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The determinants of the current account of the 2004-2007 EU countries

Dissertation thesis

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ABSTRACT:

This dissertation thesis focuses on the current account determinants of countries that joined the European Union in 2004-2007. The main objective is to assess the significance of the impact of selected variables and compare the development based on two periods and groups. The research uses unbalanced panel data for 12 EU countries over the period 1995-2021. The results of the thesis imply high significance of the chosen variables. The presence of structural break uncovers groups of specific significant determinants for each period. Moreover, when examining current accounts based on countries' participation in currency union a positive effect for eurozone countries is found.

Key Words: *Current Account Balance, Europe, International Trade, Eurozone*

Word count: 11998 words

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1. INTRODUCTION

The current account represents an important variable in international finance resembling the external balance position and indicating the degree of countries' level of international competitiveness. Its notion is amplified in the times of external imbalances such as the recent case of pandemic or put as a cautionary factor worthy of attention as was during the global financial crisis (GFC) and subsequent eurozone crisis in 2009. As the global trade was up through adverse period, fiscal budgets were drained with the aim to sustain the demand, supply chain and trade balances were bottled-up, and the small open economies were positioned to vulnerable spots. The subject of balances of payments sustenance reopened and aimed to address the drivers as well as the previous experiences of the matter.

In recent years, international trade, current account, and its policies have been continually addressed, with a particular focus on the 'core' and 'periphery' economies, the two opposing currents shaping the further attitude of macroeconomic policies present in Europe. The spotlight, however, was not given to the review of small open economies in European Union which converging development was underscored by periods of external imbalances. Therefore, it is interesting to recognise which driving forces played a dominant role in shaping the current account balances and compare their significance for the period of growth and current deficits and period of regulatory frameworks reducing expansion in negative balances. Moreover, additional interesting research aspect was to analyse the impact of the real exchange rate (REER) and to establish if implementation of a single currency plays a positively diverging role between the transitioned countries.

The first chapter clarifies the current account balance position in international trade, its meaning and importance for the economy. Afterwards, the review of approaches studying the reoccurring external imbalances are explained along with its linked macroeconomic policies. The final part of the literature review focuses on the examination of the background and economic development of countries that joined the EU in the period of 2004-2007 with the respect to primary factors shaping their convergence and having an impact on the current account balance. These factors are examined in the next chapters and used for the research.

The methodology of the research is described in the second chapter comprised of the data collection, description of the determinants along with a brief review of empirical results, and the econometric models used for the study. The panel data analysis covers twelve chosen European countries for the period 1995-2021 which is afterwards divided based on the structural break and participation in the monetary union. The dependent

variable is current account balance as a percentage of GDP and its studied determinants are GDP growth, foreign direct investment (FDI), trade openness, REER, fiscal balance, the deviation from inflation target, real interest rate, domestic credit, and unit labour cost.

The results of the analyses are elaborated in the next chapter with its amplifications and contrasts between the periods and the subgroups. Further implications are summarized in the conclusion section and recommendations for future research are articulated in the discussion section.

2. LITERATURE REVIEW

2.1 Current Account Balance and Its Stance in International Trade

The current account represents an important variable in international finance resembling the external balance position of the economy. It gives an insight into the overall performance and sustainability of foreign resources needed to fund the domestic consumption. In times of financial distress, the current account is a helpful indicator of the emergence of bubbles and transmission of the economic burden (Obstfeld, 2012). A renewed notion of its importance was given after the global financial and subsequent eurozone crises due to substantial "sudden stops" in external financing of the domestic spending. The importance of understanding the determinants of the current account was underscored in order to sustain the financial health of the countries' expenditure. Recent economic distress due to the pandemic has put additional pressure on the already restrained international trade by the ongoing wave of de-globalisation. Moreover, small open economies have been standing in an uncertain position both exposed to trade deficits and/or volatile capital flow. (Coleman, Cuestas, 2023) Therefore, albeit the analysis of international trade, current account and its policies have been continually addressed, the importance of establishing its determinants still lays within its power to foresee the exposure and vulnerability, especially during cyclical periods of global distress.

As a component of the balance of payments (BOP) current account can be further broken down to four parts: balance of goods, balance of services, primary income, and secondary income. Although the primary stance of the current account is given to the net balance of exchanged goods and services, it also comprises all income and pay-outs earned by residents from cross-border investments, net capital gains on existing foreign assets and unilateral transfers like remittances and foreign aid. (Pitchford, 2002) Dynamics of current account can be considered as endogenous consequences that emerge from a state of general equilibrium where exchange rates and other macroeconomic variables are determined in conjunction with each other.

Simplistically, the current account balance can be also identified as a difference between aggregate saving and spending. (Abbas, 2011) The BOP manual proposed by IMF (1993) elaborates the relationship, or the balance between the internal and external spending, by given formula [4]. The GDP *(Y)* is the sum of the private consumption expenditure *(C)*, investment *(I)*, government consumption expenditure *(G)* and the difference between exports *(E)* and imports *(I)* of goods and services. By adding taxes, the private and public savings (*S*) are obtained. The difference between investments and aggregate savings should be equal to the net export of the economy *(X-M).*

$$Y = C + I + G + (X - M) \quad [1]$$

$$(Y - C - Taxes) + (G - Taxes) - I = X - M \quad [2]$$

$$S_{private} + S_{public} - I = X - M \quad [3]$$

Therefore:

$$X - M = S - I = CA \quad [4]$$

Within the BOP current account covers complex flow of internationally exchanged transaction along with capital account, financial account, and official reserve assets. The capital and financial account resemble the flow of the capital between economies through borrowing, exchange in assets and flow of foreign investment. The conceptual framework of all the sub-accounts is based on a double-entry system, thus registering every transaction twice with equal values once as a credit (positive value) and once as a debit (negative value). (IMF-Anon, 1993) Therefore, every capital inflow must be readjusted by current account out-flow and vice-versa. If the imbalance of one of these sub-accounts cannot be mutually offset, authorities need to intervene with the reserve assets or use any supplementary item from official settlements balance as a last resort. (Pilbeam, 2013) Higher aggregate savings (current account surplus) lead to an increase in external assets causing a capital outflow implying a net lender position to the rest of the world (improving its net international investment position). A more common state for small growing economies, is a higher aggerate spending (current account deficit) and higher capital inflow hence reducing its net claims abroad implying a net borrower position (reducing its net international investment position). (Gruber, Kamin, 2007).

The moving engine of current account balance is net export balance and its foreign trade performance. With high rate of exports, the country gains a beneficial position due to increase in nation's wealth and subsequent growth stimulus. Inversely, higher imports resemble decrease in wealth, confining the economic progress. If these arguments are considered in absolute terms rather than relative, it can contribute to overall trend in the global economy. Such approach has been evident in protectionist policies implying the importance of export-led growth, depreciated real exchange rate, and enforced low domestic demand (Manger, Sattler, 2015). Furthermore, trade protectionism with application of the tariffs on imports and tax-cum-subsidies on exports can be correlated with the ongoing Chinese and US trade-war as blanket efforts to impose a trade dominance. (Blanchard, Milesi-Ferretti 2012; Yu, 2019) In the publication '*The German Model – seen by its neighbours*' by Unger et al., (2015) the authors distinguished neo-mercantilist tendencies present in Europe. They observed that although one of the core European economies maintained a positive current account balance the results were not clear-cut. The Germany's export-led growth and current account surplus have attributed

to a combination of restraining domestic demand policies, such as wage constrain and undervalued exchange rate, leading to a negative spillover effect to other smaller economies resulting in deficits. Furthermore, prior the financial crises this positive current account imbalance of a single strong economy put vulnerable eurozone economies under extensive pressure, in some cases leading to 'outright deflation.'

Considering theoretical implications, current account was predominantly concluded as the indicator of the net export balance by the classical school-of-thought. It perceived the fixed exchange-rate policies, such like the gold standard, and based on the Hume's price-specie flow mechanism relied on the self-correction of the trade imbalances by the 'invisible hand.' The proposition of the perfect market model, however, has not been conceivable as the uncontrolled process led to prolonged economic instability and uncertainty. (Pitchford, 2002; Manger, Sattler, 2015) Classical perceptions were also intertwined with the internal-external balance approach based on the Mundell-Fleming model also known for its graphical interpretation through IS-LM-BP model. These models imply the importance of current account, however, have a limited conception over the significance of the capital and financial accounts. The dynamics between the sub-account of the BOP manifest the overall supply of net foreign assets impacting the net domestic wealth and the aggregate demand. In the short-term perspective the current account deficits can be financed by the capital inflow, however, this policy is not feasible long-term as the indebtedness increases simultaneously. The monetary policy trilemma also determines how well the capital can cover up any current account imbalance. (Pilbeam, 2013)

Overall, the main function of the current account balance is to document the economic transactions between domestic and foreign economic agents, which also provides additional reflection of the country's economic activity and performance. The spread, composition and fluctuations are crucial in evaluating the macroeconomic sustainability and competitiveness of the economy. (Wong, Khan, Nsouli, 2002) Due to the BOP sub-accounts interdependence, it is not surprising that various theories have been taken throughout the history to manage the current account imbalances in conjunction with macroeconomic policies, each approach reflecting different views on the significance of current account imbalances and their economic implications.

2.2 Review of current account approaches and its determinants

The consideration of the importance and relevance of the current account imbalances has evolved over time. The current account deficits were primarily perceived as disagreeable and unsustainable in aspect to international position. This perception, however, changed with the increased global capital mobility and financial liberalisation. Although a country is sustaining a current account deficit, it is a desirable consequence in competitive markets offering a higher rate of return, where the capital transfer contributes to financing the welfare and improving the capital/labour ratio. This has been prevalent especially in converging economies. (Pitchford, 2002)

Current account imbalances can be perceived from structural as well as cyclical aspect. External imbalances persistently depended on the structural factors such as the cross-country differences in demographics, fiscal stance of government, stage of economic development, financial opens, and institutional quality. The structural metric can be extended by policy-induced factors such as price controls, market competitiveness, trade impediments, labour and product market openness, regulatory demands, and improvement in overall investment climate. Moreover, efficient policy and regulatory framework can significantly promote private-sector development. These factors provide a reasonably accurate explanation for cross-country disparities while effectively capturing general, long-term patterns in worldwide external imbalances. (Cheung, Furceri, Rusticelli, 2010) All the same, the balances coincide with the cyclical patterns in the global economy and are highly exposed to its peaks. Cyclical components are everchanging market attitudes and short-term fluctuations in exchange rates, interest rates, changes in price levels and volatility of commodity prices. Global financial turbulence and economic recessions can be concluded as a cyclical dynamic. (Cheung, Furceri, Rusticelli, 2010)

A well-established theoretical framework of intertemporal equilibrium embarked on assessing the sustainability of the current account from the long-term perspective. The imbalance was determined by the saving-investment gap. The current account constrains were thus arbitrated from the forward-looking saving, investment, and consumption dynamics. The biggest contributors of the savings and investment absorption model were Sachs (1982), Obstfeld (1982) and Sevnsson and Razin (1983) making a significant prominence from the 1980s. Developed model of the intertemporal determination of the net foreign claims was proposed by Rogoff (2005) whose model assumptions were applied on small open economies freely trading a composite asset – consumption-indexed bond. The asset had a par value paying net interest rate r_t during the studied period. Howbeit, additional assumptions of the model regard no significant trade barriers and internationally immobile labour. The identity linking variables in per capita terms are the stock of net

foreign claims A_{t+1}, net domestic output Y_t, private consumption C_t, government consumption G_t and net investment I_t. Therefore, the current account balance is stated like following:

$$CA_t = r_t A_t + Y_t - C_t - G_t - I_t \quad [5]$$

The market discount factor $R_{t,s}$ for the sub-period s consumption is:

$$R_{t,s} = \frac{1}{\pi_{v=t+1}^{s}(1+r_v)} \qquad \text{where} \qquad R_{t,t} = 1 \quad [6]$$

Thus, the expected value of the net foreign claims is expressed by the following equation noting that the domestic economy will not be borrowing foreign assets endlessly:

$$(1 + r_t)A_t = \sum_{s=t}^{\infty} R_{t,s}(-Y_s + C_s + G_s + I_s) + \lim_{s\to\infty} R_{t,s}A_{s+1} \geq 0 \quad [7]$$

Consequently, the intertemporal budget constraint claims that the net value of the discounted internal spending for the observed period needs to be lower or equal to its net foreign asset's revenue along with the net discounted value of domestic production. The current account balance can be derived by augmenting the expression through adding marginal changes of variables (denoted by Δ) between the current state (period t) and the permanent state,

$$CA_t = (\Delta r_t)A_t + \Delta Y_t - \Delta G_t - \Delta I_t + \left[1 - \frac{1}{\left(\frac{\beta}{R}\right)^{x}_{permanent}}\right](\Delta r_t)A_t + \Delta Y_t - \Delta G_t - \Delta I_t \quad [8]$$

where $(\beta/R)^{\sigma}_{permanent}$ represent weighted average rations of the studied periods and market discount factors raised by the power of elasticity σ. If the interest rate increases and the domestic economy holds net foreign claims (ceteris paribus) the current account balance will temporarily increase due to the increase in interest rate income. Conversely, if the domestic economy holds net foreign debt the increased interest rate will temporarily contribute to the opposite scenario. (Obstfeld, Rogoff, 2005) In this case a positive marginal change in the output will positively contribute to the current account balance due to consumption-smoothing from a long-run perspective. The private sector will balance the increased government spending and investment needs by borrowing foreign assets. This approach derived from more stern hypotheses of Feldstein–Horioka puzzle explaining the external imbalances in terms of saving and investment flow, which, however, received a lot of discussion for global financial crisis (GFC) period. (But, Morley, 2017)

The intertemporal approach is stochastic in nature because it assumes that future economic conditions are uncertain and subject to random shocks. (Rogoff, 1995) The intertemporal budget constraint is used to this date, as Arize, and Bahmani-Oskooee (2018) applied the Husted's (1992) method on hundred countries, to determine long-term current account sustainability based on the cointegration analyses of exports and imports including the net interest income. Nevertheless, the model presumes rigid theoretical

assumptions such as produce and exports of a single composite good, absence of government interventions and maximizing the lifetime utility while adhering to budget constraints using one-period financial instruments to borrow and lend in the international market at the prevailing world interest rate. (Husted, 1992) The assumption that spontaneous mechanism of convergence exists between the developed (high-income) to developing (low-income) economies acquiesces with the neoclassical Solow's growth model. Considering its principal aspects, emerging countries, such those who gone through the convergence process to reach the EU accession, have a higher initial marginal product of capital than developed ones, so called 'core countries' and require a higher rate of investment. The investment should in a long run contribute to sustained growth. (Mankiw et al., 1992) However, the evidence of a permanent effect of the investment on the growth was not supported by Jones (1995). Based on the Gregory's and Head's findings (1999) of the Solow's residual higher investment leads to positive consequences of higher capital accumulation but needs to be underpinned by an adequately rising factor of total country-specific productivity. In the same way, a systematic flow of capital in the European Union within the line of convergence process can cause "positive" or "negative" imbalances during the growth process, however, should not be inflated by miscalculation of capital causing "sudden stops," such as private-credit booms or housing-bubbles. (Blanchard, Giavazzi, 2002; Gaulier, Vicard, 2013)

Some support for the intertemporal equilibrium was found in the middle-income economies, however, proved to be insufficient to explain the imbalances of lower and upper-middle income economies. Therefore, further consideration of the constraints and the pattern of the current account in a long run growth has constructed the main body of the 'convergence-club' concept or the stages-of-development hypothesis. (Coutinho, Turrini, 2020) This concept contradicts the standard economic theory and conforms to the consumption-smoothing approach in the long run as the empirical analysis validates the increasing divergence in income levels over time along with economic growth. The catching-up ability of the converging economies with the developed core economies via growth spillover effects is a crucial factor to consider when analysing the net foreign position. (Abramovitz, 1986) Moreover, the concept theory puts an emphasis on the core-periphery framework dynamics, predominantly the institutional and economic integration, especially in the case of economies during their convergence state. (Herrmann, Winkler, 2009) Blanchard and Milesi-Ferretti (2012) demonstrated that deficit can be at first beneficial for the domestic economy for temporarily low export prices and increase in its international attractiveness, higher marginal product of capital proceeding to higher investment rate. However, if the deficits are not sustained it poses a risk for financial distortions, lack of insurance and international liquidity with the spillover of externalities.

A long-term approach to assess the determinants on everchanging grounds of international trade has been confronted with the presence of structural breaks in global economy. (Coleman, Cuestas, 2023)

As identified by Belke and Schnabl (2013) the relevance of the current account imbalances was highlighted during the periods of global imbalances which they summarized to four generations. The first generation was accorded in 1980s in Japan and USA from 1980s known as the 'Japanese lost decade'. The next generation came to light during the Asian financial crisis in the late 1990s which resulted in its 'saving the global gut' aftermath. (Clarida, 2005) The growth momentum of global economy in 2003 resulted in sharp slowdown, acknowledged as the third generation, as a result of rising oil prices after the invasion of Iraq. Although, the external imbalances in 2003 varied across Europe, the appreciation of the euro currency against the dollar did not cause major export distortions. (Grimwade, 2005) The fourth generation signified the intra-euro area imbalances between the surplus North (Germany and Netherlands) and the deficit South (Greece, Portugal, Spain). The GFC (2008-2009) and subsequent Euro crisis had a significant impact on the EU accession countries facing a sharp decline in output levels, exports, and foreign investment.

The ensued recovery was characterized by slow and tentative pace. The crisis underscored significance of policy enhancements that concentrate on removing elevated external imbalances by implementing protection mechanism to deter excessive and volatile financial flows, boosting macroeconomic credibility by eliminating the extra bureaucratic and administrative expenses associated with labour markets, while also safeguarding the growth-stimulating components of the growth strategy. (Rosati, 2021) The European sovereign debt crisis, also known as the European balance of payment crisis, directly followed the global recession and brought severe consequences of economic and financial instability that affected primarily countries of European Monetary Union (EMU). It gave rise to euro-scepticism tendencies as the European institutions were imposed to a challenge to solve debt issues of Greece, Ireland, Italy, Portugal, and Spain, without causing the dissolution of the monetary union or triggering even broader fiscal crisis in Europe. (Sinn, 2012) The crisis was derived from the significant current account imbalances considering a heavy flow of goods and capital from surplus countries to deficit ones. When the financial bubble burst, heavily indebted countries were unable to service their debts, rely on exports, or borrow more funds, resulting in economic distress and political conflict. These set of events resulted in exposing the limitations of the ongoing integration in the single market. Mutual trade cointegration extended with a single currency deepened the European interdependency as the untreated significant differences

in macroeconomic conditions played a key role in contributing to the crisis. (Brancaccio, 2012; Kallaste, Woolfson, 2013)

Regulatory frameworks were present in the European Union to sustain macroeconomic variables from its inception, the Maastricht criteria, Stability and Growth Pact (SGP) and European Semester to name a few. However, as the global macroeconomic imbalances resulted in severe global consequences, between 2011 and 2013 a new set of European regulations called Macroeconomic Imbalance Procedure (MIP) were implemented. On annual bases indicators including current account along with net international investment position (NIIP), real effective exchange rate (REER), export market share, private sector credit flow and unemployment rate are gathered. For current account, a threshold of -4% downwards and +6% upwards of the GDP for 3-year backward moving average was established with the implication of the deficit being more harmful than the surplus. While the MIP scoreboard could serve as a promising early warning system, as demonstrated by its potential to predict the European sovereign debt crisis, it cannot be assumed that the MIP would have prevented the crisis, given the difficulty of addressing and regulating macroeconomic indicators, as well as the lack of enforcement and compliance by member states. (Biegun, Karwowski, 2020)

The most recent period of global imbalance took a hit from 2020 due to Covid-19 pandemic. This external shock brought restraints in respect of limiting the production by supply-chain disruptions, reduced productivity, drop in employment and volatile demand. The service sector and economies relying on the tourism suffered great losses. (Fedajev et al., 2021) The government debt globally increased as the relief packages were necessary to keep the economies afloat and eliminate the output gap leading to future anti-debt sentiment. (Romer, 2021) Through the pandemic European macropolitical frameworks such as the continuously disputatious SGP were suspended temporarily and reconsidered the austere fiscal and monetary rules. In contrast to the previous crisis, "expansionary-oriented framework" stimulatory policies like New Generation EU were implemented across countries. (Kreuder-Sonnen, White, 2022) Nonetheless, the external balance sheets during the pandemic worsened due to the exchange rate fluctuations. However, contrasting other financial crises, many markets with autonomous currencies did not experience great losses despite domestic currency depreciation due to currency induced valuation gains on equity positions offsetting losses on debt position. (Hale, Juvenal, 2023) Overall, the new period of external imbalance also resulted in rethinking the intertemporal efficiency with the assumption that economic agents' deficits and surpluses will come to balance and emphasized the fact that each period of economic imbalances has its predominant drives that deserves individual attention. (Masera, 2021)

2.3 Development of current account determinants of the 2004-2007 EU countries

Countries that joined the EU in 2004 and 2007 have been an interesting case study of the complex and multifaceted development of their international trade interactions. The position of the countries as "a double periphery" did not receive as much attention to drivers of the external imbalances as the "core" or the traditionally considered "peripheral" countries in Europe. Therefore, the drivers of external imbalance in respect to the interaction in the European single market and the participation in EMU are interesting to examine. The engagement of countries from the period of initial convergence to the recent times of market disturbances took many forms, through times resembling boom/bust cycle examples but also posing a question of its current account determinants and their significance. Even though there is a strong presence of heterogeneity in respect to internal factors, the group resembles a unique sample of small open economies exposed to the same external factors which help to establish their current account determinants.[1]

From the early 1990s the former centralized economies of Central and Eastern Europe (CEE) embarked a continuous transformation from heavily industrialised and agricultural oriented economies with low economic development to market-oriented economies with democratic systems. (Clausing, Dorobantu, 2005) Cyprus and Malta were already considered developed but still small open economies at EU's "fuzzy Mediterranean edge". The external balances were vulnerable due to scarce availability of natural resources and unsettled political background, especially in case of Cyprus. The private sector for CEE was exposed to rapid spikes in price levels, decrease in output, employment, and production restructuring. Nevertheless, after the initial volatile period subsided the stage in convergence process was relatively equal among the first ten accession countries. (Melakopides, 2000) The transition period was more convoluted for Bulgaria and Romania due to hyperinflation, plunge in the output and problems with corruption, poverty, crime, and judiciary issues. (Ivanov, 2010)

The economic and institutional reforms with the enhancement of the transition-specific factors like promoting privatization, liberalising trade policies and financial sector led to a significant increase in foreign trade and investment therefore to deterioration of the current account. Increasing integration in the European market resulted in free movements of goods, services, capital, and labour which allowed the accession countries to increase their trade openness and benefit from the EU's common trade agreements.

1 The author acknowledges the latest EU enlargement in 2013 by Croatia, however, decided to omit the country from the analysis due to historical cohesiveness in the chronological order of current account development among other new members of the EU. (Petak, Kotarski, 2019)

Joining the EU has increased financial integration and harmonized the flow of capital by poising parallel aspects of risk, solvency, and liquidity. Eliminated capital controls evened out the interest rate eliminating the differential factor and the risk premium required. (Clausing and Dorobantu, 2005; Gourinchas and Jeanne, 2002)
Furthermore, the accession to single market had an impact on the savings and investment rates. From the start of the integration, the elasticity of demand for produced goods has increased. Subsiding the trade barriers such as tariffs and following the harmonization of products' standards and safety requirements together with the broadening of distribution networks have made the goods closer substitutes. Consequently, the flow of capital rose as the adverse effect of terms of trade was smoothed out. Altogether these factors contributed to the size of the current account deficits. (Blanchard, Giavazzi, 2002) Moreover, raising GDP growth was largely driven by domestic demand and supported by capital inflows. Countries also benefited from competitive advantage of low-cost labour and received a considerable flow of FDI. Level of wages not only effected production cost efficiency outsourcing but also as the purchasing power of domestic economic agents. However, with slow but progressive increase in cost of production and labour competitive cost advantage deteriorated. (Havlik, 2005) On the other hand a slow wage growth was not efficient to boost the consumption led growth therefore the economic expansion was driven mostly by taking high amount of credit. (O'Farrell, 2010). This growth led to significant external imbalances, with most accession countries experiencing the peak of their current account deficit on average almost reaching negative 10% of their GDP in 2008.
The GFC (2008-2009) caused a sharp decline in output levels, exports, and foreign investment, which led to a recession. The external shock was magnified by the excessively rapid expansion of domestic credit, and the inefficient allocation of foreign capital to non-tradable sectors with low or negative interest rates. In addition, the immense influx of capital and the reduction in risk premiums had an impact on domestic currencies, causing them to appreciate, which had a negative impact on the competitiveness of export-oriented industries, irrespective of the exchange rate regime in place. (Rosati, 2021)

The empirical research on current account imbalances experienced a resurgence. The crisis served as evidence that, despite having a common history, following similar growth models, and undergoing comparable paths of integration with the EU, the accession countries are not uniform. The Baltic nations (Estonia, Latvia, Lithuania) experienced more significant economic instability, were more susceptible to external factors, and consequently suffered a more severe recession. On the other hand, the economies of central Europe (Czech Republic, Hungary, Poland, Slovakia, Slovenia) were more stable,

maintained smaller external imbalances, and had stronger export sectors, with a more moderate domestic growth and hence a weaker output recession. (Rosati, 2021)

Next step of further cointegration was implementation of a single currency. Implementing euro contributed to the fuzzier flow of capital due to a further decrease in the interest rate differentials and the elimination of currency risk. The differential of the interest rate now depended on internal and qualitative elements of risk such as the credit risks (pricing the European securities), therefore losing its monetary autonomy. (Blanchard, Giavazzi, 2002). Joining EMU was also deemed sceptic as the absence of national currencies would lead to greater differences in current account balances among the other members. Furthermore, 'optimum currency' hypothesis perceived that a single monetary policy could cause economic dilemmas in assessment of macro-policies due to regional differences and conditions. (Mundell, 1961) This fear was disconfirmed as the relative discrepancies between the member nations had been small and the effect of changing the exchange rate dynamics was insignificant. Pioneering contribution of Rose (2000), however, shed a different light on the currency union as a determining trade effect factor. Rose established that besides the elimination of exchange rate volatility, transactional costs (Feldstein, 1997) and pure monetary effect there is a considerable increase in trade dynamic. The adaptation of the free-floating single currency was dynamically stable and increase in competitiveness overpowered the country-specific shocks. Most of the abrupt changes in current account balances were present before the formulation of the EMU and had been present with the increased economic integration. (Hope, 2016)

Fulfilling the Maastricht convergence criteria Slovenia (2007), Cyprus and Malta (2008), Slovakia (2009), Estonia (2011), Latvia (2014) and Lithuania (2015) adopted euro as their national currency and drew closer to the 'European core'. Even though EMU accession uplifted trade barriers for most of the countries and resulted in beneficial effect for the capital and financial account the rest of the new members (Czech Republic, Hungary, and Poland), decided to omit the single currency due to the political and domestic reasons. Bulgaria and Romania have not yet become members of the euro area, but the Bulgarian lev has been part of the ERM II since 2020, therefore pegged to euro. Nonetheless their domestic currency remained within a euro band of ± 15 percent. (Dandashly, Verdun, 2018)

The impact of European Sovereign Debt crisis had varying effects on EU states, EMU countries being somewhat shielded from exchange rate volatility, while countries with high levels of sovereign debt encountered challenges in refinancing their debt. From this timeline a structural break emerged as countries witnessed a significant contraction in economic growth, exports, and international capital inflows. Hungary suffered economic

challenges stemming from previous government's fiscal policies prior to the crisis. The Baltic nations were particularly hard-hit, as their economies heavily relied on foreign bank lending, which had dried up during this period. (Jočienė 2015). After the crisis, the CEE countries implemented policies aimed at improving their competitiveness and diversifying their trade partners. This led to a period of recovery and growth, with increasing trade with Asia, Africa, and the Middle East. However, the economic dynamics were subsequently restrained by the present liquidity trap due to low interest rates and deflationary tendencies. (Sau, 2018)

The COVID-19 pandemic impacted the trade due to supply shocks as, slumping growth rates and ecnomic uncertainty. The disruptions in both logistics and value chains were great challenges for the three smaller Visegrad countries due to high FDI exposure towards their current account imbalance. (Becsey, 2022) Amid the pandemic, there were extensive fiscal preventative measures implemented to mitigate negative impact on economy. However, these measures also had the unintended consequence of significantly limiting economic activity and resulting in a surge of unemployment. This initially caused a sharp decline in the stock markets, which subsequently experienced some recovery but remained volatile. (Makin, Layton, 2021) The fiscal policies implemented measures to smooth the economic slow-down. These policies were mainly focused on sustaining the aggregate demand, domestic expenditure and avoiding short-term unemployment by providing income transfers along with welfare payments and subsidies. The economies relied heavily on fiscal measures tied to budget expenditure policy, while taxation policy had a relatively minor role. Consequently, the countries experienced a rise in budget deficit and public debt. Emphasis on expenditure policy mainly impacted consumption dynamics, while capital expenditures were affected only slightly. The ECB attempted to stimulate lending activity among commercial banks by lowering interest rates, increasing the money supply in the market, and extending credit guarantee systems. However, they did not prioritize the implementation of anti-inflation policies. The substantial budget deficits arising during the pandemic apposed additional long-term risks. Moreover, the more predominant crowding-out effect restraining the economic activity of the private sector along with the supply chain disruption led to a great aggregate supply contraction. (Makin, Layton, 2021)

Overall, there have been many factors posing an effect on current account of the accession countries that played various roles in terms of the level of the development and conversion but also the robustness to global fluctuations. The research will further implement the primary variables which were present in the historical development to further analyse their significance.

3. METHODOLOGY

This chapter aims to outline the research objectives, empirical models used to assess the impact of the determining variables on the current account balance (CAB) of the chosen countries, along with relevant data collection methods and analysis techniques. The section is divided into four subchapters.

The main objective of the study was to imply the identified determinants of the current account to countries that joined the European Union in the period of 2004-2007 and assess their significance. The existing research on current account analyses has focused on core European countries or southern European countries, there remains a gap in the literature regarding the impact on small, open economies that have already transitioned and now belong to developed economies. Thus, the author seeks to address this gap by conducting a comprehensive analysis of these economies. The empirical analysis of the determinants of the current account was at first applied to the complete sample group, then broken down to two sub-periods to make comparisons. The results of the empirical models were compared with the theoretical implications and empirical studies. Afterwards, the author addressed if there is a difference of significance for the exchange rate as the determinant of the current account between the chosen eurozone and non-eurozone countries.

The initial subchapter presents the collected dataset along with its specifications. In the following subchapter the determinants are described in further detail, along with their expected effects based on economic theory and previous research. Afterwards, the independent and dependent variables for each observed model are introduced. Furthermore, descriptive statistics are provided to offer an overview of the variables, including their mean, median, and standard deviation. The last chapter outlines the model and methodology utilized in the study.

3.1 Data and Sample Characteristics

In order to perform a thorough analysis, it is fundamental to gather reliable data from verifiable sources. The dataset for the empirical analysis was compiled from the World Bank's World Development Indicator, and to include additional complementary variables, data was also obtained from the Ameco database and Eurostat. The real effective exchange rates were extracted from Bruegel.org website that considers sixty-five trading partners of each reported country determining the exposure of exchange rate volatility.

The analysis focuses on an unbalanced panel sample consisting of annual data spanning 27 years (1995-2021). The sample is comprised by twelve countries that joined the EU during the period of 2004-2007. Together, the dataset encapsulates 324 observations.

The countries observed in the study (Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Slovenia) can be identified as small open European economies. Although Malta and Cyprus were considered developed economies before their accession, the rest of the countries have been regarded as former emerging markets in academic circles due to their history of steep economic development. Overall, their economic significance has steadily increased throughout the observed period, while following the EU's economic, political, and strategic interests in their respective regions to achieve cohesion.

3.2 Characteristics of the Determinants

Before proceeding to the empirical analysis, it is necessary to describe quantitative metrics of the selected variables and their expected effect on CAB. While many theoretical and empirical observations have been put to the test, no single combination can fully capture complexity of empirical relationships of CAB. Moreover, as identified by Eichengreen (2010), it is challenging to accurately make a robust assessment of CAB determinants. Therefore, the aim of the analysis for this thesis is to examine the impact of the chosen determinants identified in *Table 1*, rather than to compile an exhaustive list of additional relevant variables.

Table 1 ***List of chosen dependent variables and their impact on CAB***

			Expected effect	
Abbreviation	**Description**	**Source**	**Theoretical implications**	**Empirical findings**
CAB	Current account balance (% of GDP)	WB (WDI)		
Inflation	Inflation, consumer prices (annual %)	WB (WDI)	-	-
FDI	Foreign direct investment, net inflows (% of GDP)	WB (WDI)	-	-
Trade	Trade (% of GDP)	WB (WDI)	+	+/-
GDP growth	GDP growth (annual %)	WB (WDI)	-	-
REER	Real exchange rate (annual - direct quote)	Bruegel	-	+/-
Fiscal Balance	Government deficit/surplus (% of GDP)	Eurostat	+/-	+/-
Interest rate	Short-term real interest rates deflated by GDP (annual average)	AMECO	+	+
Domestic Credit	Domestic credit to private sector (% of GDP)	WB (WDI)	-	-
ULC	Unit labour cost performance	Eurostat	-	-

Source: World Bank's World Development Indicator (WDI), Eurostat, AMECO database

Inflation - The impact of inflation as a variable of macroeconomic stability for CAB was introduced by Bernanke (2005). Implying the correlation between the rate of investment and the customer price index (CPI), he concluded that low level of inflation prompts higher rate of capital inflow which enlarges CAB deficit. This assumption was supported by Odedokun (2003) evincing that domestic price stability drives higher rates of investment. A stronger assessment by Guerreiro (2014) proved the casualty between the rising price levels and the external balance by augmenting the CPI variable to specific domestic price level series to account for the cross-sectional difference between the EMU countries. A significant negative relationship between CPI index and CAB deficit was observed by Cavdar and Aydin (2015) using binary panel LOGIT model. The inflation rate is also a significant variable for macroeconomic stability as the targeted rate of the ECB is set to 2% and any deviation might cause instability. A supportive stability measure was demonstrated in the studies of CAB deficit for GIIPS, Baltics, and emerging markets that examined the period of the Eurozone crises and concluded that regulations are significant and beneficial to economic development. (Kang, Shambaugh, Faia, 2016; Nojkovic, Petrovic, 2015) Therefore, the author concludes that any deviation from the inflation target will have a negative impact on CAB.

Foreign direct investment (FDI) - The net inflow of the FDI is identified as the difference between the in-flow and out-flow of investment. FDI is an essential engine of economic development for every small economy, especially with limited natural resources like Malta and Cyprus. (Montfort, 2002) There is no clear consensus over the impact of FDI on CAB as variance of effects tends to deviate between the efficiency-seeking FDI and market-seeking FDI. (Witkowska, 2013) The market-seeking investment oriented at sales in domestic market have a beneficial effect on production expansion and bracing the employment rate. Additionally, such investment might strengthen the demand for domestic goods. (Mahnaz et al., 2019) The prevalence of domestic factors having a comparative advantage is driving the efficiency-seeking FDI embracing higher rates of exports and diversifying production. Witkowska (2013) also identifies that in economic uncertainty such capital flows might cease and largely reduce domestic consumption power. Kovacevic (2022), however, argues that in comparison to the other types of international investment, FDI flow is relatively stable even through periods of crisis. Nonetheless of the beneficial effect on the host's economic growth, the prospect of a long-term welfare growth might not be feasible considering CAB. The reason is that some part of the marginal increase in GDP flows abroad in the forms of profits, interests, loans, and this in turn deteriorates the primary balance of CAB. (Bedir, Soydan, 2016) A negative effect of FDI flow on CAB of Balkan transitional economies was recently observed by Kovacevic (2022), therefore endorsing for more efficient-seeking FDI flows to mitigate the

negative impact of FDI. Based on the emergence of a structural break, Ercegovac and Pucar (2022) compared the period before and after the GFC but could not determine any significance effect of FDI when applying a robust micro panel model. Countries analysed in this study had been predominantly recipients of efficiency-seeking FDI therefore the expecting a negative impact on CAB.

Trade openness - The volume of exports and imports relative to the GDP, also referred as de-facto openness to trade, signifies magnitude of participation in international trade. It is worth considering that the effect of the trade openness on CAB is ambiguous from the empirical perspective. Das (2016) employing dynamic generalized method of moment panel estimation proved trade openness to be a positive determinant of CAB while the positive significance increases simultaneously with economic development. Conversely, static panel data analysis by Elgin and Kuzubas (2013) observed discernible differences among groups of countries, categorised by their level of development. In both cases significant, during volatile periods trade openness had a negative impact on developing countries whereas positive effect on developed countries. The interrelation between proportion of the trade to GDP and CAB can be greatly attributed to production and trade structure. (Chen et al., 2013) Thus, the magnitude of the variable depends on competitiveness of the tradable sector of economy. For that reason, interpretation of the effect of the metric can vary in practice due to different implications even for fully integrated countries. (Gräbner et al., 2021) Chinn and Prasad (2003) consider this variable as a proxy to trade barriers. The prevalence of restrictions is minimal for countries in the EU due to unified trading block promoting economic competitiveness and integration. (Lavery, Schmid, 2021) Overall, positive effect is expected.

Real effective exchange rates (REER) - REER are the core determinants of any international transaction and are of a fundamental importance for any macroeconomic policies that monetary institutions have under supervision. The merit of exchange rate regimes for CAB dynamics is subject to an ongoing debate in the literature. In 1983, Meese and Rogoff elaborated their concerns over the effect of nominal exchange rate for a range of macroeconomic model due to persistent random walk. Similarly, Chinn, and Wei (2008) challenged the idea of significance of the exchange rate regime impact on CAB persistence. In their research they find no consistent or strong relationship between the exchange rate flexibility and CAB stability even when considering trade and capital account openness or economic development. Including the same variables to dynamic panel analysis, Das (2016) finds the change in REER to be significant for developed and emerging countries with a positive effect. Friedman (1953) argued that REER's volatility is a symptom rather than a cause of external imbalances. Ghosh et al. (2008) argued that Friedman's hypothesis does hold as large CAB imbalances are not frequent in flexible currency

regimes. Congruently, estimations of REER effect on CAB for CEE countries made by Herrmann and Jochem (2005) showed similar outcomes. REER had a strong negative significance in feasible GLS estimation but have failed to prove the significance in instrumental variables estimation model suggesting the endogeneity of the variable. Currency union theory also shields the effect of REER on trade balance but has positive attributions in comparison to classical perceptions, especially for bilateral trade balances. The estimated effects of currency unions and REER volatility had been various in terms of CAB but reputed as economically distinguishable. The research is based on gravity models examining the trade effect of currencies, applying different results for each monetary union. (Glick, Rose, 2016; Havranek, 2010)

On theoretical bases, if sufficient elasticity is present for internationally traded goods, currency depreciation creates a nudge due to decrease in relative prices (price effect) prompting exports (the volume effect) and decrease in imports. As the J-curve effect phenomenon takes an effect, the desired increase in trade balance is not immediate due to initial price inelasticity of domestic supply and demand. Based on the effect there is a time lag reaction present among trading instruments such as forwards and futures, thus having a short-term dip in the trade balance at first while having its positive effect only in the long run. (Hacker, Hatemi-J, 2003) The REER's lagged effect brought ambiguous results for diverse types of countries, failing for Korea and Taiwan (Hsing, Savvides, 1996), while succeeding for majority of the studied East Asian countries (Lal, Lowinger, 2002). Recent study for small north European countries by Hacker and Hatemi-J (2003) proved some prevalence for Netherlands. The J-curve effect for bilateral trades between Croatia, Czechia, Hungary, Poland, Slovakia, Slovenia, and the USA was not empirically confirmed by Hsing (2009). As the REER effect on CAB is ambiguous and empirical evidence of the J-curve effect unclear, the author deemed it interesting to analyse the lagged effect in empirical analysis.

GDP growth - The relationship between economic growth and CAB has been empirically examined with various regression analyses showing a consistent negative impact. (Chinn and Prasad, 2003). While the increase in output growth can be associated with a rise in saving rate, the link with investment rate is more dominant. Higher output growth resulting from productivity gains accords with return on capital resulting in higher investment. (Glick, Rogoff, 1995) Furthermore, the real GDP growth effect subsequently increases income, leads to a higher consumption, decrease in net savings and consequently lowering CAB. (Das, 2016) The GDP growth effect is often associated with the stages of development hypothesis for the BOP, but the findings are often inconclusive. (Sobanski, 2020). Barnes, Lawson and Radziwill (2010) dispute the support for real convergence hypothesis as the GDP growth rate was not significant in the Euro-area in

panel analysis. Conversly, Kang and Shambaugh (2016) found mixed results in pre-crisis period. Countries with an inclination of higher rate of growth, in fact, experienced a decline in CAB. They also emphasized a presence of strong reverse causality between the two variables. While GDP growth cannot be necessarily predetermined an increase in CAB deficit should lower the GDP in terms of expenditure basis. A high rate of capital inflow (therefore decreasing the CAB) might induce further growth. For the mentioned implications, the author presumes that higher GDP growth rates have a negative impact on the CAB, whilst the results differ among the studies.

Short-term real interest rates - The real interest rate signifies money market integration. The rate of return of capital, hence, resembles one of the key monetary policy measures to control capital flow and inflation target. (Guerreiro, 2014) Interest rate can impact CAB through many channels. The most primary one is by the positive correlation with saving rate of economic agents. Conversly, the indirect impact of interest rates through exogenous variables like REER cause reverse effects. Increase in interest rates tends to appreciate REER, therefore reducing competitiveness and deteriorating CAB. However, as was already determined, appreciation of REER does not have to negatively impact CAB. The second indirect channel is through inflow of capital determined by the sensitivity of investment which might be used to finance exports, therefore have a positive effect. (Blanchard, Milesi-Ferretti, 2012) Real interest rate as a determinant of CAB was utilised in the study of Ketenci and Uz (2010) applying the ARDL model analysing seven countries that joined the EU in 2004-2007. The variable proved to be a significant driver of CAB in the long-term, however with mixed results. The effect was negative for Czechia, Lithuania, Slovakia, and Slovenia, positive only for Bulgaria and insignificant for Estonia and Latvia. Further studies also concentrated on competitive advantage of interest rate differentials across countries to evaluate a potential stimulus for capital inflow. (Herwartz, Siedenburg, 2007) Conclusively a positive impact of real interest rate on CAB is expected.

Fiscal Balance - The considerations and magnitude of the fiscal balance impact vary greatly in theory as well as in practice. The main contribution in literature is devoted to the 'twin deficit' hypothesis among different approaches like CAB targeting - reverse causality - (Marinheiro, 2008), feedback linkage - bidirectional causality - (Kouassi, Mougoué, Kymn, 2004) or no linkage - intertemporal Ricardian view - (Kaufmann, Scharler, Winckler, 2002). The 'twin deficit' hypothesis is a result of fiscal expansion (deficit in the public savings) that has consequently a negative effect on CAB. Ostensibly, higher government budget deficits drive the real interest rate, leading to an increased flow of foreign capital and appreciation of domestic currency. And yet based on the Ricardian equivalence groundings, among precautionary motive of savings, the private net savings should adjust to the change in public expenditure as economic agents can foresee

upcoming tax burden therefore have no effect on aggregate demand. However, the possibility of governments resorting to financial repression, as means to manage escalation of public debt, could result in an inefficient allocation of capital within economy, in addition to future deadweight loss resulting from increased taxation. (Makin, Layton, 2021) Contradictory, high public spending can cause crowding-out effect for private sector, decrease their savings, or even result in 'debt-overhang' hypothesis for public investment. (Picarelli, Vanlaer, Marneffe, 2019) Fiscal policies in relation to CAB regained its popularity during the GFC of 2008-2009 and the subsequent economic recovery when the international attitude headed towards the international business-cycle synchronization. (Perri, Quadrini, 2018). Empirical analysis does not provide a clear answer either. In view of Salvatore's findings (2006) the theory of the twin deficit holds with a lagged effect for the US, Germany, UK, Canada, France, and Italy. Kim and Roubini, however, find a twin divergence effect that implies direct causality between the fiscal balance and CAB while depreciating the REER. Kalou and Paleologou's observations (2012) of the long-term relationship between budget deficit and CAB of Greece was found to be positive but reversely correlated. The empirical evidence of Carrasco and Hernandez-del-Valle (2018) based on ARDL model did not find any unified causality between the public and private balance among the Eurozone countries. Additionally, the relationship is often determined on an individual level due to heterogeneity of the economic environment. Sinicakova, Sulikova, and Gavurova (2017) tested the Granger's cointegration hypotheses between the internal and external balance and found twin deficit present for Netherlands, Italy, Portugal, Greece, Croatia, Cyprus and Czech Republic, reverse causality for France, Ireland, Malta and Romania and bi-causality for Hungary and Spain. Despite the empirical inconsistency of clear causality between the fiscal balance and CAB the author would like to put the variable to a test as expansionary policies had been even more prevalent during the pandemic to mitigate the shocks and risks of rapid domestic falls in consumption and employment. (Makin, Layton, 2021)

Domestic credit – Domestic credit is often concluded as a financial deepening variable or a proxy for financial market development. By providing credit to private sector an efficient allocation of capital stimulates higher rates of investment and consumption expenditure and therefore foster economic growth. However, any excessive variance can contribute to instability and widen CAB. (Unger, 2017) The gravity of credit growth depends on level of economy's financial depth as for the earlier stages of developing financial sectors the effect of credit growths can be stronger and even further accelerate the widening of CAB. Therefore, macroprudential measures regulating the financial excess might prevent high external balances. (Ekinci, Erdem, Kilinc, 2015) Brissimis et al. (2012) puts strong emphasis on the importance of private credit deriving his implications from

intertemporal approach. He concludes a negative impact on CAB due to prevalence of higher consumption and lower private savings. Accordingly, Ucler, Bulut and Erdem (2013) find a strong negative impact of domestic credit on CAB of 15 OECD countries based on ARDL analysis in short-run as well as long-run. The estimations on the long-run CAB for 17 European countries prove his hypothesis of significant negative relationship. Ekinci, Erdem, Kilinc, (2015) broke down the private credit measure to household credit which turned out as a main driver of the effect whereas business loans did not have a significant impact. Prior study of Buyukkaraback and Krause (2009) elaborate a weighty negative link of household credits to exports, while positive ones for business credits. Based on the conclusions the author presumes a negative effect of the domestic credit on CAB.

Unit labour cost (ULC) - Unit labour cost indicates cost competitiveness capturing the ratio between employment cost per produced output unit. This variable gained interest when measuring intra-euro imbalances and was part of the adjustment's recommendations. (Belke, Dreger, 2013) They proposed the significance of ULC and suggested the reduction of ULC to induce exports and therefore decrease CAB imbalance. Additionaly, countries with higher CAB deficit were recommended to lower ULC to adjust the supply balance and to reduce spending to control the demand. (Kollmann et al., 2015) Low-wage countries which benefitted from the efficient seeking FDI wanted to pursue increase in wages, however, the appeal was rejected on the grounds of harming the exports competitiveness. (Myant, 2016) Negative effect of ULC on CAB was proved for the Baltic countries prior to crises where a high increase in ULC worsened the exports. (Kang, Shambaugh, 2016) Gaulier and Vicard (2012) determined ULC as a factor correlating with imports and non-tradable sector but find no strong correlation with the decrease in exports due to a slight decline in wage competitiveness. They suggest a cautious interpretation of ULC effect on the trade balance performance due to significant contribution of price deflators for non-tradable sectors in the EU area. Dieppe et al. (2012) found a negative correlation between ULC and CAB when the labour cost is a dominant part of the companies' cost structure. Contrarily, analysis of Myant (2016) rejects a direct implication of negative effect on the competitiveness and the export power and proposes weaknesses of such measure. He implies that for low-wage countries, such as the CEE, the increase in ULC would improve labour productivity. Based on his regressions of annual changes in export volume and ULC results had a weak explanatory power, the highest for Poland (0.14 R-squared). Collignon and Esposito (2021) argued over the relevance of ULC for CEE countries and suggested wage competitiveness index as an alternative metric. In this paper, the author wants to examine the significance of the ULC on the CAB and determine whether there is a strong negative relationship, as mentioned in the literature.

3.3 Descriptive statistics

This section provides description of the summary statistics of the chosen determinants used in the study. This information is elaborated in *Table 2*. Although the panel is unbalanced, the missing observations are not predominant. A high standard deviation, which signifies a high spread of data around the mean, is present for four determinants in the dataset (inflation deviation, FDI, trade openness and domestic credit). One big outlier observed in inflation deviation is due to "near-hyperinflation" for Bulgaria reaching astonishing 1058.4% of annual CPI increase in 1996 (Slavova, 2003) and milder but still significant inflation for Romania 154.8% in 1997. (Budina et al., 2006) The annualized net inflows of FDI for the group of countries are highly internally differentiated. Skewed FDI values are present especially for Cyprus (2008-2021) and Malta (2001-2013), experiencing a high flow of FDI initially due to cheap labour force, market openness and efficient legislative system and afterwards due to speed growth and high degree of digitalization (Montfort, 2002; Selaković, M., 2022). In fact, Malta has a considerably higher value of trade openness than the rest of countries through the whole observed period. Cyprus had a pervasively strong rates of domestic credit growth which decreased from 2013. These factors can be considered as setbacks of the analysis. Another considerable limitation is that variables do not follow a normal distribution.

Table 2 ***Descriptive Statistics, Full Sample 1995-2021***

Variable	Mean	S.D.	Min	Max	Median	Observations
CAB (% GDP)	-3.39	4.95	-25.7	8.53	-3.18	324
Inflation deviation (CPI-2%)	7.81	59.9	-0.097	1056	0.968	324
FDI (% GDP)	15.2	50.3	-117	449	4.13	323
Trade (% GDP)	129	53.1	43.7	323	124	324
REER	93.3	16	45.2	120	95.5	324
GDP growth	3.4	4.18	-14.8	19.7	3.84	320
Fiscal Balance (% GDP)	-2.96	2.93	-14.6	3.29	-2.62	319
Domestic credit (% GDP)	60	47.3	0	255	49.5	246
Ln ULC	3.01	1.44	-1.2	7.97	3.09	276
Interest rates	0.235	4.64	-23.2	25.2	-0.1	301

Source: Author's calculations

Based on the summary statistics the average deviation from inflation was 7.81%. The highest accounted CAB deficit was negative 25.7% of the GDP and the highest surplus was 8.53% of the GDP. On average the CAB imbalance for the examined period was -3.39% of the GDP. The average GDP growth represented 3.4% with the standard deviation spread of 4.18 percentage points. The short-term interest rates sustained on average 0.235%. The highest fiscal deficit of 14.6% accounts for Slovenia in 2013.

3.4 The Empirical Analyses

The empirical analysis concerns three main empirical observations. The first part is dedicated to the analysis of a range of macroeconomic determinants that impact the CAB over the whole examined period. The second part of the analyses examines the differences in determinants between the two subperiods due to the emergence of structural break. Lastly, two subsamples are compared to analyse if the significance of real exchange rate as a determinant varies between eurozone and non-eurozone sample.

To investigate the impact of the determinants on the CAB, the author used panel data regression analysis, specifically a Pooled Ordinary Least Squares model (POLS). POLS is a method based on the basic ordinary least square model but also considering the differences between the observed cross-sectional units. Therefore, the applied formula provides following relationship (Novák, 2021):

$$y_{it} = \alpha_0 + \sum_{j=1}^{K} \beta_j x_{jit} + \varepsilon_{it} \qquad j = 1,2,\dots,K \; i = 1,2,\dots N \;\; t = 1,2,\dots T \qquad [9]$$

The dependent quantitative variable acquired through linear transformation is resembled by y_{it}. The intercept of the formula is signified by α_0, the explanatory strength of the unknown parameters is given by β for the independent explanatory variables for a country i at the time t. The random disturbance ε_{it} is uncorrelated over time t and countries i, demonstrating independence in both dimensions. (Novák, 2021).

Fixed effect (FE) and random effect (RE) estimators are additional methods used to mitigate the influence of the correlation between the error term of an entity and the predictor variables. Compared to POLS, FE controls for unobserved differences between individuals and reduces bias. This method adds individual-specific intercepts to the model to account for time-invariant differences between individuals, which allows for the estimation of time-varying variables. Conversely, the RE model assumes that unobserved differences between entities can be represented as a random variable with a normal distribution. (Baltagi, 2008)

Although the OLS is a commonly used and consistent estimating method, it includes several limitations. The model assumes a linear relationship between the dependent and independent variables, normality of their distribution and a constant variance of error and other assumptions. If the relationship between the dependent and independent variables is not linear, the limits of the assumptions are conflicted and therefore can lead to biased results. (Greene, 2020) Also, it is worth considering that pooled OLS estimation is upward biased, and the fixed effects model is downward biased. (Baltagi, 2008)

The output of the model was generated by Gretl statistical software. The analysis is represented by the following equation:

$$CA/Y = \alpha + \beta_1 GDPgr_{i,t} + \beta_2 INFdev_{i,t} + \beta_3 FDI_{i,t} + \beta_4 Tr_{i,t} + \beta_5 REER_{i,-1} + \beta_6 Reali_{i,t} + \beta_7 DomesticCr_{it} + \beta_8 FiscalB_{i,-1} + \beta_9 \ln(ULC)_{i,t} + \varepsilon_{i,t} \quad [10]$$

Where,

CA/Y	CAB (% of GDP)
α	the intercept (a constant)
GDPgr	GDP growth (annual %)
INFLdev	Inflation (CPI) deviation from 2% (annual %)
FDI	Foreign Direct Investment, net inflows (% of GDP)
Tr	Trade openness (% of GDP)
REER	Real effective exchange rate (annual – direct quote)
Reali	Short-term real interest rates (annual average)
DomesticCr	Domestic credit to private sector (% of GDP)
FiscalB	Fiscal balance (% of GDP)
ULC	Unit labour cost performance (annual average)
t	Index indicating the period
i	Index indicating the country
i,-1	Index indicating a lagged effect – a value from the previous period
$\varepsilon_{i,t}$	Residuum, the disturbance of error term

4. RESULTS

In this chapter the evaluation of the findings of econometric analyses of the CAB determinants are presented. The first objective was to study the CAB determinants for the whole observed periods. Due to a positive presence of structural break the dataset was split to two sub-samples and compared. The author examined the OLS output and then assessed further econometric investigation with FE and RE panel analysis. To address the last research question, the author split the observed countries to two-subgroups to determine if the significance of the exchange rate varies among eurozone members and non-eurozone members.

The first regression model encapsulates twelve European countries for the period 1995-2021. The POLS along with the FE model results are showed in the *Table 3*, reporting 195 observation and explaining 56.73% variability (adjusted R-squared) of the dependent variable. The F-test proclaimed the model as a whole to be statistically significant.

Table 3 ***Unrestricted POLS and FE model: Full sample (1995-2021)***

Dependent variable:	**Pooled OLS model**				**Fixed effect model**		
CAB (% of GDP)	Coefficient		(p-value)		Coefficient		(p-value)
const	-6.6177	*	0.0601		-18.8352	***	<0.0001
Inflation (deviation from 2%)	-1.2618	***	<0.0001		-1.0233	***	<0.0001
FDI net inflows (% of GDP)	-0.0151	***	0.0044		-0.0083		0.1272
Trade (% of GDP)	0.0308	***	<0.0001		0.1254	***	<0.0001
REER (t-1)	0.0525	*	0.0934		0.0878	**	0.0374
GDP growth	-0.3353	***	<0.0001		-0.3748	***	<0.0001
Fiscal Balance (% of GDP) (t-1)	-0.0677		0.4825		-0.0425		0.666
Domestic Credit (% of GDP)	-0.0180	***	0.0010		-0.0634	***	0.0002
(ln) ULC	-0.2725		0.2206		-0.2405		0.3851
Real interest rates	0.0758		0.4090		0.2257	**	0.0151
Observations	195				195		
Adjusted R square	56.73				62.78		
F-Statistic	29.26				17.77		
P-value (F)	3.13E-31				3.42E-32		
Note: statistical significance is denoted by (*) at the 10% level; (**) at the 5% level; (***) at the 1% level							

Source: Author's calculations, results generated by Gretl statistical software

The hypothesis of normal error distribution is accepted. On the other hand, based on the Durbin-Watson test the model deals with a positive autocorrelation which is a common setback due to the OLS assumption of uncorrelated residuals. Additionally, the

Breusch-Pagan's test signifies presence of homoskedasticity, thus a constant variance of errors. Alternative models such as FE or RE estimates cannot solve the previously mentioned autocorrelation but can reduce the bias of omitted variables present in more complex regressions and serve as a robust model check. (Greene, 2020)

Results of Hausman's test on endogeneity rejected the null hypothesis therefore the FE model was more suitable. The explained variance of the CAB has improved by 6.05%, while the range of the significant variables remained the same, expect for the real interest rate gaining significance model whereas FDI insignificance in FE model. The slight exception from expected value is for the lagged fiscal balance having an insignificant and negative correlation. The strongest significant negative effect in both models applies for inflation deviation which signifies that on average if inflation deviation arises by one percentage point the CAB as a percentage of GDP will drop by 1.26 percentage points while all other independent variables remain constant. The strongest positive coefficient in FE model suggests 0.23 percentage points increase in CAB due to one percentage point increase in real interest rate. Correspondingly, the same interpretation can be applied to other statistically significant variables.

Table 4 ***Restricted POLS and FE model: Full sample (1995-2021)***

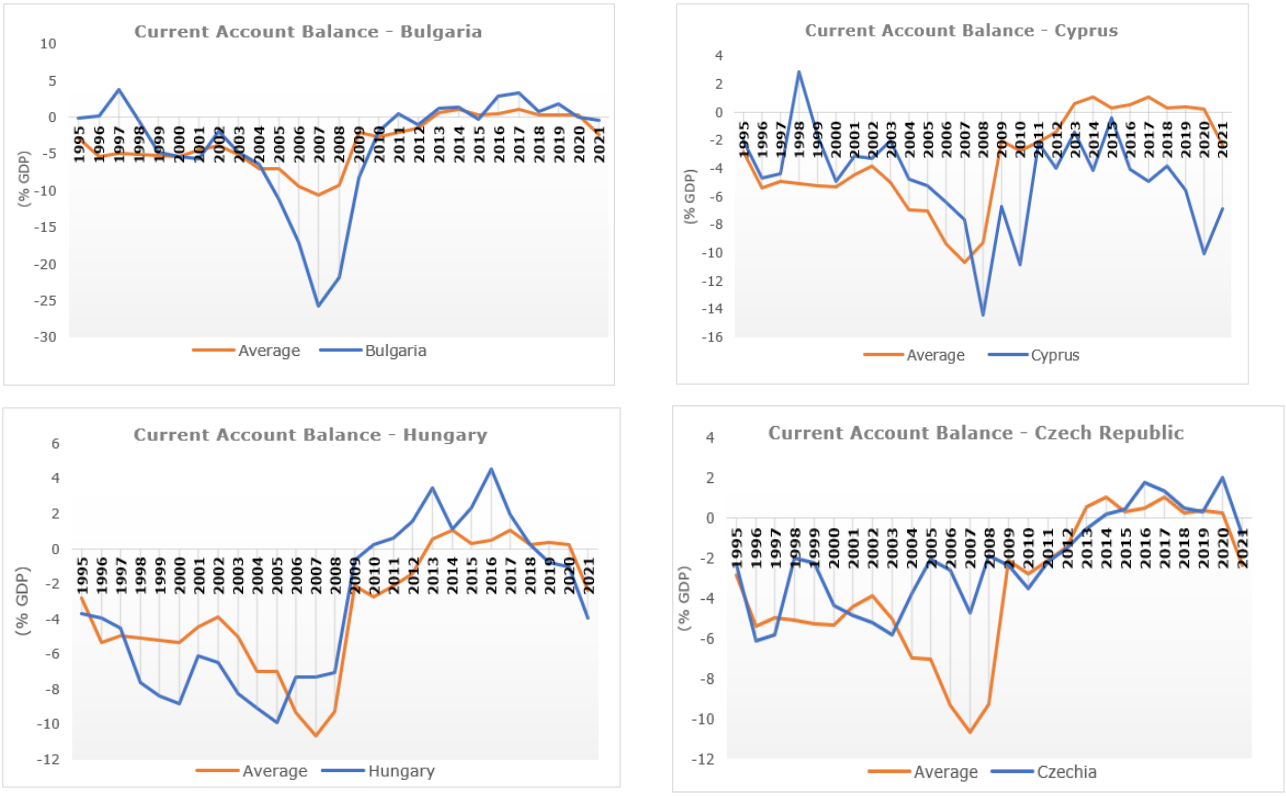
Dependent variable:	**Pooled OLS model**				**Fixed effect model**		
CAB (% of GDP)	Coefficient		(p-value)		Coefficient		(p-value)
const	-12.828	***	<0.0001		-15.49	***	<0.0001
Inflation (deviation from 2%)	-0.0176		0.5272		-0.0145		0.5916
Trade (% of GDP)	0.0293	***	<0.0001		0.0979	***	<0.0001
REER (t-1)	0.0913	***	<0.0001		0.0604	**	0.0185
GDP growth	-0.3880	***	<0.0001		-0.4444	***	<0.0001
Domestic Credit (% of GDP)	-0.0161	***	<0.0001		-0.0487	***	<0.0001
Real interest rates	0.0229		0.7054		0.0789		0.2046
Observations	301				301		
Adjusted R square	27.6				33.17		
F-Statistic	20.06				11.51		
P-value (F)	1.18E-19				7.99E-24		
Note: statistical significance is denoted by (*) at the 10% level; (**) at the 5% level; (***) at the 1% level							

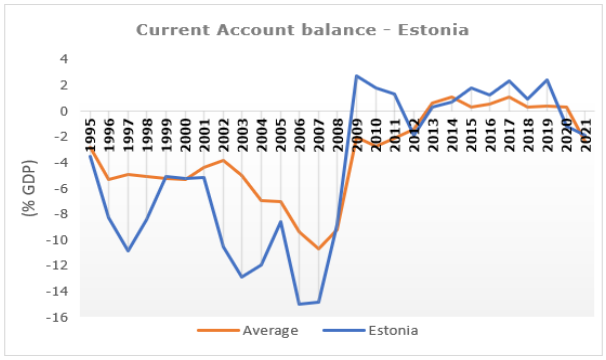
Source: Author's calculations, results generated by Gretl statistical software

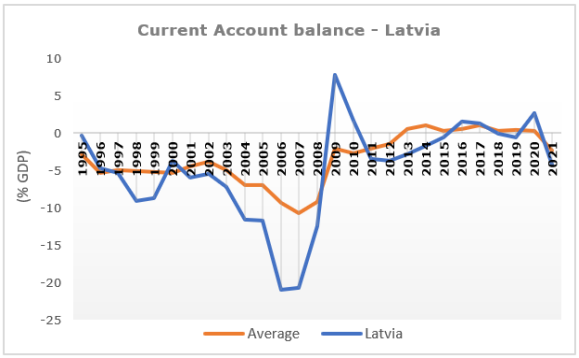
The next model elaborated in *Table 4* is narrowed down to only significant variables presented in the FE model. The explanatory power of regression dropped (27.6% adjusted R-squared), while the number of observations considerably enlarged (301). The model still accounts to be statistically significant. However, the errors are not distributed normally. The autocorrelation was present in this model as well but this time also along with heteroskedasticity. Hausman's once more assessed FE model as more appropriate in comparison to RE. The results provide robust evidence for trade openness and lagged REER having a significant positive effect on the CAB to GDP inasmuch as negative significant effects of GDP growth and domestic credit.

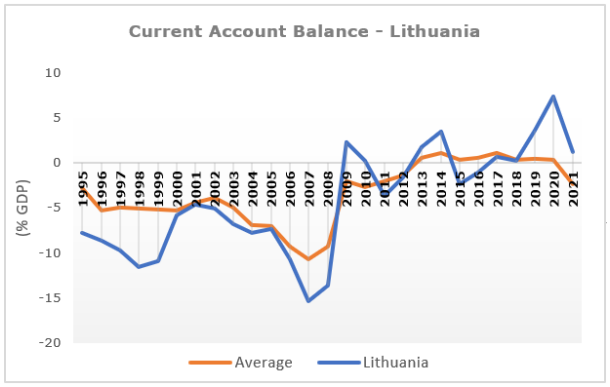
The CAB varied across the examined countries but at times followed a similar trend. The graphs reported in *Chart 1* show the variance of the CAB across the mean of the studied group. The average development of the CAB indicates a distinct shift after the crisis in 2008.

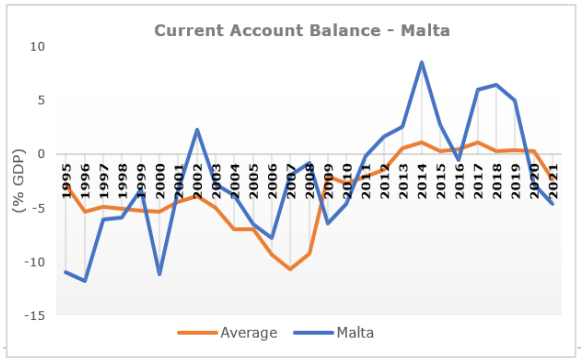
Chart 1 ***Current account balances (% of GDP)***

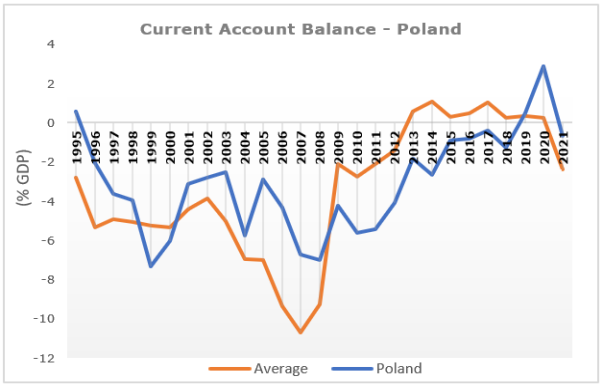


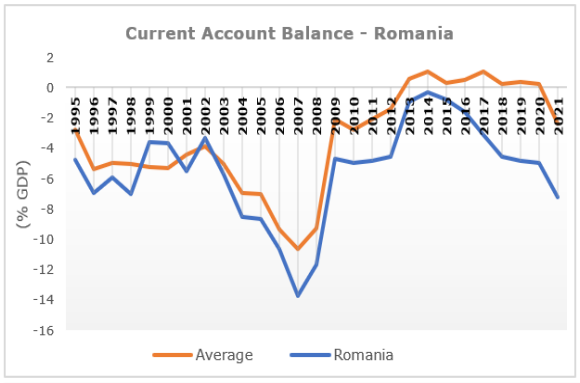


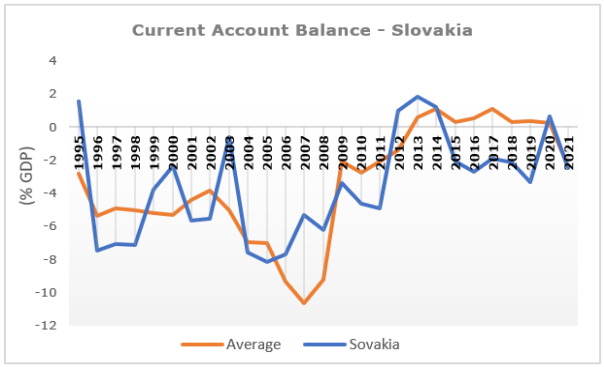


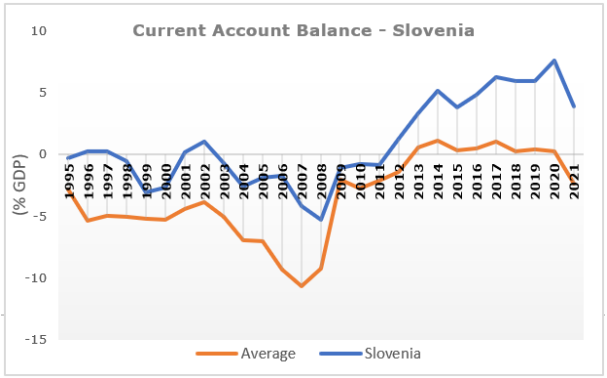












Source: Author's calculations

Therefore, through further study, the author wanted to determine whether there was a presence of structural break in the regression model. Based on the Chow's structural break test, the null hypothesis of no structural difference was rejected with respect of the

15th time index (2009). Hence, the observed period was split by the year 2008 and 2009 which also represented a benchmark between the transitioning period with higher current account imbalances and the period with minor current account deficits during the external imbalance adjustments. Moreover, it can be also considered as a convenient split of the observed period to compare the developments.

The *Table 5* reports the determinants predominant during the first sub-period (1995-2008). The statistically significant model accounts for 60 observations and explains 63.21% variability of the CAB. In this subsample the residuals are distributed normally but there is presence of autocorrelation and heteroskedasticity. For this observed period, the strongest drivers of CAB imbalance were inflation deviation, GDP growth and domestic credit while the real interest rate was significantly limiting the deficits. The FE model chosen based on the Hausman test had an increased explanatory power. The trade openness along with ULC regained strong significance despite elevated levels of p-values reported in POLS while inflation lost its relevance.

Table 5 ***POLS and FE model: Full sample (1995-2008)***

Dependent variable:	**Pooled OLS model**				**Fixed effect model**		
CAB (% of GDP)	Coefficient		(p-value)		Coefficient		(p-value)
const	0.5589		0.9534		-24.7287	***	0.0075
Inflation (deviation from 2%)	-0.8810	***	<0.0001		-0.0182		0.9362
FDI net inflows (% of GDP)	-0.0028		0.7122		-0.0050		0.5231
Trade (% of GDP)	0.0106		0.4842		0.1241	***	0.0002
REER (t-1)	-0.0247		0.7741		0.1193		0.1016
GDP growth	-0.5148	***	0.0061		-0.2844	*	0.0612
Fiscal Balance (% of GDP) (t-1)	-0.0756		0.7004		-0.1420		0.5724
Domestic Credit (% of GDP)	-0.0212	**	0.024		-0.1391	***	0.0008
(ln) ULC	-0.0534		0.8918		1.3943	**	0.015
Real interest rate	0.5815	***	0.0022		0.4673	**	0.016
Observations	60				60		
Adjusted R square	63.21				71.57		
F-Statistic	12.62				18.15		
P-value (F)	5.78E-10				6.12E-14		

Note: statistical significance is denoted by (*) at the 10% level; (**) at the 5% level; (***) at the 1% level

Source: Author's calculations, results generated by Gretl statistical software

The model of the second sub-period (2009-2021) reported in *Table 6* has considerably lower explanatory power (21.97% adjusted R-squared). Nonetheless, the model encapsulates 135 observations and is statistically significant. The residuals were normally distributed, autocorrelation was present and so was heteroskedasticity.

The most significant determinant for this period was fiscal balance which implied that improvement in fiscal balance by one percentage point will result in mutual improvement in CAB by 0.28 percentage points which disproves Ricardian equivalence hypothesis and approves the Twin deficit hypothesis. Additional positive drivers were trade openness and real interest rate. A significant CAB deficit determinant was flow of FDI, decreasing the balance by 0.02 percentage points with one percentage point increase in net FDI inflow. The Hausman test supported the choice of RE model that concluded fiscal balance and real interest rate as the only positive significant variables and domestic credit as the only negative significant variable.

Table 6 ***POLS and RE model: Full sample (2009-2021)***

Dependent variable:	**Pooled OLS model**				**Random effect model**		
CAB (% of GDP)	Coefficient		(p-value)		Coefficient		(p-value)
const	-0.094		0.975		0.970		0.891
Inflation (deviation from 2%)	-0.388		0.159		-0.3932		0.1174
FDI net inflows (% of GDP)	-0.024	**	0.0135		-0.0099		0.344
Trade (% of GDP)	0.0120	*	0.0624		0.0276		0.1085
REER (t-1)	0.0035		0.9018		0.0000		0.9997
GDP growth	0.0047		0.9506		-0.1112		0.1432
Fiscal Balance (% of GDP) (t-1)	0.2788	***	0.0036		0.2803	***	0.0047
Domestic Credit (% of GDP)	0.0015		0.8415		-0.0228	*	0.0864
(ln) ULC	-0.356		0.1375		-0.374		0.2353
Real interest rates	0.151	*	0.0984		0.1976	**	0.0244
Observations	135				135		
Adjusted R square	21.97						
F-Statistic	5.19						
P-value (F)	5.51E-06						

Note: statistical significance is denoted by (*) at the 10% level; (**) at the 5% level; (***) at the 1% level

Source: Author's calculations, results generated by Gretl statistical software

Overall, the determinants for the two separate sub-periods varied noticeably. While the impact for period 1995-2008 was strong for inflation deviation, GDP growth, domestic credit, and real interest rates these determinants were not significant for the subsequent

period. Period of 2009-2021 was determined by increased flow of net FDI, trade openness, domestic fiscal balance, and real interest rates which confirms the historical development. Interestingly, the variable which was insignificant in every sub-period model is REER.

Based on the previous empirical research, as well as based on the result of the first model. REER is an essential driver of the CAB. The difference within the significance can be attributed to the exchange rate regime. Therefore, the sample was split into two sub-groups based on the membership in currency union. Although the complex dynamics between the exchange rates and CAB cannot be fully elaborated by OLS due to its limitations, the results reported in the *Table 7* implied that the significance of exchange rate, indeed, varied depending on the sample's membership in currency union. Countries belonging to the Eurozone are significantly impacted by change in REER, whereas countries with an independent currency are not impacted by its change.

The model of the first sub-sample was statistically significant, encompassed 111 observations, and explained 58.71% variability of the CAB. The residuals were distributed normally, but model suffered with autocorrelation and heteroskedasticity. Based on the results for the first sub-sample (eurozone countries) there was a positive effect of REER present on the CAB with the statistical significance above 1%. Along with REER, other positive and significant variable impacting the CAB was trade balance. Inflation deviation, FDI net inflows and GDP growth remained significant with negative effect on the balance. As a robustness check, RE model was based on the Hausman test and confirmed the results of the POLS model and prescribed significance to domestic credit and real interest rates as well. Even though the model of the second sub-sample concluded a smaller population of data (84 observations), it was still statistically significant and able to explain 60% of the CAB variability. On the other hand, the error was not distributed normally, and autocorrelation was present along with heteroskedasticity. There was a change in the expected effect of the REER, however, the model did not consider the variable to be significant. Besides that, the model reported the same results as in the first sub-sample, therefore confirming the stability of the robustness of the determinants. The additional RE model included domestic credit as the only additional significant variable.

On the whole, coefficients of the determinants have the same sign and size effect as anticipated. However, when the comparing the sub-groups based on the exchange rates the results contrasted with the theory. According to the theory the relationship between the CAB and the exchange rate is negative due to the comparative price advantage in trade balance. These implications held only for countries with their own national currencies. For the Eurozone countries the positive effect of REER prevailed, therefore their CAB surplus depended on the euro's appreciation.

Table 7 **POLS and RE model: Sub-samples (1995-2021)**

	Eurozone countries						
Dependent variable:	**Pooled OLS model**				**Random effect model**		
CAB (% of GDP)	Coefficient		(p-value)		Coefficient		(p-value)
const	-1.698	***	0.0004		-25.964	***	<0.0001
Inflation (deviation from 2%)	-1.089	***	<0.0001		-0.9236	***	<0.0001
FDI net inflows (% of GDP)	-0.0138	**	<0.0001		-0.0105	*	0.0544
Trade (% of GDP)	0.03201	***	0.0003		0.0643	***	0.0017
REER (t-1)	0.183	***	0.029		0.1983	***	0.0002
GDP growth	-0.228	**	0.7691		-0.2147	**	0.0355
Fiscal Balance (% of GDP) (t-1)	0.037		0.108		0.0429		0.7268
Domestic Credit (% of GDP)	-0.01		0.405		-0.0259	*	0.0869
(ln) ULC	-0.344		0.129		-0.483		0.2759
Real interest rates	0.194		0.013		0.273	**	0.0223
Observations	111				111		
Adjusted R square	58.71						
F-Statistic	18.38						
P-value (F)	9.63E-18						
	Non-eurozone countries						
Dependent variable:	**Pooled OLS model**				**Random effect model**		
CAB (% of GDP)	Coefficient		(p-value)		Coefficient		(p-value)
const	−0.430		0.9407		−17.22	**	0.0467
Inflation (deviation from 2%)	−1.237	***	<0.0001		−1.074	***	<0.0001
FDI net inflows (% of GDP)	−0.060	**	0.0157		−0.0546	**	0.0172
Trade (% of GDP)	0.0642	***	0.0006		0.193	***	<0.0001
REER (t-1)	−0.0351		0.5359		0.0288		0.685
GDP growth	−0.3658	***	0.0039		−0.450	***	0.0003
Fiscal Balance (% of GDP) (t-1)	−0.0569		0.7263		−0.0491		0.758
Domestic Credit (% of GDP)	−0.0289		0.1437		−0.0974	***	0.008
(ln) ULC	−0.235		0.3935		0.147		0.733
Real interest rates	−0.0432		0.7567		0.198		0.203
Observations	84				84		
Adjusted R square	60						
F-Statistic	14.85						
P-value (F)	1.94E-13						
Note: statistical significance is denoted by (*) at the 10% level; (**) at the 5% level; (***) at the 1% level							

Source: Author's calculations, results generated by Gretl statistical software

Chart 2 ***Dispersion of current account balances (standard deviation, % of GDP)***

Source: Author's calculations

These results confirm the Rose effect implying that there is a strong positive effect of currency union for bilateral trade. Even though the results vary based on different types of currency unions, Glick, and Rose (2016) findings amplify that EMU, a stimulatory monetary union, has a strong positive effect on trade balance, boosting exports by 50%. This goes with a high significance of trade openness variable, even though the coefficient is twice as strong for non-eurozone sample.

An alternative approach to assess how a single currency affects CAB is to compare the dispersion of CABs between the eurozone and non-eurozone countries. This comparison is established in the *Chart 2*. where the dispersion of CABs across countries in each of the two group for the two subperiods is plotted and calculated as the unweighted cross-sectional standard deviation. Based on the result the values of the CAB are spread widely around the mean value. The high dispersion was present in the period of 1995-2008 during which the CABs diverged the most, especially for non-eurozone sub-group.

The period 2009-2021, does not signify a high rate of change of divergence. These results amplify that the benefits of a single currency are not uniform and can differ across countries.

5. CONCLUSION AND DISCUSSION

This section concludes findings and limitations of the study and proposes new recommendations for following research. Numerous studies conducted on current account determinants ever since the global crisis mostly focused on the world's largest economies or the 'core' and 'periphery countries in Europe. The contribution to the literature is within the analysis of the small open economies in European Union which converging development was underscored by periods of external imbalances.

The research aimed to pursue three main objectives. The first objective was to assess the significance of the current account balance determinants present in the economic development of the twelve countries which joined the EU in 2004-2007. Following objective was to address the research question whether a structural break is present and what are the changes in significance of the variables. The last objective was to identify if there is a difference in determinants between countries with euro currency versus countries with non-euro currencies.

The second chapter provides explanation of current account balance, its stance in international trade and review of the predominant approaches to arbitrate its imbalance. The last part of literature review outlines a brief historical background of countries economic development with respect to current account and macroeconomic determinants. Methodology and results are described in the chapter three with summary of data collection, variable selection, and research model analysis. The panel data comprises twelve countries for 1995-2021 period. The research is first based on the whole sample, afterwards split to two sub-periods (pre and post financial crisis) and sub-groups (currency union). The dependent variable is current account balance as a percentage of GDP and analysed independent variables are based on the historical context: GDP growth, FDI, trade openness, REER, fiscal balance, the deviation from inflation target, real interest rate, domestic credit, and unit labour cost.

The results include three main observations. The econometric analyses provide answers to the main research questions of the determinants' significances for each given period. The first unrestricted model concludes whole sample period 1995-2021. The results are significant and consistent with previous findings, explaining 56.73% variability of the current account around its mean but impacted by the limitations of the OLS assumptions. The dataset was split into two sub-period due to structural break. First sub-period (1995-2008) elaborated 63.21% variability and concluded inflation, GDP growth, domestic credit, and real interest rate as the main determinants. Second period (2009-2021) with only 21.97% explanatory power considered FDI, trade, fiscal balance, and real interest rate as

significant. Next analysis determined that even though the impact of REER was not predominant in the whole group, eurozone sub-group had a positive significance whereas non-eurozone group was negative insignificance. To further analyse the impact of the REER the Chart 2 elaborated the dispersion of current account between the two sub-groups suggesting positive but multifaced outcomes.

Decressin and Stavrev's (2009) analysis of current account dispersion based on currency union post crises did not recognise REER's significance. Chinn and Wei (2013) did not find robust link between exchange rate regimes and current account adjustments. However, a positive and facilitating effect of euro currency on current account adjustment was proved by Jo-wei and Jyh-Lin (2018). Further development will be determined by consequences of pandemic that posed additional challenges to subside external balances and adjust monetary policy of eurozone. (Hierro et al., 2021) These findings suggest potential grounds for future research.

Moreover, further research could consider the impact of euro on bilateral trades outside of the European single market. It is also worth to examine the impact of subsiding trade-war between USA and China on the European current account balances. (Mao, Xiong, 2022) Another suggestion for future research regards analyses of growing EU and Taiwan's trade agreements in respect to central Europe. (Cuong, Tien, 2023)

REFERENCES

[1] Abbas, S.M.A. et al., 2011. *Fiscal Policy and the Current Account*. IMF economic review, 59(4), pp.603–629. 10.1057/imfer.2011.22.

[2] Abramovitz, M., 1986. *Catching Up, Forging Ahead, and Falling Behind*. The Journal of Economic History, 46(2), 385-406. doi:10.1017/S0022050700046209

[3] Anon, 1993. Balance of payments manual Fifth edition. Washington, District of Columbia: International Monetary Fund. Available at: https://www.imf.org/external/np/sta/bop/bopman.pdf (Accessed: 29 February 2023)

[4] Arize, A.C. and Bahmani-Oskooee, M., 2018. *Do imports and exports adjust nonlinearly? Evidence from 100 countries*. Global Economy Journal, 18(1), pp 1-27. https://doi.org/10.1515/gej-2017-0094

[5] Baltagi, B.H., 2008. *Forecasting with panel data*. Journal of forecasting, 27(2), pp.153–173. 10.1002/for.1047.

[6] Barnes, S., J. Lawson, and A. Radziwill (2010*), Current Account Imbalances in the Euro Area: A Comparative Perspective,* OECD Economics Department Working Papers, No. 826, OECD Publishing. 10.1787/5km33svj7pxs-en

[7] Becsey, Z.L., 2022. *The Situation of CEE Economies after the COVID-19 Crisis*. Acta Universitatis Sapientiae. European and Regional Studies, 22(1), pp.1–13. 10.2478/auseur-2022-0006.

[8] Bedir, S., Soydan, A., 2016. *IMPLICATIONS OF FDI FOR CURRENT ACCOUNT BALANCE: A PANEL CAUSALITY ANALYSIS*. Eurasian journal of economics and finance, 4(2). 10.15604/ejef.2016.04.02.005.

[9] Belke, A., Schnabl, G., 2013. *Four Generations of Global Imbalances: Special issue: Four Generations of Global Imbalances.* Review of international economics, 21(1), pp.1–5. 10.1111/roie.12015.

[10] Bernanke, B.S., 2005. *The global saving glut and the U.S. current account deficit*. IDEAS Working Paper Series from RePEc. Available at: https://econpapers.repec.org/paper/fipfedgsq/77.htm (Accessed: 28 March 2023)

[11] Biegun, K., Karwowski, J., 2020. *Macroeconomic imbalance procedure (MIP) scoreboard indicators and their predictive strength of 'multidimensional crises.'* Equilibrium (Toruń), 15(1), pp.11–28. 10.24136/eq.2020.001.

[12] Blanchard, O., Giavazzi, F., 2002. *Current Account Deficits in the Euro Area: The End of the Feldstein-Horioka Puzzle?* Brookings papers on economic activity, 2002(2), pp.147–186. 10.1353/eca.2003.0001.

[13] Blanchard, O., Milesi-Ferretti, G.M., 2012*. (Why) Should Current Account Balances Be Reduced?* IMF economic review, 60(1), pp.139–150. 10.1057/imfer.2012.2.

[14] Brancaccio, E., 2012. *Current Account Imbalances, the Eurozone Crisis, and a Proposal for a 'European Wage Standard.'* International journal of political economy, 41(1), pp.47–65. 10.2753/IJP0891-1916410102.

[15] Brissimis, S.N. et al., 2012. *Current account determinants and external sustainability in periods of structural change*. Economic change and restructuring, 45(1-2), pp.71–95. 10.1007/s10644-011-9107-y.

[16] Budina, N., Maliszewski, W., De Menil, G. and Turlea, G., 2006. *Money, inflation, and output in Romania, 1992–2000*. Journal of International Money and Finance, 25(2), pp.330-347. 10.1016/j.jimonfin.2005.11.006

[17] But, B., Morley, B., 2017. *The Feldstein-Horioka puzzle and capital mobility: The role of the recent financial crisis*. Economic systems, 41(1), pp.139–150. 10.1016/j.ecosys.2016.05.008.

[18] BÜYÜKKARABACAK, B., KRAUSE, S., 2009. *STUDYING THE EFFECTS OF HOUSEHOLD AND FIRM CREDIT ON THE TRADE BALANCE: THE COMPOSITION OF FUNDS MATTERS*. Economic inquiry, 47(4), pp.653–666. 10.1111/j.1465-7295.2008.00173.x.

[19] Carrasco, C. A., & Hernandez-Del-Valle, A., 2018. *Causality and the long-term relationship between external balance and public balance in the Eurozone*. Cuadernos de Economia (Spain), 41(117), pp. 275-290. https://doi.org/10.32826/cude.v41i117.66

[20] Cavdar, S.C., Aydin, A.D., 2015. *Understanding the Factors Behind Current Account Deficit Problem: A Panel Logit Approach on 16 OECD Member Countries*. Procedia economics and finance, 30, pp.187–194. 10.1016/S2212-5671(15)01282-4.

[21] Chen, R. et al., 2013. External imbalances in the eurozone. Economic policy, 28(73), pp.101–142. 10.1111/1468-0327.12004.

[22] Cheung, C., Furceri D., Rusticelli E., 2010, *"Structural and Cyclical Factors behind Current-Account Balances"*, OECD Economics Department Working Papers, No. 775, OECD Publishing, Paris,

[23] Chinn, M.D. and Wei, S.J., 2008. *A faith-based initiative: does a flexible exchange rate regime really facilitate current account adjustment?* (No. w14420). National Bureau of Economic Research. 10.3386/w14420

[24] Chinn, M.D., Prasad, E.S., 2003. *Medium-term determinants of current accounts in industrial and developing countries: an empirical exploration*. Journal of international economics, 59(1), pp.47–76. 10.1016/S0022-1996(02)00089-2.

[25] Chinn, M.D., Wei, S.-J., 2013. *A FAITH-BASED INITIATIVE MEETS THE EVIDENCE: DOES A FLEXIBLE EXCHANGE RATE REGIME REALLY FACILITATE CURRENT ACCOUNT ADJUSTMENT?* The review of economics and statistics, 95(1), pp.168–184. 10.1162/REST_a_00244.

[26] Clarida, R.H., 2005. *Japan, China, and the U.S. current account deficit.* The Cato journal, 25(1), pp.111–114. https://ciaotest.cc.columbia.edu/olj/cato/v25n1/v25n1l.pdf (Accessed: 22 March 2023)

[27] Clausing, K.A. and Dorobantu, C.L., 2005*. Re-entering Europe: Does European Union candidacy boost foreign direct investment?.* Economics of transition, 13(1), pp.77-103. 10.1111/j.1468-0351.2005.00208.

[28] Coleman, S., Cuestas, J.C., 2023. *Has the current account broken up with its fundamentals in Central and Eastern Europe?* International journal of finance and economics, 28(1), pp.962–980. 10.1002/ijfe.2458.

[29] Collignon, S., Esposito, P., 2021. *Macroeconomic imbalances in Europe: How to overcome the fallacy of unit labour costs.* Journal of policy modeling, 43(3), pp.673–691. 10.1016/j.jpolmod.2020.04.004.

[30] Coutinho, L., Turrini, A., 2020. *Real Convergence Across the Euro Area: What Role Do Macroeconomic Imbalances Play?* Inter economics, 55(5), pp.301–311. 10.1007/s10272-020-0920-2.

[31] Cuong, T.P. and Tien, N.H., 2023. T*aiwan's role in ensuring political and economic security in Asia Pacific*. International Journal of Multidisciplinary Research and Growth Evaluation, 04(01), pp.59-67

[32] Dandashly, A., Verdun, A., 2018. *Euro adoption in the Czech Republic, Hungary, and Poland: Laggards by default and laggards by choice.* Comparative European Politics (Houndmills, Basingstoke, England), 16(3), pp.385–412. 10.1057/cep.2015.46.

[33] Das, D.K., 2016. *Determinants of current account imbalance in the global economy: a dynamic panel analysis. Journal of economic structures*, 5(1), p.1–. 10.1186/s40008-016-0039-6.

[34] Decressin, J., Stavrev, E., 2009. Current accounts in a currency union. Washington D.C: International Monetary Fund.

[35] Eichengreen, B. (2010) *Imbalances in the Euro Area.* Unpublished manuscript. Available at: http://eml.berkeley.edu/˜eichengr/Imbalances_Euro_Area_5-23-11.pdf (Accessed: 11 April 2023)

[36] Ekinci, M.F., Erdem, F.P. and Kilinc, Z., 2015. *Credit growth, current account, and financial depth*. Applied Economics, *47*(17), pp.1809-1821. https://doi.org/10.1080/00036846.2014.1002897

[37] Elgin, C., Kuzubas, T.U., 2013. C*urrent account balances and output volatility.* Economic modelling, 33, pp.381–387. 10.1016/j.econmod.2013.04.032.

[38] Ercegovac, D., Beker-Pucar, E., 2022. *The nexus between FDI and external balance in selected Emerging European Economies: A panel data approach*. Anali - Ekonomski fakultet u Subotici, 2022(47), pp.147–164. 10.5937/AnEkSub2247147E

[39] Erdem, E., Ucler, G., Bulut, U., 2014. *IMPACT OF DOMESTIC CREDITS ON THE CURRENT ACCOUNT BALANCE: A PANEL ARDL ANALYSIS FOR 15 OECD COUNTRIES*. Aktual'ni problemy ekonomiky, (151), p.408–415.

[40] Fedajev, A., Radulescu, M., Babucea, A.G. and Mihajlovic, V., 2021*. Real Convergence in EU: Is There a Difference Between the Effects of the Pandemic and the Global Economic Crisis?.* Politická ekonomie, 2021(5), pp.571-594.

[41] Feldstein, M., (1997) *"The Political Economy of the European Economic and Monetary Union"* Journal of Economic Perspectives 11-4, pp. 23-42. 10.1257/jep.11.4.23

[42] Friedman M. 1953. Essays in Positive Economics. Chicago: Univ. Chicago

[43] Gaulier, G., Vicard, V., 2013. The signatures of euro area imbalances: export performance and the composition of ULC growth. , 2, July 2013. Available at: https://www.ecb.europa.eu/home/pdf/research/compnet/policy_brief_2_export_performance_and_composition_of_ulc_growth.pdf (Accessed: 15 March 2023)

[44] Ghosh, Atish R., Marco Terrones, and Jeromin Zettelmeyer, 2008, "*Exchange Rate Regimes and External Adjustment: New Answers to an Old Debate?"* unpublished manuscript. 10.5089/9781589069312.084

[45] Glick, R., and Rose, A.K. (2016) *Currency unions and trade: A post-emu reassessment*. European Economic Review 87: 78–91. https://doi.org/10.1016/j.euroecorev.2016.03.010

[46] Glick, R., Rogoff, K., 1995. *Global versus Country-specific productivity shocks and the current account*. Journal of monetary Economics 35, 159-192 10.1016/0304-3932(94)01181-9

[47] Gourinchas, P.O. and Jeanne, O., 2002, June. *On the benefits of capital account liberalization for emerging economies.* In Unpublished manuscript presented at the World Bank conference "Financial Globalization: A Blessing or a Curse. Available at: https://users.nber.org/~confer/2002/si2002/jeanne.pdf (Accessed: 28 March 2023)

[48] Gräbner, C. et al., 2021. *Understanding economic openness: a review of existing measures*. Review of world economics, 157(1), pp.87–120. 10.1007/s10290-020-00391-1.

[49] Greene, W., 2020. Econometric Analysis, Global Edition. Harlow: Pearson Education, Limited.

[50] Gregory, A.W., Head, A.C., 1999. *Common and country-specific fluctuations in productivity, investment, and the current account*. Journal of monetary economics, 44(3), pp.423–451. 10.1016/S0304-3932(99)00035-5.

[51] Grimwade, N., 2005*. Developments in the Economies of the'Fifteen.'* Journal of common market studies, 43(s1), pp.181–197. 10.1111/j.0021-9886.2005.00586.x.

[52] Gruber, J.W., Kamin, S.B., 2007. *Explaining the global pattern of current account imbalances.* Journal of international money and finance, 26(4), pp.500–522. 10.1016/j.jimonfin.2007.03.003.

[53] Guerreiro, D., 2014*. Is the European debt crisis a mere balance of payments crisis?* Economic modelling, 44(1), pp.S50–S56. 10.1016/j.econmod.2014.04.029.

[54] Hacker, R.S., Hatemi-J, A., 2003. *Is the J-Curve effect observable for small North European economies?* Open economies review, 14(2), pp.119–134. 10.1023/A:1022357828945.

[55] Hale, G. and Juvenal, L., 2023. *External balance sheets and the COVID-19 crisis*. Journal of Banking & Finance, 147, p.106570. 10.1016/j.jbankfin.2022.106570

[56] Havlik, P., 2005. *Unit Labour Costs in the New EU Member States (No. 1).* The Vienna Institute for International Economic Studies, wiiw. Available at: https://wiiw.ac.at/unit-labour-costs-in-the-new-eu-member-states-dlp-508.pdf (Accessed: 23 March 2023)

[57] Havranek, T., 2010. *Rose effect and the euro: is the magic gone?* Review of world economics, 146(2), pp.241–261. 10.1007/s10290-010-0050-1.

[58] Herrmann, S. and Jochem, A., 2005. *Determinants of Current Account Developments in the Central and East European EU Member States - Consequences for the Enlargement of the Euro Area.* Bundesbank Series 1 Discussion Paper No. 2005,32. http://dx.doi.org/10.2139/ssrn.2785215

[59] Herrmann, S., Winkler, A., 2009. *Real convergence, financial markets, and the current account – Emerging Europe versus emerging Asia*. The North American journal of economics and finance, 20(2), pp.100–123. 10.1016/j.najef.2009.05.001.

[60] Herwartz, H., Siedenburg, F., 2007*. Determinants of Current Account Imbalances in 16 OECD Countries: An Out-of-Sample Perspective*. Review of world economics, 143(2), pp.349–374. 10.1007/s10290-007-0111-2.

[61] Hierro, L.A., Atienza-Montero, P., Domínguez-Torres, H. and Garzón, A.J., 2021. The Post-pandemic Euro: Macroeconomic Lessons Learned from Crises and Economic Orthodoxies. New Challenges for the Eurozone Governance: Joint Solutions for Common Threats?, pp.303-321. 10.1007/978-3-030-62372-2_16

[62] Hope, D., 2016. *Estimating the effect of the EMU on current account balances: A synthetic control approach*. European Journal of Political Economy, 44, pp.20-40. 10.1016/j.ejpoleco.2016.05.002

[63] Hsing, H., Savvides, A., 1996. "*Does a J-Curve Exist for Korea and Taiwan?*" Open Economies Review 7:126–14. 10.1007/BF01891900

[64] Hsing, Y., 2009. *Test of the J-curve for six selected new EU countries*. International Journal of Economic Policy in Emerging Economies, 2(1), pp.76-85. 10.1504/IJEPEE.2009.022942

[65] Husted, S. 1992. "*The emerging U.S. current account deficit in the 1980s: A cointegration analysis"*, The Review of Economics and Statistics, Vol. 74, pp. 159-166.

[66] Ivanov, K., 2010. *The 2007 accession of Bulgaria and Romania: ritual and reality.* Global crime, 11(2), pp.210–219. 10.1080/17440571003669217.

[67] Jočienė, A. 2015. "*Scandinavian bank subsidiaries in the Baltics: Have they all behaved in a similar way*?" Intellectual Economics 9 (1): 43–54. doi:10.1016/j.intele.2015.09.002.

[68] Jones, C.I., 1995*. R & D-Based Models of Economic Growth*. The Journal of political economy, 103(4), pp.759–784. 10.1086/262002.

[69] Kallaste, E., Woolfson, C., 2013. Negotiated responses to the crisis in the Baltic countries. Transfer (Brussels, Belgium), 19(2), pp.253–266. 10.1177/1024258913480903.

[70] Kalou, S., Paleologou, S.-M., 2012. *The twin deficits hypothesis: Revisiting an EMU country.* Journal of policy modeling, 34(2), pp.230–241. 10.1016/j.jpolmod.2011.06.002.

[71] Kang, J.S., Shambaugh, J.C., Faia, E., 2016. The rise and fall of European current account deficits. Economic policy, 31(85), pp.153–199. 10.1093/epolic/eiv018.

[72] Kaufmann, S., Scharler, J., Winckler, G., 2002. T*he Austrian current account deficit: Driven by twin deficits or by intertemporal expenditure allocation?* Empirical economics, 27(3), pp.529–542. 10.1007/s001810100094.

[73] Ketenci, N., Uz, I., 2010. Determinants of current account in the EU: the relation between internal and external balances in the new members. Available at: https://mpra.ub.uni-muenchen.de/27466/ (Accessed 24 March, 2023)

[74] Kollmann, R. et al., 2015. *What drives the German current account? And how does it affect other EU Member States?* Economic policy, 30(81), pp.47–93. 10.1093/epolic/eiu004.

[75] Kouassi, E., Mougoué, M., Kymn, K.O., 2004*. Causality tests of the relationship between the twin deficits.* Empirical economics, 29(3), pp.503–526. 10.1007/s00181-003-0181-5.

[76] Kovacevic, R., 2022. *The effects of FDI net inflow on the current account of southeast Europe countries - a panel causality analysis.* Ekonomski anali, 67(235), pp.95–122. 10.2298/EKA2235095K.

[77] Kreuder-Sonnen, C. and White, J., 2022. *Europe and the transnational politics of emergency.* Journal of European Public Policy, 29(6), pp.953-965. 10.1080/13501763.2021.1916059

[78] Lal, A.K., Lowinger, T.C., 2002. *The J-Curve: Evidence from East Asia*. Journal of economic integration, 17(2), pp.397–415. 10.11130/jei.2002.17.2.397.

[79] Lavery, S., Schmid, D., 2021. *European Integration and the New Global Disorder.* Journal of common market studies, 59(5), pp.1322–1338. 10.1111/jcms.13184.

[80] Mahnaz, A., Tusawar Iftikhar, A. & Rozina, S. (2019) *Empirical investigation of foreign direct investment and current account balance in East Asian economies*. Pakistan Journal of Commerce and Social Sciences 13 (3), 779–795

[81] Makin, A.J., Layton, A., 2021. *The global fiscal response to COVID-19: Risks and repercussions.* Economic analysis and policy, 69, pp.340–349. 10.1016/j.eap.2020.12.016.

[82] Makin, A.J., Layton, A., 2021. *The global fiscal response to COVID-19: Risks and repercussions.* Economic analysis and policy, 69, pp.340–349. 10.1016/j.eap.2020.12.016.

[83] Manger, M. S., and Sattler, T., 2020. *The Origins of Persistent Current Account Imbalances in the Post-Bretton Woods Era.* Comparative Political Studies 53 (3–4):631–64

[84] Mankiw, N.G., Romer, D., Weil, D.N., 1992. *A Contribution to the Empirics of Economic Growth.* The Quarterly journal of economics, 107(2), pp.407–437. 10.2307/2118477.

[85] Mao, H., Xiong, L., 2022. *Is Bilateral Value Added in Trade between China and EU Countries Efficient?* China & world economy, 30(3), pp.210–238. 10.1111/cwe.12424.

[86] Marinheiro, C.F., 2008. *Ricardian equivalence, twin deficits, and the Feldstein–Horioka puzzle in Egypt*. Journal of policy modeling, 30(6), pp.1041–1056. 10.1016/j.jpolmod.2007.12.001

[87] Masera, R., 2021, The Case for a Different Stability and Growth Pact: Towards a Fiscal and Political Union in the Euro Area 10.2139/ssrn.4019095

[88] Meese, R.A., Rogoff, K., 1983. *Empirical exchange rate models of the seventies: Do they fit out of sample?* Journal of international economics, 14(1), pp.3–24. 10.1016/0022-1996(83)90017-X.

[89] Melakopides, C., 2000. *On the mediterranean 'fuzzy edge' of the eu: The candidacies of Malta, Cyprus, and Turkey.* Journal of European Integration, 22(3), pp.299–334. 10.1080/07036330008429089.

[90] Montfort, K., 2002. *Easing the way for foreign direct investment*. Bank of Valletta Review, 26(1), pp.58-71. Available at : https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=f41f5247a8d890f35553770a36af32a2731ddba8 (Accessed: 11 April 2023)

[91] Mundell R. 1961*. A theory of optimum currency areas*. American Economic Review 51: 657-64

[92] Myant, M., 2016., *Unit Labour Costs: No Argument for Low Wages in Eastern and Central Europe*, ETUI Research Paper - Working paper 2016.08, Available at SSRN: https://ssrn.com/abstract=2854935 or http://dx.doi.org/10.2139/ssrn.2854935

[93] Nojkovic, A., Petrovic, P., 2015. M*onetary policy rule in inflation targeting emerging European countries: A discrete choice approach.* Journal of policy modeling, 37(4), pp.577–595. 10.1016/j.jpolmod.2015.03.016.

[94] Obstfeld, M., 1982. *Aggregate Spending and the Terms of Trade: Is There a Laursen-Metzler Effect?* The Quarterly journal of economics, 97(2), pp.251–270. 10.2307/1880757.

[95] Obstfeld, M., 2012. *Does the Current Account Still Matter?* The American economic review, 102(3), pp.1–23. 10.1257/aer.102.3.1.

[96] Obstfeld, M., Rogoff, K.S., 2005. *Global Current Account Imbalances and Exchange Rate Adjustments.* Brookings papers on economic activity, 2005(1), pp.67–123. 10.1353/eca.2005.0020.

[97] Odedokun, M., 2003. *The 'Pull'and 'Push'Factors in North-South Private Capital Flows.* United Nation University, Discussion Paper, (2003/43). Available at: https://policycommons.net/artifacts/1909206/discussion-paper-no/2660383/ (Accessed: 15 March)

[98] O'Farrell, R., 2010. *Wages in the Crisis*. ETUI Working Paper 2010.03, 10.2139/ssrn.2264061

[99] Perri, F. and Quadrini V., 2018*. International Recession*s: American Economic Review, 108(4-5): pp. 935–984 10.2307/2652799

[100] Petak, Z., Kotarski K., 2019. *Policy-making at the European periphery: The case of Croatia*, Palgrave Macmillan, Cham, pp. 1-25, 10.1007/978-3-319-73582-5_1

[101] Picarelli, M. O., and Vanlaer, W., and Marneffe, W., 2019. *Does Public Debt Produce a Crowding out Effect for Public Investment in the EU?*, European Stability Mechanism Working Paper No. 36, Available at SSRN: https://ssrn.com/abstract=3376471 or http://dx.doi.org/10.2139/ssrn.3376471

[102] Pilbeam, K., 2013. International Finance. London: Bloomsbury Publishing.

[103] Pitchford, J., 2002. *The Current Account and Foreign Debt*. Taylor and Francis. 10.4324/9780203031049.

[104] Romer, C., D., 2021. *The Fiscal Policy Response to the Pandemic.* Brookings Papers on Economic Activity, 89–110. https://www.jstor.org/stable/27093821

[105] Rosati, D., K., 2021. *"Growth Prospects in the EU-10 Member States after the Crisis".* In Post-Crisis Growth and Integration in Europe, editors E. Nowotny, P. Mooslechner and D. Ritzberger-Grünwald, 45-62. USA: Edward Elgar,. doi.org/10.32450/aacd.886085

[106] Rose, A.K., Lockwood, B., Quah, D., 2000. *One Money, One Market: The Effect of Common Currencies on Trade*. Economic policy, 15(30), pp.9–45. 10.1111/1468-0327.00056

[107] Sachs, J., 1982*. The Current Account in the Macroeconomic Adjustment Process*. The Scandinavian journal of economics, 84(2), pp.147–159. 10.2307/3439631

[108] Salvatore, D., 2006. T*win deficits in the G-7 countries and global structural imbalances.* Journal of policy modeling, 28(6), pp.701–712. 10.1016/j.jpolmod.2006.06.003.

[109] Sau, L., 2018. *Coping with deflation and the liquidity trap in the eurozone: A post Keynesian approach*. Journal of post Keynesian economics, 41(2), pp.210–235. 10.1080/01603477.2017.1387498.

[110] Selaković, M., 2022. *Fake News and Foreign Direct Investment Inflows: Is there a Relationship?* European Journal of Interdisciplinary Studies, 14(2), pp.24–44. 10.24818/ejis.2022.19.

[111] Sinicakova, M., Sulikova, V., Gavurova, B., 2017. *Twin deficits threat in the European Union.* E+M ekonomie a management, 20(1), pp.144–156. 10.15240/tul/001/2017-1-010

[112] Sinn, H.-W., 2012*. THE EUROPEAN BALANCE OF PAYMENTS CRISIS: AN INTRODUCTION.* CESifo forum, 13, p.3-10.

[113] Slavova, S., 2003. *Money demand during hyperinflation and stabilization: Bulgaria, 1991-2000*. Applied Economics, 35(11), pp.1303-1316. 10.1080/0036840320000095398

[114] Sobanski, K. (2020). *Stages of Development Hypothesis in a Globalised World.* In: Bilgin, M.H., Danis, H., Demir, E. (eds) Eurasian Economic Perspectives. Eurasian Studies in Business and Economics, vol 14/1. Springer, Cham. https://doi.org/10.1007/978-3-030-53536-0_21

[115] Svensson, L., Razin, A., 1983. *The Terms of Trade and the Current Account: The Harberger-Laursen-Metzler Effect*. The Journal of political economy, 91(1), pp.97–125. 10.1086/261130.

[116] Titko, M., Novák, L. and Jánošíková, M., 2021. Praktická štatistika.

[117] Unger, B. et al., 2015. The German Model – seen by its neighbours. SE Publishing. http://www.socialeurope.eu/books/the-german-model/ (Accessed: 20 March 2023)

[118] Unger, R., 2017. *Asymmetric credit growth and current account imbalances in the euro area.* Journal of international money and finance, 73, pp.435–451. 10.1016/j.jimonfin.2017.02.017.

[119] Witkowska, J., 2013. *Foreign Direct Investment Between Asian Developing Countries and the EU Member States: The Role of Integration Processes*. Comparative economic research. Central and Eastern Europe, 16(2), pp.5–23. 10.2478/cer-2013-0009.

[120] Wong, C., Khan, M. S., and Nsouli, S. M. (2002). *Macroeconomic Management,* USA: International Monetary Fund. Available at: https://doi.org/10.5089/9781589060944.071 (Accessed: 26 March 2023)

[121] Wu, Jo-wei, Wu, Jyh-Lin, 2018*. DOES THE LAUNCH OF THE EURO HINDER THE CURRENT ACCOUNT ADJUSTMENT OF THE EUROZONE?* Economic inquiry, 56(2), pp.1116–1135. 10.1111/ecin.12522.

[122] Yu, M., 2019. *Introduction to the Special Issue on Understanding the Current China-U.S. 'Trade War.'* China economic journal, 12(2), pp.97–99. 10.1080/17538963.2019.1616919.

Internet sources:

[123] https://databank.worldbank.org/source/world-development-indicators

[124] https://www.bruegel.org/publications/datasets/real-effective-exchange-rates-for-178-countries-a-new-database

[125] https://ec.europa.eu/eurostat/data/database

[126] https://economy-finance.ec.europa.eu/economic-research-and-databases/economic-databases/ameco-database_en