo out-of-sample forecasts of trade flows for recent euro joiners. In line with our estimation results, we show that pseudo forecasts of the change in trade flows after euro accession, assuming no euro effect, outperform forecasts based on the expectation of a significantly positive effect. This suggests that euro accession countries should not expect a significant boost to their trade from joining EMU.

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1. Introduction

Since 2007, the eurozone has gained seven new members: Slovenia, Cyprus, Malta, Slovakia, Estonia, Latvia and Lithuania. Seven more countries are expected to join eventually.¹ The question regarding the economic benefits and costs to be expected from euro membership remains alive and well in these countries as they weigh the timing of their accession. In this paper, we re-visit the evidence about one of the benefits of European Monetary Union (EMU): increased trade integration among EMU members. Earlier empirical studies suggest that euro adoption resulted in a significant positive boost to trade flows among eurozone economies. However, these studies were based on early-days data from the original euro club, comprised of Western and Southern European countries, which had adopted the euro by 2002. Our paper focuses on the experience of subsequent joiners. In particular, we ask whether initial estimates of the “euro effect” on trade flows were a good guide to the euro's impact

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* Corresponding author at: School of Economics, University of Edinburgh, 31 Buccleuch Place, Edinburgh EH8 9JT, United Kingdom.

E-mail addresses: alina.mika@ecb.int (A. Mika), robert.zymek@ed.ac.uk (R. Zymek).

¹ Apart from Denmark and the United Kingdom, all current EU member states are legally obliged to join the eurozone. At present, this applies to Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania and Sweden.

on trade for later additions to the eurozone. Our findings imply that the answer is no – there is no robust evidence of a euro effect on trade flows, for recent as well as original adopters of the common currency.

Fig. 1 provides a graphical preview of our results. For all countries which joined the euro between 2002 and 2013, it plots the value of their trade with the original euro members as a share of the value of their trade with all EU countries.² The year prior to their accession is used as the base year, and their accession year is marked with a vertical line. Estimates from earlier studies would lead us to expect an increase in trade flows of 5–15% with euro countries upon accession, holding everything else constant (see Baldwin, 2006). In the figure, there is no systematic evidence of such a rise in countries' trade flows with the core eurozone – relative to the wider EU – in the wake of their euro adoption. In the remainder of the paper, we will confirm this casual observation using formal econometric methods.

Like earlier studies on the euro effect, we assess the impact of euro adoption on trade flows by estimating a gravity equation. Unlike these studies, we are able to make use of advances in computer processing power to employ a near-comprehensive data set of bilateral trade flows in the period 1992–2013, and to mitigate the risk of omitted-variable bias by using a full array of country-pair and country-time fixed effects. We also estimate our preferred gravity equation in levels using the Poisson pseudo-maximum likelihood (PPML) procedure recommended by Santos Silva and Tenreyro (2006).³ Our gravity estimation thus represents the current “state of the art” in the literature. After providing an updated estimate of the impact of euro adoption on trade, we perform pseudo out-of-sample forecasts of trade flows for recent euro joiners using the functional form of a theory-consistent gravity equation. In this way, we can compare the accuracy with which different estimates of the euro effect would have predicted the post-accession evolution of trade for these countries.

Our estimation results lead us to draw three main conclusions. First, estimates from an appropriately specified and estimated gravity equation *do not* support the notion of a euro effect on trade flows among early euro adopters up to the year 2002. Earlier estimates appear to have been upward-biased largely because they were derived from log-linearised gravity equations estimated by OLS. Second, the finding of “no euro effect” is robust to an extension of the samples used in earlier studies in order to incorporate the most recent data (up to 2013), covering the experience of five subsequent euro joiners. Third, while there is no robust evidence of a euro effect, there is evidence that intra-EU trade flows have expanded faster than the global average during the 2002–2013 period.

Given these findings, our pseudo out-of-sample forecasts compare trade-flow predictions derived under a no-euro-effect assumption with predictions based on a positive euro effect drawn from the middle of the range of traditional estimates. We show that, for the six most recent euro joiners in our sample, the no-effect forecasts of the change in trade flows after euro accession clearly outperform forecasts based on the expectation of a significantly positive euro effect. Therefore, a careful re-examination of the best-available evidence to date seems to suggest that candidate accession countries should not expect a significant boost to their trade from euro adoption.

Academic interest in the trade effects of currency unions peaked around the time of the introduction of the euro in the late 1990s and early 2000s. In an influential paper published shortly after the birth of the euro, Glick and Rose (2002) use a large panel of bilateral trade flows, covering 217 countries in the period 1948–1997, to estimate the impact of currency unions on the trade flows of their member countries. They find a significant and very large effect of pre-euro currency unions on trade. Micco et al. (2003) were the first to use post-EMU data in order to provide an assessment of the specific trade benefits of euro adoption. Their paper finds a 5–15% increase in trade flows in the wake of euro adoption, much smaller than the effect documented by Glick and Rose (2002) for pre-euro currency unions, but still economically and statistically significant. Subsequent research from the early years of EMU, surveyed in Baldwin (2006), points to a similarly-sized euro effect.⁴ Our paper follows in the footsteps of this literature, focusing mainly on the pro-trade effects of the euro. However, we make use of the availability of more recent data and cast the spotlight on countries which were not among the original adopters of the European common currency.

Re-visiting the euro effect in the light of more recent data seems desirable for two reasons. First, we can better assess the long-term impact of the euro on trade flows among original euro adopters than earlier studies whose data sample did not extend beyond the early 2000s. Second, the additional euro accessions covered by our sample provide an ideal testing ground for the robustness and predictive power of earlier estimates of the euro effect. Moreover, their experience should be more representative of future euro adopters which, in contrast to the original member countries, are unlikely to join the single currency *en masse*, and are likely to be economically small relative to the eurozone.⁵

² The data on the value of bilateral trade flows used to construct this figure is taken from the latest edition of the IMF's *Direction of Trade Statistics*.

³ Santos Silva and Tenreyro (2006) show that the traditional estimation of a log-linearised gravity equation using OLS will result in biased coefficients in the presence of a heteroskedastic error term, and Santos Silva and Tenreyro (2010) document that this issue may have led to biases in earlier estimations of the trade-effect of currency unions.

⁴ Consistently, a recent study by Eicher and Henn (2011), using a large panel data set for the period 1950–2000 in order to evaluate the pro-trade effects of different currency unions individually, confirms that the euro appears to have increased trade among its members by less than other currency unions.

⁵ In two recent papers, Glick and Rose (2016) and Glick (2017) provide a re-assessment of their earlier estimates of the effects of currency unions using a panel of bilateral trade flows for over 200 countries which covers the period 1948–2013. They generally find significant positive effects of currency unions on trade which are, however, smaller than those reported in Glick and Rose (2002). Moreover, differentiating between early and late euro joiners, Glick (2017) finds no evidence that the euro has boosted trade between the former and the latter. While their large dataset allows them to compare the pro-trade effects of EMU with other currency unions, it does not permit them to estimate a “state of the art” gravity equation – using both a fully array of fixed effects and PPML estimation – for computational reasons. By contrast, since we are primarily interested in the euro effect in its own right, we restrict our sample to 153 countries in the period 1992–2013 and are able to undertake a “state of the art” gravity estimation for this smaller panel.

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