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One-size-fits-some! Capitalist diversity, sectoral interests and monetary policy in the euro area

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ABSTRACT

10 In the comparative capitalism literature, the European Central Bank's (ECB's) 'one-size-fits-none' monetary policy plays a key role in the widening of trade imbalances in the euro area (EA) by being overly restrictive for the region's coordinated market economies (CMEs) and overly expansionary for the region's mixed market economies. According to this literature, wage setting institutions mediate how the ECB's monetary policy affected these economies by re-distributing resources between their traded and non-traded sectors. ~~In this paper, we argue such a one-dimensional focus on wage setting institutions fails to provide an adequate account of the ECB's role in the EA trade imbalances and the effects of its monetary policy on traded and non-traded sectors in the CMEs and MMEs.~~ By examining three separate transmission channels of the ECB's monetary policies (wage and price setting in labor and product markets; nominal exchange rate of the euro; funding costs and bank credit), this paper goes beyond the traditional emphasis on wage setting institutions and draws attention to those institutions that underpin the non-price competitiveness of traded sectors: it shows how complementarities between wage setting, innovation and corporate finance institutions made traded sectors in the CMEs perfectly fit to and key beneficiaries of the ECB's monetary policy.

25 **KEYWORDS** Monetary policy; ECB; comparative capitalisms; euro crisis; sectoral interests; coordinated market economies; mixed market economies

Introduction

Since mid-2014 the European Central Bank (ECB) embarked on increasingly expansionary monetary policy measures to boost economic growth in the euro area (EA) and stave off deflationary pressures. Almost 2 years later Mario Draghi, president of the ECB, lauded the measures for leading a 'solid and broad' recovery in the region. At the same time, however, the EA's aggregate current account balance moved towards a huge surplus that reached 3.4% of its GDP in 2016, suggesting that its recovery has been predominantly export-led. The EA's current account surplus follows from the asymmetrical trade adjustment between the surplus and deficit countries in the region: whereas the trade deficits of the peripheral EA countries evaporated since the euro crisis, the northern EA countries were able to maintain or even increase their surpluses. In this

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paper, I will examine the role of the ECB in the widening and subsequent asymmetrical adjustment of these trade imbalances from a sectoral comparative capitalism (CC) perspective: I analyze how its monetary policy contributed to these trade dynamics by affecting the interests of tradable and non-tradable goods and services ('traded' and 'non-traded' sectors) in different varieties of capitalism (~~VoC~~) in the region via three distinctive transmission mechanisms: (1) wage and price setting in labor and product markets; (2) capital costs; and (3) the nominal exchange rate of the euro.

The CC literature has primarily focused on the first transmission mechanism in its explanation of the EA trade imbalances. Scholars working in the **VoC** tradition have convincingly argued that traded sectors in the northern EA countries were able to strengthen their cost competitiveness vis-à-vis those in the southern EA countries: traded sectors in these 'coordinated market economies' (CMEs) benefited from the presence of wage setting institutions that contained unit labor costs (ULC) in both traded and non-traded sectors. In the southern 'mixed market economies' (MMEs), by contrast, the lack of similar coordinated wage setting institutions led to higher wage and ULC inflation – especially in the non-traded sectors. As a result, traded sectors in these countries were harmed by higher national inflation rates, which undermined their competitiveness by leading to a real exchange rate appreciation (Hancké, 2013; Johnston, Hancké, & Pant, 2014). The sectoral effects of diverging wage setting institutions were exacerbated by the ECB's 'one-size-fits-none' monetary policy. As the ECB focuses on region-wide average inflation, its monetary policy is generally too restrictive for countries with lower-than-average inflation and too expansionary for countries with lower-than-average inflation. In the pre-crisis years CMEs consequently faced relatively high real interest rates that depressed domestic demand and bolstered the competitiveness of their traded sectors by further restraining wage growth; MMEs, on the other hand, experienced relatively low real interest rates that fueled domestic demand at the **expense** of additional wage inflation and declining export competitiveness of their traded sectors. ECB monetary policy, it is argued, thus played a key role in the widening of EA trade imbalance by reinforcing both the export-led growth models of the CMEs and the domestic demand-led growth models of the MMEs (Hancké, 2013; Iversen, Soskice, & Hope, 2016; Johnston & Regan, 2016; Johnston et al., 2014).

In this **paper**, I will show that the VoC literature's focus on wage setting institutions fails to provide a sufficiently comprehensive and adequate analysis of the sectoral effects of the ECB's monetary policy and its role in the EA trade imbalances. First, I use a variety of empirical sources to show that firms in the traded sectors in CMEs increased profit margins in response to the relative decline in their ULC instead of lowering product prices. This lack of 'pass-through' of ULC changes onto product prices implies that wage restraint and *price* competitiveness have been less important for the export performance of CME traded sectors than previous analyses in the CC literature have argued (Baccaro & Benassi, 2017; Hancké, 2013; Höpner & Lutter, 2014; Johnston et al., 2014). Rather, it is a reflection of their strong *non-price* competitiveness based on their comparative specialization in the production of quality-differentiated goods, demand for which is relatively price-inelastic. This does not mean that the relative decline in ULC **has been** inconsequential for these sectors, however. By drawing attention to a second transmission mechanism of the ECB's monetary policy – i.e. its effect on real interest rates and the capital and funding costs of non-financial corporate sectors – I suggest another channel through which the relative decline in ULC assisted traded sectors in the CMEs: rising profit margins, combined with booming foreign


85 demand for their goods, bestowed these sectors with ample internal funds to finance
 their investments. This reduced their dependency on external bank funding and made
 their investment decisions less vulnerable to the relatively high real interest rates ensu-
 ing from the ECB's single monetary policy: I will show that investment spending by
 traded sectors in the CMEs (including both domestic capital formation and foreign
 90 direct investment) even increased as a share of GDP.

Second, I highlight the role the euro's nominal exchange rate in the trade imbalances
 and its importance as a monetary policy transmission mechanism. Between 2002 and
 2009 the ECB's monetary policy contributed to a huge nominal appreciation of the
 euro, which drastically undermined the price competitiveness of tradable goods pro-
 95 ducers in *both* CMEs and MMEs vis-à-vis non-Eurozone producers. It is remarkable
 that VoC scholars have neglected this development in their accounts of the EA trade
 imbalances. While this might be explained by their focus on the intra-regional trade
 imbalances between the CMEs and MMEs (see, especially, Johnston & Regan, 2016), it
 will be shown below that their extra-regional imbalances (resulting from trade with
 100 non-EA countries) grew almost as large in the pre-crisis years: the extra-regional trade
 balance of the CMEs evolved almost as favorably as their intra-EA trade balance, while
 the extra-regional trade deficits of the MMEs in most cases exceeded their intra-
 regional deficits. The divergence in the extra-regional trade balance performance of the
 CMEs and MMEs suggests that euro's appreciation had asymmetrical effects on their
 105 traded sectors. This again reflects differences in their non-price competitiveness: I dem-
 onstrate below that traded sector firms of the CMES engage more often in production
 strategies based on quality differentiation than those of the MMEs, where low-cost pro-
 duction strategies prevail. To understand why, it is necessary to pay attention to institu-
 tions underpinning these production strategies. More specifically, coordinated
 110 institutions for skill development and vocational training allowed many tradable goods
 producers in CMEs to pursue quality-differentiated production (DQP). Since traded
 sectors of the MMEs lack similar institutions, their firms tend to be specialized in the
 production of homogenous and standardized goods that are relatively price-elastic. As
 a result, they were much more affected by the nominal appreciation of the euro ensuing
 115 from the ECB's single monetary policy.

Finally, I explain intra-model variety in the degree to which the ECB's monetary pol-
 icy has shaped wage-setting in the CMEs by pointing to the mediating effects of
 national fiscal policy and regulatory approaches of household debt. In the pre-crisis
 years of widening trade imbalances Germany was an outlier in the group of CMEs
 120 in terms of the evolution of wages and ULC in both traded and non-traded sectors
 (Baccaro & Pontusson, 2016; Hope, 2016). The reason is related not only to its wage-
 setting institutions and the flexibilization of its labor market but also to its restrictive
 fiscal policy and household credit regulations, which have depressed domestic demand
 and made the German political economy increasingly dependent on exports. A focus
 125 on fiscal and credit policies is necessary to understand the lack of reflationary adjust-
 ment in Germany in the face of the ECB's expansionary policy measures after the euro
 crisis, which led to highly easy monetary conditions in the northern CMEs. Although
 in early VoC formulations it was argued that an accommodative monetary regime will
 encourage sufficiently large trade unions 'to use their indirect power in product markets
 130 to push up wages (Iversen, 1998, 481; see also Soskice & Iversen, 2000), Germany's
 post-crisis experience suggests that it takes more than expansionary monetary condi-
 tions to break down the system of competitiveness-oriented wage bargaining. If

restrictive fiscal policies continue to privilege the interests of the traded sectors by depressing domestic demand and containing economy-wide ULC, the ability of the
 135 ECB's monetary policy to provoke higher wage inflation in Germany (and in the other CMEs) remains clearly limited.

Overall, the analysis in this **paper** explains how the **institutionally** infrastructure of the CMEs bolstered the adaptability of their traded sectors to the ECB's single monetary policy and its three transmission mechanisms – both during the relatively restrictive
 140 restrictive monetary conditions of the pre-crisis years and the expansionary conditions after the eruption of the euro crisis. Because MMEs lack the necessary institutional preconditions for wage restraint and skill formation, the ECB's monetary policy harmed the interests of their traded sectors both in terms of declining profit margins (due to ULC inflation) and weakening price-competitiveness (due to both ULC inflation and the
 145 euro's nominal exchange appreciation) in the pre-crisis period. Since the outbreak of the euro crisis the monetary policy of the ECB has been more beneficial for these sectors by restraining economy-wide ULC as well as by contributing to the nominal depreciation of the euro. By showing how its monetary policy advantaged the interests of traded sectors in *both* CMEs and MMEs for the very first time since the introduction of
 150 the euro, I will elucidate the role of the ECB in the export-led recovery of the EA.

This paper is organized as follows. The next section **discusses** the CC literature on the trade imbalances, arguing that **one** needs to go beyond the focus on wage setting institutions to grasp the effects of the ECB's single monetary policy on traded and non-traded sectors in CMEs and MMEs. The subsequent, most elaborate, section provides
 155 an empirical analysis of the effects the three monetary policy transmission channels in the pre-crisis years of widening trade imbalances. The insights developed in this section will be used to clarify the role of the ECB in the asymmetrical adjustment of the EA trade imbalances after the crisis. **Finally**, the **conclusion section** summarizes findings and discusses several theoretical and political implications. 

160 **Varieties of capitalism, sectoral interests and monetary policy in the EA**

The escalation of EA trade imbalances has figured prominently in the CC literature's explanation of the euro crisis: from a CC perspective, it was particularly noteworthy that the southern MMEs accumulated increasing trade deficits that were largely
 165 financed by the recycling of growing trade surpluses of the northern CME. A dominant interpretation in the CC literature is that these imbalances mostly reflect a divergence in the price competitiveness between the two groups of countries due to their differing wage setting institutions (Hancké, 2013; Johnston et al., 2014; Johnston & Regan). CMEs have well-organized employer associations and powerful trade unions, who coordinate wages in a centralized bargaining setting that aims to bolster the competi-
 170 tiveness of the export-oriented manufacturing sectors. In these countries unions usually accept 'wage restraint' (i.e. real wage growth not exceeding the growth in labor productivity) in order to boost employment of well-paid skilled workers in these sectors. These wage agreements are subsequently extended through various arrangements to sector that are sheltered from international competition (such as the public sector and private
 175 non-traded sectors). Because in CMEs the export-oriented sectors play a dominant role in the economy, there is a strong incentive to restrain wage and ULC growth in the *overall* economy: their wage-setting institutions aim to prevent higher input prices of goods and services produced by the non-traded sectors from leading to an 'inflationary

squeeze' on the traded sector (Garrett & Way, 1999; Johnston, 2012). Labor unions and
 180 employers in MMEs are organized in weaker and more fragmented organizational
 structures that are less effective containing wage and ULG growth. Especially in the
 non-traded sectors that are shielded from international competition this typically leads
 to higher inflation, which also undermines the price competitiveness of the traded
 sectors.



185 Why was it more difficult to contain the divergence in ULC between CMEs and
 MMEs after the introduction of the euro? The CC literature gives two complementary
 answers to this question. Höpner and Lutter (2014, 7) argue that unions in CMEs
 became more willing to exert wage restraint as its pay-offs became more certain and
 pronounced within a monetary union: 'If trade partners cannot devalue, it becomes
 190 more likely that nominal wage restraint will actually result in the enhancement of price
 competitive ness not only in the short, but also in the medium run. Accession to a fixed
 currency regime should, therefore, gradually alter the relative weight of considerations
 upon which exposed-sector trade unions base their wage demands' (see also Iversen
 et al., 2016). However, this explanation does not by itself clarify why the removal of the
 195 nominal devaluation option did not reinforce the incentives among trade unions in the
 MMEs to enact similar wage restraint. Another explanation therefore looks at the Euro-
 peanization of monetary policy, which resuscitated tensions between wage setters in
 traded and non-traded sectors in the MMEs. Before the euro unions in the latter sectors
 were disciplined by national central banks that could thwart inflationary wage settle-
 200 ments by adopting or threatening with restrictive monetary policies. Therefore, 'the
 replacement of national monetary authorities by the ECB had the inadvertent effect of
 releasing trade unions in the sheltered sectors from the tight wage-setting constraints
 that they had faced since the 1980s and 1990s' (Hancké, 2013, 64; see also Hancké &
 Johnston, 2009; Johnston, 2012; Johnston & Regan, 2016). Consequently, wage inflation
 in the southern MMEs rose significantly, especially in sheltered sectors where firms
 could more easily raise prices in response to rising labor costs.

Such interactions between monetary policy and wage bargaining reveal an important
 channel through which the ECB's single interest rate shaped sectoral interests and
 hence contributed to two distinctive growth models in the region. Because the ECB
 210 bases its interest rate decisions on region-wide average macroeconomic conditions
 rather than on those of individual EA countries, its monetary policy underwrote the
 export-led growth models of the CMEs and the consumption-led growth models of the
 MMEs by resulting in relatively high real interest rates in the former group of countries
 and relatively low real interest rates in the latter. While the presence of wage setting
 215 institutions containing ULC inflation in the non-traded sectors was central to the abil-
 ity of traded sectors in the CMEs to improve their cost competitiveness vis-à-vis those
 in the southern MMEs, relatively tight monetary conditions depressed domestic
 demand and made it more easy to enact wage restraint in the non-traded sectors.
 Expansionary monetary conditions in the MMEs, on the other hand, boosted domestic
 220 demand and fueled wage inflation especially in the non-traded sectors. This weakened
 the competitiveness of the traded sectors in these countries by leading to an increase in
 ULC and a real exchange rate appreciation (Hancké, 2013; Johnston & Regan, 2016).

These observations underscore an important claim developed by the recent VoC lit-
 erature, which states that the successful operation of a growth model depends on a
 225 complementary set of macroeconomic policies (Carlin & Soskice, 2009; Hall, 2017;
 Iversen, 1999; Iversen et al., 2016; Iversen & Soskice, 2012; Soskice, 2007). In the

export-led CMEs, coordinated wage bargaining is traditionally facilitated by non-accommodating monetary policies that privilege the interests of the traded sectors by sharpening trade unions' incentives for wage restraint: unions are sufficiently coordinated in these countries to internalize the effects of macroeconomic policy, which enables the non-accommodating central bank to deter wage increases with threats to tighten monetary policy (Hall & Franzese, 1998; Soskice & Iversen, 2000). To avoid neutralizing these threats, fiscal policy 'must eschew an aggregate demand role' and also be restrictive in the CMEs (Soskice, 2007, 101; Kalinowski & Hlasny, 2017). In the MMEs, by contrast, 'unions in the formal sector are individually small and uncoordinated, so '[non-accommodating] monetary and fiscal policy cannot be used to deter inflationary wage bargains [and] simply create unemployment' (Iversen & Soskice, 2013). Because they depend much more on domestic demand, these countries prefer to pursue more accommodating monetary and fiscal policies catered to the interests of the non-traded sectors.

When looking at the main features of the Eurozone's macroeconomic policy regime laid down by the Treaty on the Functioning of the European Union (TFEU), it is clear that the macroeconomic policy preferences of the CMEs prevailed (Fioretos, 2001; Iversen et al., 2016; Vermeiren, 2014). The TFEU gave the ECB a single mandate to prioritize the maintenance of price stability – defined as a medium-run EA-average consumer price inflation rate below but near 2% – over the pursuit of economic growth (Article 127.4). Moreover, it introduced several safeguards against the risk of monetization of sovereign debts: Article 123 of the TFEU rules out all types of monetary financing of EU and government institutions by the ECB, whereas Article 125 ('no-bailout' clause) prohibits EU (institutions from taking over the liabilities of any member state government and administrative body. These restrictive rules were introduced to impose fiscal discipline on the EA governments and ensure that they would abide by the rules of the Stability and Growth Pact (SGP), which stipulates that fiscal deficit levels should not exceed 3% of GDP. While these restrictive macroeconomic policy rules would bolster the export-led growth models of the CMEs by promoting wage restraint, they had also beneficial effects for the growth models of the MMEs: by pinning themselves to a low-inflation currency area, MMEs gained access to lower real interest rates that could be seen as key drivers of domestic demand (Iversen et al., 2016).

While significantly improving our understanding of the linkages between macroeconomic policy and wage setting in these two different  the above analysis leaves several important questions regarding the sectoral effects  the ECB's monetary policy unanswered. First, it remains unclear to which degree differences in *wage setting* in the CMEs and MMEs explain divergences in *price setting* in their traded sectors: differences in *cost* competitiveness do not automatically translate into differences in *price* competitiveness (Felioe & Kumar, 2011; Gaulier & Vicar, 2013). There seems to be an implicit assumption in the VoC literature that firms in traded sectors in the CMEs exploited the economy-wide decline in relative ULC by reducing their product prices relative to their foreign competitors – i.e. that the divergence in cost competitiveness between traded sectors in the two country groups gave rise to an equivalent divergence in price competitiveness. **Figure 1** suggests that this has not been the case: it plots the accumulated change in economy-wide nominal ULC of the former EU15 countries against the accumulated change in their industry's export price index from 1999 to 2008 and shows that there is only a very weak correlation between the two variables ($R^2 < 0.3$). In the next section I use a variety of sector-level data to show that trade sector firms

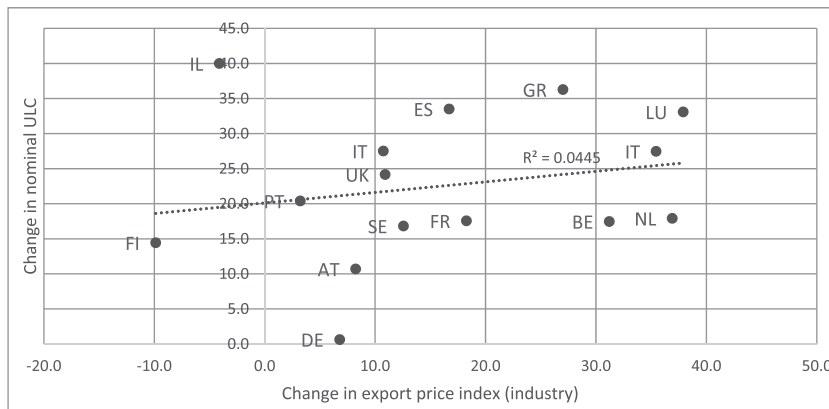



Figure 1 Correlation between economy-wide ULC and export price index (2000–2008).


Source: AMECO; Eurostat; author's calculations. Note: Export price index = non-domestic producer price index of industry. Start year for Belgium = 2001. For Ireland and Portugal AMECO's export price deflator was used.

275 responded to the favorable evolution of ULC by raising profit margins rather than lowering product prices. Based on these data, I argue that there is another channel through which wage restraint benefited these firms: higher profitability combined with buoyant foreign demand allowed these firms to remain unaffected by the relatively high real interest rates ensuing from the ECB's one-size-fits none monetary policy, as they had
280 sufficient retained internal funds to finance their investments and ensure an expansion of their productive capacities.

Second, the ECB's restrictive mandate gave rise to an 'appreciation bias' in its approach of the euro's nominal exchange rate, potentially undermining the price competitiveness of traded sector firms vis-à-vis non-EA producers. As the ECB's exchange
285 rate preferences are only determined by inflation considerations (Kaltenthaler, 2006), its monetary policy might be skewed toward euro appreciation under ordinary non-deflationary macroeconomic conditions: while the ECB will normally adjust its interest rate to reverse an inflationary *depreciation* of the euro, it will likely be more willing to accept an excessive euro *appreciation* due to its tempering effects on regional inflation
290 (Vermeiren, 2014).¹ The appreciation of the euro, shown in [Figure 1](#), is an endogenous shock that existing VoC scholars of the EA trade imbalances have [struggled](#) to overlook. One reason for their neglect is that they seem to believe *intra*-regional trade imbalances – that is, the imbalances arising from intra-regional trade between the EA countries – have been much more important than extra-regional trade imbalances (see,
295 especially, Johnston & Regan, 2016, discussed below). To the extent that these scholars have paid attention to the euro's nominal exchange rate, it is argued that 'fluctuations of the euro's external exchange rate, especially against the US dollar, hit Germany more than other [EA] countries' (Hancke, 2013, 74). Below I challenge both findings: I will show that the *extra*-EA trade balances of the MMEs deteriorated as much as their
300 intra-regional ones in the pre-crisis years, while extra-regional trade balances of the CMEs either remained broadly stable or improved significantly – as in Germany's case. The remarkable extra-regional trade balance performance of the CMEs, especially

Germany's, suggests that their traded sectors were largely unaffected by the euro's appreciation.

305 Both observations point to the importance of divergences in *non-price* competitive-
ness, which are crucial for understanding the varied effects of the different transmission
mechanisms of the ECB's monetary policy on traded sectors in the region. These diver-
gences are well-established in the CC and VoC literature and follow from the divergent
310 institutional capacity of CMEs and MMEs to produce quality-differentiated goods, the
demand for which is relatively price-inelastic. Due to the presence of encompassing
institutions for vocational education and training and an effective national innovation
system, firms in the traded sectors of the CMEs are able to employ highly-skilled work-
ers and hence more likely to engage in high valued-added production strategies based
 on quality differentiation (Streeck, 1991; Hall & Soskice, 2001). These firms were there-
fore unharmed by the euro's nominal appreciation and could raise profit margins in
response to declining ULC, giving them ample internal resources to finance their
investments. As MMEs, by contrast, are generally defined by 'the relative weakness of
their educational and training systems' (Lallement, 2011, 637), 'larger segments of [their]
workforce are less skilled and continuous innovation is more difficult to achieve' (Hall,
320 2014, 1226; see also Molina & Rhodes, 2007). As a result, traded sector firms in these
countries tend to engage in low-cost production strategies leading to a comparative spe-
cialization in the production of standardized goods with lower added value and quality
(Della Sala, 2004; Schmidt, 2003). Because firms usually produce goods with a high price
elasticity, they were more harmed by the euro's nominal appreciation and more inclined
325 to cut profit margins when labor cost rise. Taking to account their decreasing profit mar-
gins and declining price competitiveness, firms in the non-traded sectors were the prime
beneficiaries of relatively low real interest rates in these countries (see below).

Apart from disregarding the role of these monetary policy transmission mecha-
nisms, existing VoC accounts the EA trade imbalances have neither paid sufficient
330 attention to the fact that the CMEs displayed significant intra-model variety in the
extent to which their growth model was based on wage restraint and a depression of
consumption; this was certainly the case for Germany (and to a lesser degree Austria),
but less so for the others. Below I show that in the pre-crisis years Germany's growth
model was less balanced than those of the other CMEs, where wages in the non-traded
335 sheltered sectors grew faster and consumption played a stronger role in economic
growth. While scholars of CC have explained Germany's sharp ULC devaluation by the
decentralization of its wage-setting institutions and flexibilization of its labor market
since the 1990s (Baccaro & Benassi,  6; Hassel, 2014), I highlight the importance of
restrictive fiscal policy and approaches to household credit in depressing public and
340 private consumption. These institutions mediate the effects of the ECB's monetary pol-
icy on domestic consumption and clarify why ultra-expansionary monetary conditions
in the post-crisis years have not translated into more significant wage inflation. The
debate about the role of wage dynamic in Germany's trade balance remains an unset-
tled issue in the CC literature, however. Baccaro and Pontusson (2016) have recently
345 argued from a 'Kaleckian' growth model perspective that the repression of wages was
key to bolstering the competitiveness of German manufacturing sectors, whose exports
they believe became more price-sensitive over time (see also Baccaro & Benassi 2016).
The empirical analysis in the next section challenges this interpretation, arguing that
wage repression in Germany resulted in lower consumption (and import) growth
350 rather than higher export growth compared to the other CMEs.

ECB monetary policy and widening trade imbalances (2002–2009)

Transmission channel 1: wage and price setting

According to the above-discussed VoC literature, the setting of wages in labor and product markets is the main channel through which the ECB affected sectoral interests and fueled trade imbalances. Relatively high real interest rates resulting from its single monetary enabled traded sectors in the CMEs to improve their cost competitiveness by inducing trade unions to pursue wage restraint. Relatively low real interest rates in the MMEs, on the other hand, undermined the cost competitiveness of their traded sectors by fueling wage inflation, especially in their non-traded sectors. Table 1 shows the evolution in – and its components ‘labor productivity’ and ‘labor compensation’ – in different economic sectors from 1999 to 2007. In line with the interpretation of the VoC literature, wages, and ULC in the non-traded sectors grew more strongly higher in the MMEs than in the CMEs (Finland excluded) and/or were not sufficiently neutralized by weaker/negative ULC growth in the traded sectors (as in Finland). The same table shows that there was considerable variation among the CMEs in terms of annual growth in labor compensation in the non-traded sectors. Germany was a clear outlier in this regard, which is usually explained by the liberalization of industrial relations and wage setting institutions especially in the labor-intensive services sectors (Baccaro & Benassi, 2017; Dustmann, Fitzenberger, Schönberg, & Spitz-Oener, 2014). Accordingly, its export-led growth models coincided with weaker private consumption growth than in the other CMEs, as shown in Table 2.

Additional indicators of the EA countries’ growth models presented in Table 2 suggest that Germany’s repressed wage and consumption growth should also be linked to weak public spending and its restrictive approach of household credit. First, Germany adopted more restrictive fiscal policies than the other CMEs: its cyclically adjusted government primary balance – which measures discretionary changes in the government’s fiscal policy by removing its net debt interest payments and correcting for the position

Table 1. Average annual growth in unit labor costs and its components (1999–2007).

	1999–2007			1999–2007		
	Value added*	Labor compensation*	ULC	Value added*	Labor compensation*	ULC
Austria				France		
Traded	4.3	2.9	–1.4	Traded	4.4	3.6
Non-traded	1.4	2.2	0.7	Non-traded	1.0	3.4
Belgium				Greece		
Traded	3.9	3.1	–0.8	Traded	3.2	4.2
Non-traded	2.3	2.9	0.5	Non-traded	3.8	6.0
Finland				Italy		
Traded	7.3	3.9	–3.2	Traded	1.5	3.0
Non-traded	0.5	3.4	2.9	Non-traded	–0.3	2.6
Germany				Portugal		
Traded	3.9	2.4	–1.5	Traded	2.9	3.7
Non-traded	0.7	1.3	0.6	Non-traded	0.5	4.1
Netherlands				Spain		
Traded	6.7	3.6	–0.8	Traded	2.2	3.9
Non-traded	1.9	3.7	1.8	Non-traded	–2.1	2.9

*Per hour worked.

Source: OECD.

Note: Traded sector = manufacturing; non-traded sector = average of construction and business sector services.

Table 2. Indicators of national growth models.

	Average annual contribution to GDP growth (1999–2008)			Change in government primary balance adjustment	Household debt in % of net disposable income		House price index change
	Exports	Private C	Public C	1999–2007	2000	2008	2000–2008
CMEs							
Austria	2.79	0.96	0.32	–0.24	75.5	90.2	–1.5
Belgium	3.24	0.74	0.40	–3.67	70.6	89.1	47.7
Germany	2.43	0.51	0.19	0.12	116.5	99.4	–13.4
Finland	2.86	1.55	0.34	–1.13	74.8	117.2	28.7
Netherlands	3.40	0.81	0.75	–2.46	199.2	274.6	23.2
MMEs							
France	1.02	1.26	0.36	–2.39	74.8	99.4	79.9
Greece	1.47	2.40	0.68	–8.23	30.4	86.9	48.3
Italy	0.72	0.61	0.25	–2.89	54.5	81.6	43.1
Portugal	1.23	1.30	0.42	0.73	106.8	148.9	–17.4
Spain	1.18	1.94	0.85	–2.28	84.2	150.2	96.7

Source: AMECO; OECD.

of the economy in the business cycle – improved from minus 1.05 of GDP in 2000 to plus 1.4% in 2007. **Therefore**, despite the fact that the domestic economy was already weak during this period because of relatively high real interest rates, the German government’s fiscal policy restrained it even further. While it might have felt the need to reduce public expenditures because of the exigencies of the SGP, it also ‘sharpened the incentives for wage restraint ... by abandoning discretionary fiscal policy and therefore removing this possibility’ (Carlin & Soskice, 2009, 90).² The overall fiscal policy stance was more expansionary in the other CMEs if we look at the evolution in their cyclically adjusted government primary balance and the contribution of public consumption to GDP growth. This can also be linked to their ‘larger and more robust public sectors’, ‘which enable smaller 50-10 wage gaps, due to their impacts on redistribution and social investments in lower-skilled workers’ (Martin, 2016, 230). Employment in the public sector as a percentage of total employment is significantly higher in Belgium, Finland and Netherlands than in Germany and Austria. As Martin (2016, 230) argues, such ‘large public sectors produce higher levels of demand by stimulating the economy with the multiplier effect and ... directly expand consumption by marginal groups, because state employment of low-skill workers tends to raise low-end employment and wages.’

Second, Germany had more restrictive retail banking regulations, which depressed the growth in household debt between 2000 and 2008 (Mertens, 2017). Fuller (2015) recently showed that there is considerable variation in the degree to which CMEs encourage or mitigate household borrowing, either through interest rate restrictions, property transfer taxation, loan-to-value regulations, mortgage interest taxation or supporting/curtailing secondary markets for consumer debt (see also Barnes 2016). **Table 2** indicates that in Germany, who together with Austria had the most stringent household credit regulations among, even declined during the 2000s. In the Netherlands, who had the most permissive credit regulatory framework, household debt increased from 200% as a percentage of net disposable income in 2000 to almost 275% in 2008. As households ‘tend to borrow more and increase borrowing faster where wages were high’ (Fuller, 2015: 260), the growth in Dutch household debt can be connected to relativity strong wage growth in the non-traded sectors. This could explain why household debt

Table 3. Growth in merchandise trade between 1999 and 2008 in percentage.

	World trade		Eurozone trade	
	Exports	Imports	Exports	Imports
Austria	190.6	165.2	157.9	141.4
Belgium	163.8	183.3	161.2	183.7
Finland	132.0	191.6	100.6	173.7
Germany	170.1	154.3	151.6	124.6
Netherlands	220.1	194.8	219.9	206.9

Source: WITS Database; author's calculations.

also grew significantly in Belgium and Finland even in the face of more stringent credit
 410 regulations. While the growth of household debt led to a boom in housing markets in
 these CMEs, the ensuing stronger consumption growth did not disrupt their export-led
 growth model. They had less developed consumer credit markets and less opportunities
 to extract home equity loans, so their household debt mostly consisted of mortgage
 debt (Schwartz & Seabrooke, 2008). Moreover, as Johnston and Regan (2017) argue,
 420 wage-setting institutions coordinated by export-led political coalitions enabled a coun-
 tercyclical incomes policy that tamed the inflationary effects of sharp increases in mort-
 gage debt.

Which role did wage restraint play in the surge of Germany's trade surplus? A com-
 mon interpretation in the CC literature is that the repression of wages in the non-
 420 traded sectors boosted Germany's exports by strengthening the price competitiveness
 of its manufacturing firms (e.g. Baccaro & Benassi, 2017; Baccaro & Pontusson, 2016;
 Dustmann et al., 2014; Hassel 2014). Table 3 shows the growth in merchandise trade
 between the CMEs with the world and the rest of the Eurozone between 1999 and
 425 export growth but weaker import growth. The surge in Germany's trade surplus was
 therefore more based on depressed consumption than on the extraordinary perfor-
 mance of its export sector. There are two explanations for this. First, as discussed above
 (see Figure 1), the Germany's decline in relative ULC did not translate into an equiva-
 lent improvement of its price competitiveness, as its traded sectors exploited the repres-
 430 sion of wages and ULC by raising profit margins. Table 4 compares the evolution in
 unit wage costs in the industrial sectors and non-traded sectors between 1999 and 2007

Table 4. Percentage change in price deflator and unit wage costs (1999–2007).

	Industry		Non-traded	
	Price deflator	Unit wage costs	Price deflator	Unit wage costs
CMEs				
Austria	5.5	−7.3	15.9	5.9
Belgium	1.2	−3.7	16.8	9.8
Germany	2.9	−11.8	8.5	0.9
Finland	−11.0	−21.4	33.0	29.8
Netherlands	19.8	−0.4	31.7	16.6
MMEs				
France	−4.3	−4.0	31.3	25.2
Greece	23.6	18.8	19.7	51.8
Italy	13.0	14.0	31.6	31.6
Portugal	12.4	3.9	38.9	43.1
Spain	26.9	19.6	49.1	55.3

Source: AMECO; author's calculations.

Note: Statistics for the-traded sectors are an average of those the construction and real estate sector and serv-
 ices sector.

with aggregate changes in production prices – measured by the price deflator – in these sectors. Unit wage costs in the industrial sector decreased in the CMEs, yet their output prices increased or fell less than wage costs (as in Finland). At the same time, product price inflation in the non-traded sectors significantly outpaced the growth in unit wage costs, so wage restraint in these sectors was insufficient to contain the input costs of firms in the traded sectors. While there seems to be a closer connection between unit wage costs and price setting in the MMEs, it is clear that the divergence in ULC between the two groups of countries did neither give rise to a corresponding divergence in price competitiveness. Second, and relatedly, price competitiveness has been less crucial for the export performance of the Germany and the other CMEs than is commonly argued in CC literature (see also Storm & Naastepad, 2015; Schulten, 2015). As I elaborate in the next sub-section, it also suggests another channel through which wage restraint assisted traded sectors in the CMEs to deal with the consequences of the ECB's one-size-fits-none monetary policy.

Transmission channel 2: funding and capital costs

The second transmission channel through which the ECB's monetary policy affected sectoral interests and contributed to the EA trade imbalances is through its effect on firms' capital costs and investments. Because its single monetary policy resulted relatively high real interest rates for the CMEs, firms in both traded and non-traded sectors were faced with relatively high funding and capital costs that potentially reduced their investment spending. There is usually a negative relationship between corporate investment and real interest rates, even if relational banking plays a central role in the provision of external financing for firms in these countries (Culpepper, 2005; Hall & Soskice 2001). Given that CMEs increasingly moved towards market-based banking in ways that potentially diminished the supply of patient capital (Feldie *et al.*, 2016), it might be assumed that real interest rates became even more important in shaping manufacturing firms' investment decisions over the past decades. Many economists, for instance, have argued that restrictive macroeconomic policies in Germany contributed to weak investment spending (e.g. Bibow, 2007; Hein & Truger, 2007). So even if the ECB's single monetary policy benefited traded sectors in the CMEs by encouraging wage restraint, these sectors might have been harmed by the effects of high real interest

Table 5. Change in investment (2001–2007) in percentage points of GDP.

	Total traded	FDI traded	Domestic traded	Total non-traded	FDI non-traded	Domestic non-traded
CMEs						
Austria	2.4	2.8	−0.4	−1.84	−0.41	−1.43
Belgium	7.33	8.03	−0.7	1.34	0	1.34
Finland	−0.53	−1.2	0.67	1.6	−0.2	1.8
Germany	4.46	4.84	−0.38	−2.99	−1.44	−1.55
Netherlands	1.15	1.53	−0.38	−2.01	−1.89	−0.12
MMEs						
France	−1.27	−0.84	−0.43	2.75	0.62	2.13
Greece	−0.9	−0.07	−0.83	2.23	0.12	2.11
Italy	−0.24	−0.15	−0.09	1.05	−0.12	1.17
Portugal	−1.1	−0.39	−0.71	−6.64	−2.45	−4.19
Spain	−1.15	−0.56	−0.59	7.27	1.87	5.4

Source: OECD; author's calculations.

Table 6. Change in profitability in percentage points between 1999 and 2007.

	Profit share NFC sector	Traded sectors		Non-traded sectors	
		Price markup	Gross margin	Price markup	Net margin
CMEs					
Austria	4.8	8.4	5.9	8.5	2.6
Belgium	4.8	3.6	1.3	12.0	2.7
Finland	1.2	9.3	1.5	4.9	-1.6
Germany	5.1	12.2	9.8	4.3	1.9
Netherlands	2.7	14.8	5.6	10.4	3.6
MMEs					
France	-0.1	-3.3	-4.1	3.6	0.7
Greece	NA	-8.5	-4.0	5.2	5.0
Italy	-3.9	-5.0	-3.4	-0.4	4.2
Portugal	-2.6	6.6	1.3	1.5	11.0
Spain	-0.3	-4.8	NA	-2.3	-3.2

Source: OECD; Eurostat; AMECO; author's calculations.

Note: Profit share of the non-financial corporate sector refers to ratio of gross operation surplus to gross value added.

rates on their investment spending and longer-term expansion of their productive capacities.

465 In order to assess the real interest rate vulnerability of traded sectors' investment
 spending, it is necessary to look at *both* their domestic capital spending and foreign
 direct investments (FDI): tradable goods producers tend to be internationalized firms
 that also invest a significant part of their funds abroad. As shown in Table 6, total
 investment spending by the traded sectors as a share of GDP actually increased, on
 470 average, by 2.93 percentage points in the CMEs between 2001 and 2007 when FDI
 spending is also taken into account. Only Finland experienced a small decline in aggregate
 traded sector investment spending during this period, but it was also the only
 CME where traded sectors' domestic capital formation grew as a share of GDP. Especially
 475 Germany's performance in terms of traded sector investment spending is remarkable,
 given that it became 'systematically biased towards deflation' in the context of the
 ECB's single monetary policy (Hancké, 2013, 76). Strong growth of manufacturing FDI
 suggests that traded sectors in Germany were unaffected by the comparatively high real
 interest rates resulting from Europeanized monetary policy: several studies have
 480 revealed how pre-crisis German export growth can be traced partly to the ability of its
 exporters to exploit new production and cost cutting opportunities from offshoring
 activities to Central and Eastern Europe, thereby increasing the productivity of parent
 companies in Germany by more than 20% (Marin, 2010).

How can strong investment spending by traded sectors in the CMEs in the face of
 relatively high real interest rates be explained? Previous research found that rising prof-
 485 itability enhance the self-financing capabilities of the firm by resulting into higher
 retained earnings, making it more likely to substitute long-term debt with internal
 financing (Booth, Aivazian, Demirgüç-Kunt, & Maksimovic, 2001; Demirgüç-Kunt &
 Maksimovic, 1996). Table 6 presents the evolution in the overall profit share of the
 non-financial sector (NFC) together with two conceptually distinct measures of profit-
 490 ability of traded and non-traded sectors in the CMEs and MMEs. The first ratio – the
 price mark-up – measures how firms have adjusted output prices in response to
 changes in ULC in their respective sectors. The second one – the net/gross profit
 margin – is the ratio between net/gross operating surplus and gross value added in

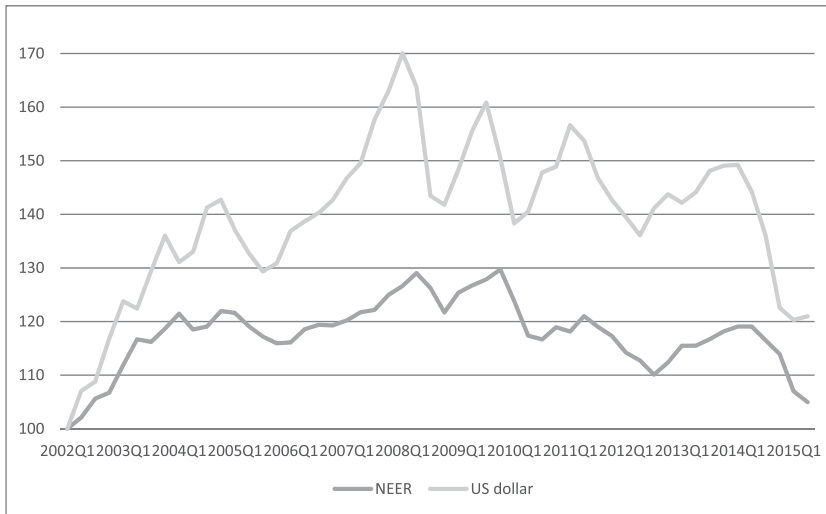


Figure 2 Nominal exchange rate of the euro (effective and against the US dollar).
Source: ECB.

these sectors. Both measures suggest that profitability of the traded sectors grew
 495 markedly compared to the non-traded sectors in the CMEs; combined with the fact
 that the share of manufacturing sectors increased in total value added (Figure 3), these
 data suggest that traded sectors were the prime source of the overall increase in the
 profit share of the NFC in these countries. It can therefore be argued that the combina-
 500 tion of strong export demand and growing profit margins increased the availability of
 internal funds and made their investment decisions less responsive to real interest rate
 dynamics. Again, Germany is a case in point. According to a Bundesbank report, the

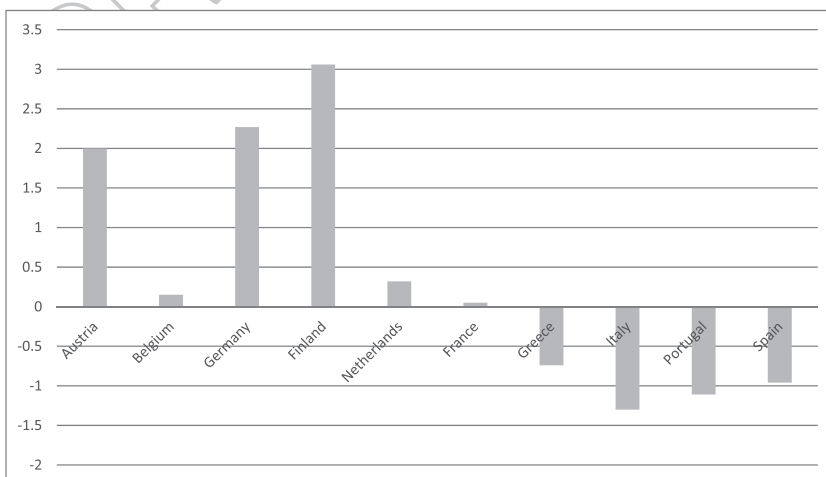


Figure 3 Change in the share of manufacturing in total value added in percentage points.
Source: AMECO. Note: In constant (2010) prices.

505 surge in internal funds in the NFC sector was ‘promoted by the overall favorable global
 510 economic climate over this period and the improvement in the international competi-
 tiveness of German enterprises, which was in turn supported by moderate wage
 increases’ (Bundesbank 2012: 18). Kuzin and Schobert (2014) also found that ‘German
 export firms demand[ed] less domestic credit and [could] finance higher production
 from retained profits’ that ‘tend to substitute domestic credit ... when export revenues
 are high’ (2014, 10-11).

In the MMEs, on the other hand, declining profitability of the traded sectors com-
 510 pared to non-traded sectors is a key reason why particularly the latter sectors benefited
 from low real interest rates. Despite the fact that producers of non-tradable goods and
 services in these countries were confronted with rising ULC, they were able to secure
 and in many cases even improve their profit margins by raising output prices even
 515 more. So non-traded sectors were not necessarily handicapped *in real terms* by wage
 inflation, as firms in these non-exposed sectors could easily raise prices to protect their
 profits without losing market share – especially in heavily regulated product markets in
 which competition is impeded. For instance, *real* ULC in the Spanish construction sec-
 tor *decreased* by more than 20% between 1999 and 2008 because output prices grew
 even faster than wages.³ This corroborates the analysis by Hopkin (2015), who argues
 520 that in the southern EA countries ‘groups associated with conservative political forces,
 such as government-regulated industries in the sheltered sector of the economy and
 more broadly, the small business and self-employed sector, were particularly well
 placed to ride the boom’ by being able ‘to exploit buoyant demand conditions to hike
 prices, limiting real wage growth despite nominal wages rising faster than productivity.’
 525 Especially these groups benefited from the easy credit conditions resulting from the
 ECB’s single monetary policy, which bolstered domestic demand for their services and
 reduced their funding costs. Because traded sectors were unable to protect their profit
 margins without losing market share, investment in these sectors was less attractive
 and therefore dropped considerably as a share of GDP from 2001 to 2007 (Table
 530 In the next section, I examine another reason why traded sectors in the MMEs had
 less investment opportunities than non-traded sectors during this period – the nominal
 appreciation of the euro, which trimmed import costs for the latter sectors at the
 expense of further weakening the price competitiveness of the former sectors.

Transmission channel 3: nominal exchange rate of the euro

535 In the context of the ECB’s single monetary policy, higher wage inflation in the periph-
 eral EA countries contributed to the appreciation of the euro’s external exchange rate.
 Due to higher ULC growth and national inflation in the southern MMEs, the nominal
 interest rate consistent with the ECB’s average 2% inflation target was higher than
 in the situation in which there would have been more wage restraint in these countries.
 540 Given that a higher nominal interest rate is more attractive for international investors,
 the nominal exchange rate of the euro was also higher and became overvalued in face
 of the ECB’s mandate to maintain region-wide price stability. Figure showed that the
 euro’s nominal exchange rate experienced a massive appreciation between 2002 and
 2009, especially against the US dollar. Estimates of the ‘equilibrium exchange rate’ of
 545 the euro indicated that by 2005 the range of overvaluation for the ‘fundamental equilib-
 rium rate’ of the euro was already between 6.3% and 46.9%, suggesting that the euro
 was hugely overvalued when it reached its peak against the US dollar in 2007/9

Table 7. Intra- and extra-EA trade balance in percentage of GDP.

		2002	2004	2006	2008	2010	2012	2014
CMEs								
Austria	Intra-EA	-2.1	-4.2	-3.6	-4.8	-4.1	-4.8	-3.7
	Extra-EA	2.1	3.7	3.2	3.3	1.5	0.6	2.0
Belgium	Intra-EA	4.5	7.2	6.2	6.8	4.5	1.2	4.0
	Extra-EA	3	1.8	1.0	-1.1	2.3	3.3	3.8
Finland	Intra-EA	2.5	0.7	0.5	0.2	-1.2	-0.9	-0.6
	Extra-EA	4.5	4.6	2.4	1.9	0.6	-0.8	-0.7
Germany	Intra-EA	2.7	4.6	4.9	5.8	4.4	3.3	2.8
	Extra-EA	2.8	3.6	2.9	4.6	2.9	4.7	6.0
Netherlands	Intra-EA	9.4	12.5	14.3	17.6	17.6	19.4	18.7
	Extra-EA	-2.2	-2.5	-1.5	-3.1	-1.6	0.0	2.4
MMEs								
France	Intra-EA	0	-0.3	-1.0	-2.2	-2.0	-2.6	-2.3
	Extra-EA	0.2	-0.8	-1.9	-3.0	-2.5	-2.8	-2.3
Greece	Intra-EA	-6.6	-10.2	-9.7	-12.6	-7.8	-6.3	-6.7
	Extra-EA	-6.7	-9.4	-10.1	-13.4	-9.7	-8.6	-9
Italy	Intra-EA	-0.6	-1	-0.7	-0.3	-1.4	-0.7	-0.4
	Extra-EA	1.4	1.2	0.0	0.5	-1.8	-0.1	2.6
Portugal	Intra-EA	-7.8	-9.8	-11.5	-15.3	-12.1	-3.5	-8.6
	Extra-EA	-2.3	-3.8	-4.7	-6.2	-4.3	-5.6	-0.2
Spain	Intra-EA	-2.2	-3.6	-4.0	-3.5	-0.2	1.0	0.8
	Extra-EA	-3.3	-5.6	-8.0	-9.7	-6.5	-4.8	-4.1

Source: WITS UN COMTRADE Database; author's calculations.

Note: The Rotterdam and Antwerp effect on the extra-regional trade balance of the Netherlands and Belgium was canceled out by assuming that their imports from China are in fact collective EA imports, which were added to the EA countries' imports according to their share in the region's GDP.

(Bénassy-Quéré, Béreau, & Mignon, 2008). Because the annual growth of the broad money supply (M3) and consumer price inflation (CPI) exceeded the ECB's respective targets of 4.5% and 2% during this period, the ECB could only have averted the overvaluation of the euro via the provision of additional easy money in ways that would have ultimately threatened its price stability mandate. In this regard, it is important to note that the ECB targets the 'Harmonized Index of Consumer Prices' as its CPI index, which also tracks the price of food and energy: the boom in global food and energy prices during the second half of the 2000s was a key reason why the ECB could not prevent further euro appreciation via a more expansionary monetary policy.

Table 7 indicates that the nominal appreciation of the euro had an asymmetrical impact on traded sectors in the CMEs and MMEs between 2002 and 2009: the CMEs significantly outperformed the MMEs in terms of the evolution of both their intra-EA and extra-EA merchandise trade balances. These observations contrast with the interpretation of Johnston and Regan (2016, 7) that 'the divergences in current ... accounts that we observe in the EA is an *internal relation*': '[T]he growing gap between *intra-EU* trade deficits in the South and *intra-EU* trade surpluses in the North is noticeably prominent after the creation of the single currency. However, the Southern domestic demand-led countries and the Northern export-led ones perform almost identically in regards to trade balances vis-à-vis *non-EU* countries after 1999'. There are several problems with their interpretation, however. First, they included France in the group of northern EA countries although its extra-regional trade balance deteriorated significantly. While France scored equally well as the CME average in terms of ULC dynamics, it does not have the coordinated institutions that were critical in allowing its

manufacturing firms to preserve their non-price competitiveness with regard to extra-regional competitors. This again points to the importance of other institutions than those responsible for productively-aligned wage restraint. Second, their focus on extra-EU rather than extra-EMU trade imbalances is inapt in light of the fact that the euro appreciated considerably against other EU currencies like the British pound during this period. Finally, and most importantly, they do not account for the 'port effect' of Rotterdam and Antwerp on the Netherlands' and Belgium's extra-EA trade balance: as Rotterdam and Antwerp are two key transit ports where many imports from the non-EA world are unloaded and reloaded as exports to other EA countries, official trade statistics understate their extra-regional trade balance and overstate their intra-regional trade balance.

The extra-EA trade balance data depicted in Table 4 filtered out two important sources of the Rotterdam and Antwerp effect: imports from China and oil imports (see De Ville & Vermeiren, 2016 for more details). The superior extra-regional trade balance performance of CMEs reflects their superior non-price competitiveness. A plethora of empirical studies have shown that the price elasticity of exports from the EA's CMEs is low. Due to the dominance of capital goods with low price elasticity in Germany's trade structure, Belke, Goecke, and Guenther (2008) estimate the nominal exchange rate 'pain threshold' for its exports to be around US\$/€1.55 – much higher than for MMEs' exports. According to estimations by Rey (2011), price elasticities of extra-EA exports are three times higher for France than for Germany. The importance of non-price competitiveness is not restricted to Germany, however. Decramer, Fuss, and Konings (2014) found only a small negative effect of ULC on the export performance of Belgian firms with an estimated elasticity of the intensive margin of exports ranging between -0.2 and -0.4, suggesting that pass-through of costs onto prices is limited and/or that demand for exported products is almost price-inelastic. Table 5 shows the European Commission's (2014) recent estimations of the elasticity of export demand of several CMEs and MMEs to the REER and foreign demand: exports of CMEs have significantly lower elasticity to REER changes and higher elasticity to foreign demand than exports of MMEs. These results were corroborated by Wiertz, Van Kerkhoff, and De Haan (2014), who found that the effect of the REER on exports is much smaller for the northern EA countries than for the southern EA countries, whereas the effect of partner income is higher – a divergence they attribute to the higher share of high technology goods in these countries' exports.

The heterogeneity in exchange rate vulnerability among producers of tradable goods can be linked to the extent to which changes in the exchange rate need to be passed on to consumers in the price of the final product. Producers of quality-differentiated goods are better able to pass-through exchange rate changes onto output prices, as demand for these types of goods is less price-sensitive. Producers of standardized goods, the demand for which is more price-sensitive, more often need to 'price-to market' and adjust output prices to exchange rate fluctuations. At the same time, producers of quality-differentiated goods are inclined to have higher markups, which gives them more scope to reduce output prices in response to nominal exchange rate appreciation (Bussière, delle Chiaie, & Peltonen, 2014; Vigfusson, Sheets, & Gagnon, 2007). Therefore, it can be argued that the low price elasticity of CME exports follows from the fact that many tradable goods producers have adopted DQP strategies in the CMEs. Which competitive strategy of firms prevails in a country can be measured by the Weighted relative unit value (WRUV) of the

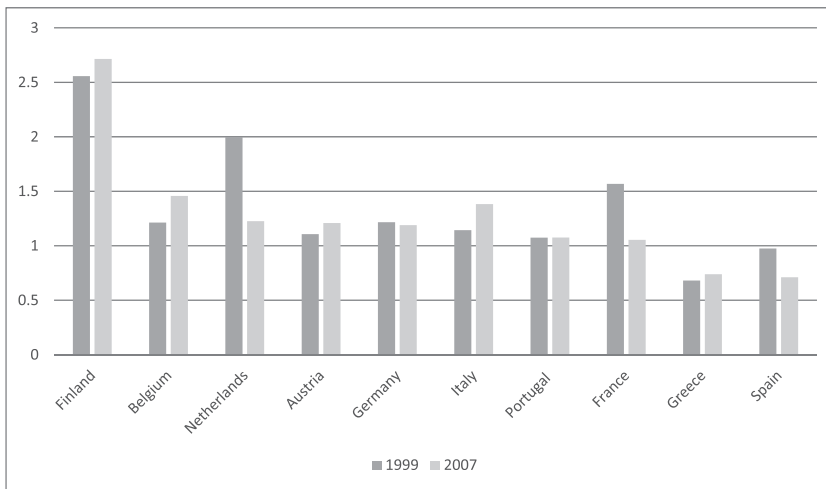


Figure 4 Weighted relative unit value.
Source: De Ville and Vermeiren (2016).

country's relatively five most important export sectors, which is a concept developed
620 by Hancké and Herrmann (2007) based upon the assumption that differences in prices reflect quality differences. The relatively most important sectors are determined by calculating the Revealed Comparative Advantage (RCA), which is obtained by comparing the export share of a product in a country's total exports to the share of that product in the world's total exports:

$$RCA = \frac{\text{Exports of Country A in Sector} / \text{Total Exports of Country A}}{\text{World Exports in Sector} / \text{Total World Exports}}$$

625 After identifying the five most important sectors in which a country has a comparative advantage (i.e., sectors in which it exports comparatively more than the world average and which assume at least 1% of its total exports), the Relative Unit Value (RUV) for every sector can be calculated by comparing its unit prices to the EA-12
630 unit prices in these sectors:

$$RUV = \frac{(\text{Value of Exports in Sector } p \text{ of Country A} / \text{Quantity of Exports in Sector } p \text{ of Country A})}{\text{Value of EA - 12 Exports in Sector } p / \text{Quantity of EA - 12 Exports in Sector } p}$$

The WRUV is the weighted average in value added of the RUV of these five sectors: as it measures how many percentage points average export prices in these sectors differ from average EA prices, it reveals to what extent a country adopted a high-quality
635 rather than a low-cost production strategy. As shown in Figure 4, the WRUV of CMEs were typically higher at the beginning of the covered period and often further increased, while the WRUV of MMEs were lower and mostly decreased over the same period. It is necessary to take into account that the unit values do not only

reflect quality but also cost. Hence, for those countries (i.e. the MMEs) where wages
 640 (or other production costs) have been rising more than for other countries, the
 WRUV at the end of the period likely overestimates the quality of their most impor-
 tant export categories. The relatively high WRUV score of France and Italy compared
 to the other MMEs can also be linked relatively good performance of their 5 RCA sectors
 645 in terms quality-differentiation, which ignores the fact that the rest of their
 export structure predominantly consists of homogenous production (see De Ville &
 Vermeiren, 2016 for a more detailed analysis of the EA countries' export structures).

It should be noted that unfavorable ULC dynamics in the MMEs offer an addi-
 tional reason why traded sectors in these countries were affected by the euro's appreci-
 ation. While CME firms generally do not seem to have passed the appreciation onto
 650 lower export prices because of their strong non-price competitiveness, price competi-
 tiveness is more important for MME firms that produce goods with high price elastic-
 ity. In this regard, Antoniadou's (2012) finding that the exchange rate pass-through on
 export prices is relatively low in the EA – hence in both CMEs and MMEs – needs
 to be understood against the background of rising ULC and decreasing profit margins
 655 for many MME firms: since the price competitiveness of these firms was weakened by
both an increase in ULC and a nominal euro appreciation, the low exchange rate
 pass-through on export prices can be explained by the fact that firms had already
 reduced their profit margins in reaction to rising production costs and were therefore
 unable or reluctant to reduce profit margins even further in response to the nominal
 660 euro appreciation.

ECB monetary policy and post-crisis trade rebalancing

Three main conclusions can be drawn from the preceding section. First, its effect
 on ULC dynamics is mediated by differences in national wage setting institutions as well
 as by fiscal policy and household credit regulations. Second, the effects of its monetary
 665 policy on traded sectors' investment spending and their share in total gross value added
 follow from their profitability, which is shaped both by changes in production and
 labor costs and their ability to protect mark-ups. Third, the ECB can play a key role in
 the widening of extra-regional trade imbalances through the nominal exchange rate
 channel and its varied effects on traded sectors in different VoC. The second and third
 670 conclusions suggest that the divergence in non-price competitiveness was a central rea-
 son why the ECB's single monetary policy generally had beneficial effects on traded sec-
 tors in the CMEs yet harmful effects on those in the MMEs.

Trade rebalancing in the wake of the euro crisis has been highly asymmetrical (see
 Table 8). Indeed, Figure 5 shows that the CMEs maintained their export-led growth
 675 model, whereas the MMEs all shifted their growth orientation from consumption

Table 8. Elasticity of exports to REER and foreign demand (1994–2013).

	REER	Foreign demand		REER	Foreign demand
Austria	-1.57	0.66	France	-1.44	0.37
Belgium	-0.4	0.73	Italy	-2.56	1.18
Germany	-0.81	1.18	Portugal	-2.14	0.92
Netherlands	-0.47	0.94	Spain	-1.61	0.66
CME average	-0.84	0.88	MME average	-1.94	0.78

Source: European Commission (2014).

Note: REER is based on export prices.



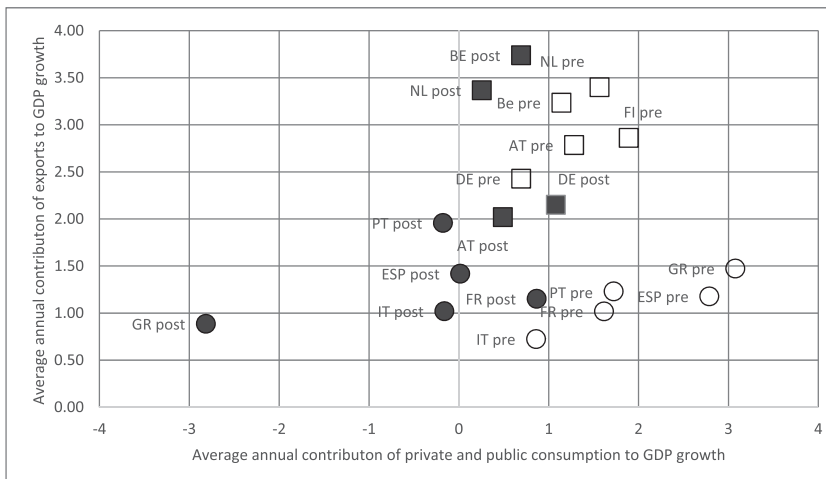


Figure 5 Average annual contribution of exports and consumption to GDP growth (2010–2015).
Source: AMECO.

towards exports in the wake of the euro crisis. In this brief section, I analyze the role of the ECB's monetary policy in the rebalancing process. Table 9 shows several indicators of trade rebalancing and variables associated with its monetary policy transmission mechanisms. Apart from Finland, the EA countries all improved their trade balance: 680 whereas the southern countries evaporated their deficits, the CMEs sustained or even increased their surpluses. Due to this asymmetrical trade rebalancing the EA's aggregate current account balance towards a surplus that reached 3.4% of GDP in 2016. Which role did the ECB play in this process?

One of the most salient developments since the eruption of the euro crisis has been 685 the sharp reduction in nominal ULC in the peripheral EA countries. The southern MMEs were instructed to pursue an 'internal devaluation' of their ULC vis-à-vis those in the northern EA countries by adopting austerity measures and labor market reforms that led to a repression of wages. The ECB's monetary policy played a key role in this process. From the beginning of 2010 to the summer of 2012 the ECB's reluctance to 690 directly support peripheral sovereign debt markets – based on an orthodox interpretation of the TFEU rules on the prohibition of monetary financing – imposed austerity on peripheral governments by pushing up their financing costs. Moreover, 'the ECB hoped that market pressures would finally galvanize [peripheral governments] to reform. That strategy ... depended on the ECB's resisting appeals to ease financing conditions for governments, which would otherwise let them off the reform 'hook' 695 (Henning, 2015, 6; see also Woodward, 2016). ECB officials believe that structural reforms of labor markets are especially imperative in a monetary union as a way to improve the transmission of monetary policy, as 'they make economies more resilient to economic shocks by facilitating price and wage flexibility and the swift reallocation of resources within and across sectors' (Drabi, 2016). As shown in Table 10, restrictive 700 monetary conditions in the southern MMEs – as measured by annual growth of the domestic money supply (M3) – are indeed associated with more restrictive fiscal

Table 9. Indicators of trade rebalancing and macroeconomic adjustment.

	Change in trade balance and its components (2010–2015)			Change in nominal Unit Wage Costs (2010–2015)		Change in price deflator (2010– 2015)		Change in NEER (2009–2015)
	Exports	Imports	Balance	Traded	Non-traded	Traded	Non-traded	
CMEs								
Austria	2.1	1.4	0.7	6.3	9.4	3.2	8.8	–3.6
Belgium	7.9	6.7	1.3	–5.4	7.1	–2.8	7.0	–4.2
Germany	4.5	2.2	2.4	5.6	9.0	6.4	7.3	–5.7
Finland	–1.8	–0.3	–1.6	19.0	8.4	11.5	10.1	–5.2
Netherlands	10.5	8.1	2.4	3.7	0.5	2.1	2.3	–4.2
MMEs								
France	4.0	3.5	0.5	–2.4	3.9	1.8	2.1	–5.1
Greece	9.8	1.0	8.8	–24.3	–12.6	4.9	–7.2	–0.1
Italy	4.8	0.0	4.9	5.0	2.5	3.8	3.7	–4.9
Portugal	10.7	2.4	8.3	–0.5	–4.1	1.0	1.2	–3.5
Spain	7.7	3.9	3.8	–13.1	–3.6	2.6	–1.4	–3.9

Source: OECD; AMECO.

policy – measured by the percentage change in the cyclically adjusted primary government balance – and a higher reform responsiveness – measured by the OECD’s index.

705 While highly restrictive monetary conditions helped to promote an internal devaluation in ULC in the southern MMEs, highly expansionary conditions were less effective in fueling higher wage inflation in the CMEs. A key reason why ULC failed to increase stronger in the CMEs is that governments in these countries adopted fiscal consolidation programs as well after 2010. Though the EU treaties – and the newly established
710 Fiscal Compact – compelled CME governments to reduce their public deficits, restrictive fiscal policies also aimed to bolster the competitiveness of traded sector firms by sharpening the incentives of wage restraint among trade unions (Carlin & Soskice, 2009; Iversen & Soskice, 2013). For this reason, traded sector firms in the CMEs do not have to fear the inflationary effects of the ECB’s expansionary monetary policy on
715 unions’ wage demands as long as their government remains wedded to maintaining their cost competitiveness by committing themselves to a non-accommodating fiscal policy. Indeed, as shown in Table 10, the CMEs have significantly reduced their cyclically adjusted primary balance between 2009 and 2015, despite the strong average annual growth of the M3 during this period. Apart from restrictive fiscal policies, credit-mitigating regulatory frameworks prevented historically low long-term real interest rates
720 from translating into stronger domestic demand and wage growth. While housing markets have boomed since 2010 in most CMEs (especially in Austria and Germany), rising housing prices depress rather than fuel debt-financed consumption in countries like Germany: ‘higher house prices at given incomes and given income growth expectations
725 are likely to reduce aggregate consumption: households with ambitions to become owner-occupiers need to save harder for a housing down payment. Renters can anticipate higher rents in future and are likely to be more cautious in their spending decisions’ (Geiger, Muellbauer, & Rupprecht, 2014).

730 There are also other reasons why the ECB’s ability to foster wage-led rebalancing is relatively constrained. In several southern MMEs product market reform is key to allowing traded sectors in the southern MMEs to gain from the economy-wide internal devaluation in ULC: there has been only limited incomplete pass-through of labor cost restraint onto output prices in their traded and/or non-traded sectors, as the decline in

UWC was absorbed by an increase in profit margins (Table 9; see also European Commission, 2013). Because such incomplete pass-through of wage cuts into prices is only consistent with rebalancing if it predominantly occurs in the tradable sectors, the lack of competition and price cuts in the non-traded sectors inhibit a shift of resources away from these sectors to the traded sectors (European Commission, 2013). This is consistent with analyses that view the lack of competition-inducing product market liberalization as a reflection of rent-seeking behavior of firms in the sheltered sectors (Hopkin, 2015; Hassel, 2014). Furthermore, the ECB faces a trade-off between promoting ULC-led internal devaluation in the southern MMEs and keeping financing costs for their traded sectors sufficiently low: while tightening monetary conditions encouraged a devaluation in ULC, they also raised their capital and funding costs. Therefore, as even the European Commission (2013b, 23) had to acknowledge, rebalancing of these countries not only required a reduction in ULC but also an improvement of funding conditions ‘in order to allow traded sector firms to offset the decline in domestic markets by finding external ones, and, in a broader sense, to reallocate resources in the tradable sector’. Financing conditions in these countries only improved after the ECB’s announcement to engage in Outright Monetary Transactions (OMT) in September 2012 and, especially, after the initiation of its Public Sector Purchase (PSP) program of quantitative easing (QE) in January 2015.⁴

From an orthodox perspective, it might be argued that the ECB’s QE policies will have longer-term detrimental consequences for the external competitiveness of traded sectors in the MMEs by alleviating pressure on their governments to pursue austerity and pursue structural reforms. Yet, operational features of its PSP program have constrained the ability of EA governments to adopt more expansionary fiscal policies.⁵ Moreover, expectations about its imminent asset purchase programs during the second triggered a significant depreciation of the nominal exchange rate of the euro, which was even more important to restoring the price competitiveness of traded sector firms vis-à-vis non-Eurozone competitors (see Figure 2 and Table 10).

It can be argued that the depreciation of the euro was a key transmission mechanism through which the ECB was able to encourage trade rebalancing of the MMEs. As shown in Figure 6, extra-regional merchandise exports of both CMEs and MMEs grew much faster between 2008 and 2016 than intra-regional exports, which almost

Table 10. Monetary indicators, primary budget consolidation, and reform responsiveness.

	Annual growth M3 (2008–2015)	Long-term real interest rates (2010–2015)	Primary budget adjustment (2010–2015)	Reform responsiveness index (2007–2014)
CMEs				
Austria	2.87	0.5	3.31	0.38
Belgium	3.89	1.1	1.32	0.21
Finland	2.03	0.2	1.51	0.30
Germany	3.31	0.0	2.07	0.26
Netherlands	4.40	1.3	2.95	0.27
MMEs				
France	1.96	1.4	2.67	0.32
Greece	–5.68	13.1	10.14	0.61
Italy	0.92	3.0	3.19	0.33
Portugal	–2.80	5.6	9.80	0.52
Spain	1.77	3.9	7.62	0.45

Source: National central banks; OECD; AMECO.

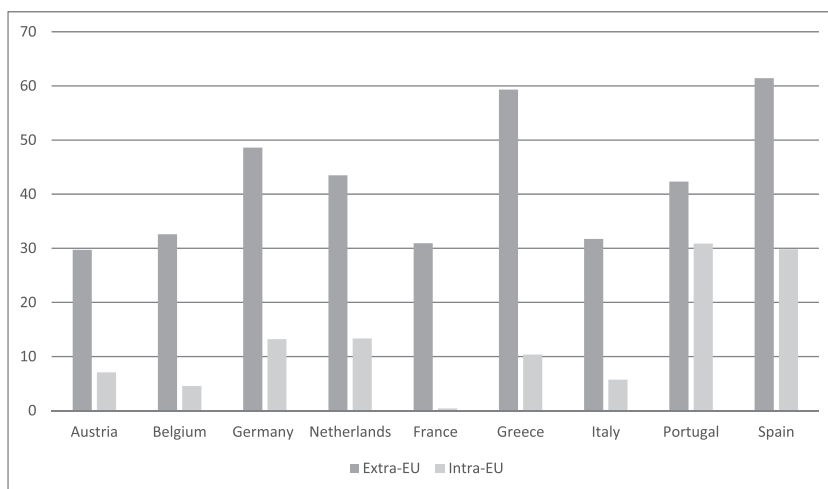


Figure 6 Growth in extra- and intra-EU exports between 2008 and 2016 (in percentage).

Source: Eurostat.

stagnated for most EA countries as a result of the euro crisis and the ensuing austerity. The nominal depreciation of the euro during this period played a central role in boosting extra-regional exports. The depreciation of the euro, whose NEER fell by 16.7% between October 2009 and August 2012 in the wake of the euro crisis – improved the price competitiveness of southern EA producers vis-à-vis non-EA producers more than the reduction in UCL, especially in light of the relatively low pass-through of ULC to producer prices (Table 10). The importance of nominal exchange rate fluctuations in affecting the price competitiveness of the MMEs' tradable sectors also reveals the vulnerability of adjustment strategies based on internal ULC devaluation: when the NEER of the euro appreciated by more than 10% from September 2012 to May 2014 as a result of the insurance devise offered by the ECB's OMT pledge (Figure 2), the effect of the reduction in ULC on their potential price competitiveness vis-à-vis non-EA producers was nullified (Uxo, Paul, & Febrero, 2014). The president of the ECB often expressed his concern about the nominal appreciation of the euro during this period, which 'affect[ed] external demand and reduce[d] the competitiveness gains of price and cost adjustment in some [EA] countries' (Draghi, 2014).



Whether the ECB's decision to engage in QE also implies the end of the appreciation bias in its management of the nominal exchange rate of the euro remains to be seen: the ECB was forced to resort to QE because of region-wide deflationary risks, which put pressure on the ECB to adopt additional measures to fulfill its mandate of keeping inflation below but near 2% (Steinberg & Vermeiren, 2016). While the depreciation of the euro following the announcement of the ECB's asset purchase program aimed to support its mandate by raising import costs, the above analysis suggests that it was also an effective in reallocating resources from the non-traded to the traded sectors in the MMEs. In this respect, it is the first time since the introduction of the euro that the ECB's monetary policy was generally favorable to their export-oriented interests. But it is uncertain how long these exchange rate benefits will last: the fact that euro

appreciated again by almost 20% during the first half of 2017 suggests that the ECB's
795 monetary policy strategy remains very vulnerable.

Conclusion

This paper examined the ECB's role in the widening and asymmetrical readjustment of
EA trade imbalances by analyzing the effects of its monetary policies on the traded and
800 non-traded sectors in the 10 original continental EA countries. It set out to demonstrate
the added value of a CC approach that goes beyond the traditional focus on wage setting
institutions to understand the diverging monetary policy interests of these sectors. By
examining three separate monetary policy transmission mechanisms, I have argued that
divergences in non-price competitiveness between the MMEs and the institutional sources
of these divergences are key to understanding how their traded sectors have been affected
805 by the ECB's single monetary policy. The comparative specialization of CMEs in the pro-
duction of quality-differentiated price-inelastic goods explains the limited pass-through
of ULC changes into product prices in their traded sectors as well as why these sectors
remained largely unaffected by the huge nominal appreciation of the euro from 2002 to
2009. In the MMEs expansionary monetary conditions associated with the ECB's single
810 interest rate ~~combined with the absence of coordinated wage setting institutions to give~~
rise to economy-wide ULC inflation, which undermined the competitiveness of their
traded sectors in addition to the nominal appreciation of the euro and sapped foreign
demand for their price-elastic goods. The ECB's monetary policy response to the euro
crisis were a boon for these sectors by fostering ULC deflation during the initial stages of
815 the crisis and contributing to the nominal euro depreciation in the wake of its asset pur-
chase programs. While domestic monetary conditions in the CMEs have been highly
expansionary since the eruption of the crisis, restrictive fiscal policies safeguarded the
cost competitiveness of their traded sectors by keeping ULC inflation at bay.

My analysis qualifies the VoC literature's view that coordinated wage bargaining
820 institutions are institutionally complementary to a non-accommodating monetary pol-
icy as they allow traded sector firms to maintain their price competitiveness ~~by promot-
ing wage restraint~~. First, I have demonstrated that wage restraint ~~and lower ULC~~ in the
traded sectors ~~do~~ not necessarily translate into improved price competitiveness as trad-
able goods producers in CMEs tend to exploit the decline in labor costs to boost profits
825 rather than lowering production prices. In this regard, it is questionable that a non-
accommodating monetary policy generates a positive feedback loop for the rest of the
domestic economy by bolstering the profits of export-oriented firms: post-Keynesian
scholarship has shown that CMEs like Germany remain wage-led rather than profit-led
economies, implying that wage restraint led to higher corporate profits and income
830 inequality instead of boosting the domestic economy (Stockhammer & Onaran, 2012).
Second, expansionary monetary conditions in the CMEs do not inevitably fuel wage
inflation if their governments remain committed to export-led growth by pursuing
restrictive fiscal policies that inhibit domestic demand. **Therefore**, in contrast to the
VoC assumption that fiscal policy emulates monetary policy, expansionary monetary
835 conditions have been accompanied by austerity rather than fiscal stimulus programs:
the ECB's expansionary monetary policy did not entice CME governments to imple-
ment expansionary fiscal policies to profit as much as possible from the reduction in
real interest rates, which moved to negative territory since the start of its QE program.

The literature therefore needs to pay more attention to the often conflicting interactions
840 between monetary and fiscal policy: an accommodating monetary policy alone is insuf-
ficient to break the commitment of large trade unions to wage restraint in the CMEs if
fiscal policy remains restrictive.

Finally, the effectiveness of the ECB in fostering an asymmetrical adjustment of the
EA trade imbalances raises the question whether a monetary policy that prioritizes
845 traded sector over non-traded sectors interests in the entire region can be politically
sustainable. As Scharpf (2017) recently argued, the ECB is part of 'a gigantic, and
indeed hubristic, gamble of technocratic social engineering whose visionary goal is the
creation of an integrated European economy that is fit for competition in the ever more
contested global markets' (2017, 23). Exports have become increasingly important driv-
850 ers of GDP growth in the MMEs, yet their share in the economy remains too small to
make the current recovery strategy politically legitimate, considering its destructive
impact on the domestic and sheltered sectors. While in the CMEs the ECB's expansion-
ary response to the crisis did not clash with the interests of those sectors that play a cen-
tral role in their export led growth model, it remains uncertain whether its loose
855 monetary policy can rely on sufficient domestic societal support. By contributing to
ULC deflation in the MMEs as well as to the euro's nominal depreciation, the ECB's
monetary policy deflected deflationary pressures onto the rest of the world economy:
asymmetrical trade rebalances came at the expense of a rising trade surplus of the EA
vis à vis the rest of the world.

This points to an important contradiction in the ECB's monetary policy strategy,
860 the Eurozone's trade surplus puts upward pressure on the euro's exchange rate – as
the euro's appreciation during the first half of 2017 testifies. It also puts pressure on
governments of CMEs with huge trade surpluses like Germany to adopt more
expansionary fiscal policies. Indeed, the ECB has repeatedly insisted that these coun-
865 tries, whose politicians have criticized the historically low interest rates for expropri-
ating domestic savers, need to use the fiscal scope to boost domestic demand: taking
into account the ECB was forced to initiate a QE response to deal with the deflation-
ary consequences of austerity, the proclivity of CME governments to safeguard
traded sector interests clashed with the need to protect the interests of other key
870 domestic constituencies.

Notes

1. While the Eurogroup (the EA's minister of finances) is allowed to 'conclude formal agreements on an exchange rate system for the euro in relation to non-Community currencies' and 'formulate general orientations for exchange rate policy' (Article 219TFEU), its exchange rate instructions may not undermine the ECB's anti-inflation mandate. Therefore, the ECB retains de fact control over the euro's nominal exchange rate.
2. Germany's fiscal deficits breached the GSP's 3% ceiling in almost every year between 2001 and 2007.
3. Author's calculation from the EU KLEMS Database.
4. Borrowing costs declined more in peripheral countries (113 basis points) than in core countries (50 basis points) after the ECB announced its credit easing package in June 2014 (ECB 2015).
5. First, 80% of the asset purchases have to remain on the balance sheet of the national central bank, exposing governments to any default risk ensuing from their own fiscal policies. Second, the ECB's Governing Council decided to put in place an absolute limit the Eurosystem can buy on secondary sovereign bond markets: it can only hold a maximum of 25% of a single eligible security's available issues (later extended to 33%) and only 33% of a government's outstanding securities. These features of the ECB's QE program might help explain why the structural budget balance of the MMEs continue to improve or remain stable after 2015 according to IMF estimations.



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