THE EFFECT OF HOUSEHOLD AND CORPORATE LOANS ON CURRENT ACCOUNT BALANCE: EVIDENCE FROM THE WESTERN BALKAN COUNTRIES[1]

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Abstract

The economic literature indicates that the loans relative to GDP in the economy, are important factors that influence the current account movements in a country. Therefore, the purpose of this study is estimating and then quantifying the effects that household and corporate loans have on the current account balance in the Western Balkan countries (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia and Turkey). The expectations are that different kind of borrowers might vary in terms of the use of loans and thus might have different effects on macroeconomic variables. The results are obtained by estimating a Vector Error Correction Model (VECM), and they imply that household loans have negative effect on the current account balance, while there is evidence that corporate loans have positive effect for some countries (Bosnia and Herzegovina and North Macedonia) and negative effect on the external balance for the rest of the countries. The findings in this paper coincide with the ex-ante expectations, given the import pressures that household loans might induce and the positive/negative impact that corporate loans might have on the overall productivity and competitiveness of the economy. This paper is relevant for the policy-makers, because it estimates and quantifies the impact that household loans and corporate loans have on the current account balance.

Keywords: Household loans, Corporate loans, Current account balance, Western Balkan countries

JEL Classification: F32, F41, F14, E51

Introduction

Considerable theoretical and empirical literature has an aim for analysing the determinants of the current account balance. For that purpose, the majority of the

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literature analyses the effect of fiscal positions, growth prospects, demographic factors, net foreign asset positions and level of oil dependency, while a smaller part of the literature analyses the effect of the sectoral loan developments on the current account balance – namely, corporate and household loans.

The two types of loans could have different effects on the current account balance, depending on the purposes of the borrowers for indebting. Namely, the households and companies may indebt for consumption purposes or productivity purposes and therefore, the two types of loans might stimulate surplus or deficit in the current account. More specifically, an increase in the household loans raises the demand for consumption of goods and since some part of the increase most probably is going to be directed towards imported goods, the current account is likely to deteriorate. Alternatively, if the corporate loans increase, then the demand for investment goods increases and initially, they will lead towards widening the current account deficit (because of the probable partial use of imported inputs). However, the corporate loans might improve the production capacity of the companies, and eventually they will improve the supply level and reduce the deficit in the current account or turn it into surplus.

The purpose of this paper is analysing the relationship between the components of private loans and the current account in the following Western Balkan countries: Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia and Turkey. Therefore, the study focuses on the distinction between household and corporate loans and analyses whether these two types of loans have favourable or unfavourable impact on the current account balance. The eventual link between these variables is important for the policy-makers in these countries, as it provides quantification on the effects that different types of loans (household and corporate) might have on the current account balance.

This study utilizes a Vector Error Correction Model (VECM) for investigating the relationship between corporate/household loans and current account balance. The estimated results indicate that household loans worsen the current account balance, while the corporate loans improve the external balance for some countries and worsen for others.

The paper is organized in the following manner: the next section is a review in the existing literature, whereas the following section provides an overview of sectoral loan developments and the current account balance in the mentioned six Western Balkan economies. Furthermore, the data, methodology and estimations are presented and finally conclusions are provided.

Literature overview

The efforts aiming to understand the effect of financial developments on the current account balance have been intensified in the past 10-15 years. The study by Atoyan et al. (2013) includes the credit growth in the group of cyclical factors affecting the current account (CA) developments in a group of European countries. The empirical findings of this study, confirmed that high credit growth put a pressure on the CA balance further into negative territory during the boom period. Moreover, the study implied that the role of

credit growth seems to be reinforced during the post-crisis years, as reflected by larger and more statistically significant coefficients, highlighting the key role credit crunch, played in bringing down private sector adjustment in most countries.

Chinn and Prasad (2000) utilize cross-section and panel regression techniques and by covering a large and heterogeneous group of countries (18 industrial, 71 developing) over a relatively long time-span (1971-1995), their findings imply that indicators of financial deepening have a significant and robust positive effect on the current account in developing countries, but not in industrial countries. Moreover, analyzing a broad sample of emerging and developed countries, Ekinci et al.(2015) indicates that there is a strong relation between loan growth and the current account balance. More concretely, this study implies that the acceleration in loan growth has a deteriorating effect on current account balance, which is especially prominent in emerging countries.

The study by Unger (2015) also explores the relationship between domestic credit developments and the current account balance of the Euro Area countries, by distinguishing between a credit pull and a credit push factor. The pull factors consist of the flows of bank loans to the domestic non-financial private sector, while push factors measure flows of claims of domestic banks on debtors in other countries. This paper uses Pool Mean Group estimator for a panel consisting of the founding members of the Euro Area and Greece and with annual data encompassing the period from 1999 to 2013. The author's findings are that both variables have a statistically significant impact on the current account, and the coefficient for the credit pull factor is larger in all specifications.

Furthermore, Unevska and Jovanovic (2011) find that financial intermediation captured through the newly approved loans to the private sector is among the variables determining the current account dynamics in North Macedonia during the 1998q1-2009q3 period. The effect was estimated through utilization of the autoregressive distributed lag cointegration (ARDL) and it was negative and significant. However, the authors do not investigate the effect of the decomposed loans on the Macedonian current account balance.

Concerning the countries from the Western Balkans, Bucevska (2017) analyses the determinants of the current account deficits for Albania, Croatia, Macedonia, Serbia and Turkey. This study employs panel analysis and among the other independent variables, it considers the effect of the total loans to the private sector as a share of GDP on the current account deficit. The results imply detrimental effect of the total loans on the current account balance. The credit sectoral decomposition effect on the current account deficit is not considered in this study.

Thus, it is evident from these studied that the majority of the literature is focused on the effect of total private loans on the current account balance, and lesser attention is paid to the impact of decomposed loans. Therefore, the idea stems from the expectation that different kind of borrowers might utilize the loans for various purposes (productive or consumption) and thus might have different effects on the current account balance. The idea is supported by Hilbers et al. (2005), which state that distinguishing between household and firm loans is very important for assessing the risks that might arise from loan expansions.

The investigation by Buyukkarabacak and Krause (2009) provides evidence that analysing the effects of the particular distribution of funds between households and firms is more important for explaining foreign trade imbalances than the size of domestic credit per se. By using dynamic panel generalized method of moments (GMM) techniques for eighteen emerging markets including North Macedonia, for the period of 1987-2005, the authors obtained that the ratio of household credit to GDP is negatively and significantly correlated with a change in the trade balance, meaning that household credit stimulates consumption and thus increases imports and trade deficit. In contrast, the firm credit ratio to GDP has positive and significant effect, meaning that controlling for other variables, the rise in exports due to an increase in credit for business investment is larger than the increase in imports from acquiring foreign capital, raw materials, and intermediate inputs for production.

Furthermore, Işık et al. (2017) investigates the effect of the loans to firms, households and government to the current account balance for 26 OECD countries by employing panel cointegration methods based on the ARDL methodology for the period from 2005q1 to 2015q2. The study's results indicate that the household loans and corporate loans have negative impact on the current account balance in the short-run, and the corporate loans and loans given to the government have a positive effect on it in the long-run.

Similarly, Alioğullari et al. (2015) investigate the case of Turkey and they conclude that household loans have statistically significant negative effect on the current account deficit, whereas an increase in business loans does not have significant effect on the current account balance. Based on a dynamic approach by using the Kalman filter, Toraganli and Ertugrul (2016) find that both types of loans negatively affect the current account in Turkey for the period 2002Q3–2014Q3. The study by Turgutlu (2014) goes one step further in analysing the case of Turkey by disaggregating household loans into individual types of loans (car loans, real estate loans and loans for individual expenditures for durables, professional needs, education, vacation) and analysing their effect on the current account balance during the 2000q1-2013q1 period. The results indicate that real estate loans have the greatest impact on the deterioration of the current account balance, which is especially evident after the global financial crisis.
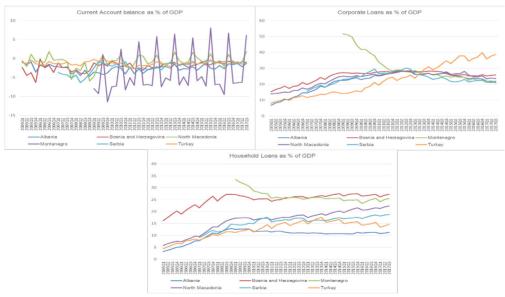
Coricelli et al. (2006) analyse the macroeconomic effects of individual loans in seven European countries, over the period from 1999 to 2004, by using the GMM approach. Their results suggest that the trade balance is negatively related to households loans, while the corporate loans have significant and negative effect on the trade balance in some of the countries as well.
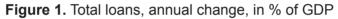
Thus, from the above-mentioned researches it can be summarized that analysing the effects of decomposed loans on the current account balances is a relatively new field of research and the definitive conclusion about the individual effect of household and corporate loans on the current account has not been reached. These statements are especially true for the case of the Western Balkan countries. To the best of the authors' knowledge, there has been no study focused exclusively on the implications of household and corporate loans on the external balance concerning these countries. Therefore, this paper offers relevant contributions towards understanding the relationship between these

variables, as well as providing policy-makers with additional and helpful tools to achieve prudent levels of lending, as well as a sustainable current account, and thus contributing towards the overall macroeconomic stability.

The case of the Western Balkan countries: Short overview of lending activity and current account balance

Having in mind the aim of this paper, couple of observations can be made about the current account balance and sectorial loan decomposition in the Western Balkans economies, presented in the Figure 1 (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia and Turkey). Firstly, the data for the current account balance indicate deficit for all countries. Also, improvements of the current account are visible in the third quarter, whichis especially emphasized for Montenegro. The most probable reason for such movements are the returnings of the residents from Western Balkan countries that work abroad during the summer (third quarter) and spending money in their resident countries. The global financial crisis in 2009 had deteriorating effects on the current account balances for all countries, while for Serbia the effects are visible in 2008.

Figure 1. Total loans, annual change, in % of GDP

Source: International Monetary Fund and Central banks.

Corporate and household loans are positively trended for all countries, except for Montenegro where deleveraging could be noticed. Additionally, all the countries (except Montenegro) experienced relatively sharp growth of the loans, before the global financial crisis, and moderate growth afterwards.

Data

In order to assess the relationship between the loan sector structure and the current account balance, the following variables, presented in the Table 1 have been used for the mentioned six Western Balkan countries.

The datasets consist of quarterly observations for the period from 2005q1 to 2017q3 for Albania, Bosnia and Herzegovina, North Macedonia and Turkey and datasets from 2009q1 to 2017q3 for Montenegro and 2007q1 to 2017q3 for Serbia. In addition, all the series are seasonally adjusted by using the additive Census X12 option in EViews 10, with the exception being made only for the LnEARGDP because this variable was already seasonally adjusted. The integrative features of the variables were tested by employing two tests: Augmented Dickey-Fuller test (ADF) and Phillips-Perron test (PP). The results from the tests are conflicting for few variables meaning that both tests indicate different level of integration for the same variable, and also the tests estimate conflicting results depending on the critical values for 1%, 5% and 10% statistical level. However, despite these conflicting results, the tests show that all the variables are non-stationary in the level and that are integrated of order 1 - I(1)[4].

Table 1. Definition of the variables and data sources

Abbreviation	Dependent/ independent variable	Description	Source
CAB	Dependent	Current account balance, as a percentage of nominal gross domestic product	International Monetary Fund, National Bank of the Republic of North Macedonia and State Statistical Office of North Macedonia
CORPORATE	Independent	Stock of private corporate loans as a percentage of nominal gross domestic product	Central banks' websites and World Development Indicators
HOUSEHOLD	Independent	Stock of household loans as a percentage of nominal gross domestic product	Central banks' websites and World Development Indicators
LnRGDP	Independent	Natural logarithm of real gross domestic product in millions of EUR, chain linked volumes (2010) and Natural logarithm of real gross domestic product in millions of EUR at constant prices for Montenegro	EUROSTAT and Statistical Office of Montenegro
LnREER	Independent	Natural logarithm of real effective exchange rate, 2007-m12=100, deflated by the Consumer Price Index (CPI), where increase in the variable means appreciation (REER for Montenegro is not used because they use the Euro currency)	BRUEGEL
LnEARGDP	Independent	Natural logarithm of real gross domestic product of the 19 countries in the Euro Area in millions of Euros, chain linked volumes (2010)	EUROSTAT

4 The results are not presented in order to save space.

Methodology and econometric specification

Johansen cointegration technique (Vector Error Correction Model-VECM) will be employed to assess the effect of CORPORATE and HOUSEHOLD loans on the CAB. The Johansen technique allows variables to be taken with the same order of integration and uses lags in order to mitigate the problem that might arise from the endogenous variables (Haris and Sollis, 2003). Additionally, this technique provides long-run equilibrium coefficients and the error correction mechanism (ECM), which presents the speed of adjustment of short-run disequilibrium towards long-run equilibrium. Furthermore, this technique allows estimating multiple regressions by imposing restrictions and that is estimation of more than one cointegrating vectors.

Therefore, the bellow given regression (1) was constructed and estimated the long-run coefficients for the mentioned Western Balkan countries.

$$CAB_t = f(\ CORPORATE_t, HOUSEHOLD_t, LnRGDP_t, LnREER_t, LnEARGDP_t\ ) \qquad (1)$$

The variables chosen in this paper determine the relationship between the savings and the investments as a precondition for sustainable current account balance in the long run. Namely, the independent variables taken as determinants in the regressions 1 are representatives of the smoothing decision-making process between the savings and the investments as noted by Unevska and Jovanovic (2011). Furthermore, the rationale for the choice of the econometric technique (VECM cointegration methodology) is testing of the long-run relationship between the variables pertinent to the savings and investment identity. The VECM tests the stationarity of the error terms among the variables and if stationarity is ascertained, then the cointegration exists, reflecting stable movements between the variables. Therefore, the main advantage of using the cointegration technique is encompassing the long-run concept of the savings and investments as a prerequisite for sustainable current account balance. Moreover, the advantage of the VECM technique is quantifying the long-run effect of each independent variable on the normalized (dependent) variable and therefore obtaining valuable information, unlike the vector autoregression (VAR) model that tracks the shocks between the variables in the short run. In addition to Unevska and Jovanovic (2011), cointegration techniques for the current account determinants are used in: Kovacevic (2017) on a panel sample and more concretely the study by Gosse and Serranito (2014) uses linear and asymmetric panel VECM. Furthermore, Yuksel and Ozsari (2016 pp. 5 and 6) provide literature list that also uses cointegration methods for the current account and its determinants among which the VECM technique for Greece (Biztis et al., 2008). Furthermore, the regression (1) includes two dummy variables as exogenous variables. The first dummy variable captures the global financial crisis effect in 2009 (2008 for Serbia) and the second dummy variable corrects for the improvements in the CAB in the third quarter of each year, when usually most of the residents working abroad return in their domestic Western Balkan countries and spend money.

Rational loan financing is expected to improve the CAB, especially for the CORPORATE variable and its effect is expected to be positive in the long run. CORPORATE loans

used for investment purposes might initially affect the CAB negatively, but from a long term perspective considered, the higher corporate lending by banks could increase the competitiveness of domestic firms compared to the foreign firms and consequently would improve the CAB. The other type of loans, HOUSEHOLD, is expected to affect the CAB negatively, because these loans are usually mostly used for consumption purposes that increases import. The LnRGDP might have a positive effect on the CAB provided that the increase in the domestic output is associated with the increase in the domestic savings relative to the investments[5] and accordingly the dependent variable would be positive. In contrast thereto, the effect of the LnRGDP would be negative if higher consumption or investment are the driving factor of the economy and consequently the deficit in the CAB rises. Concerning the variables: CORPORATE, HOUSEHOLD and LnRGDP, it should be noted that their possible negative effect should not necessarily mean deterioration of the sustainable current account deficit on condition that the real economic sector uses the funds for efficient investments, despite the fact that they are higher than the savings (Gehringer, 2015). Namely, more efficiently used investments would increase the productive capacity of the economy and would make it more competitive and thus, in the future, it would turn the CA deficit into surplus. Price competitiveness is measured by LnREER and upward movement should decrease the domestic price competitiveness and deteriorate the CAB. The LnEARGDP is representative of the foreign demand and the positive movement of this variable should increase the foreign demand for Western Balkan countries' export and affect the CAB positively.

Estimation results

The VECM technique requires specifying the number of lags or so-called order of Vector autoregression (VAR) and testing for cointegration. The choice of the number of lags or so-called order of the VAR was determined by inspecting the best diagnostic results out of 4 lags, in order to balance between including enough lags, so as to ensure statistical validity and not including too many lags, due to the small sample size for some of the countries and loose degrees of freedom.

The next step is to determine the cointegration among variables. For that purpose, Trace of the Stochastic Matrix and Maximal Eigenvalue tests were considered for the regression (1) specified above. If the tests were conflicting between one and more than one cointegrating vectors, then in such cases, recommendations are to examine the estimated cointegrating vectors and base the choice on the interpretability of the cointegrating relations and estimated long-run coefficients *(*Johansen and Juselius, 1990*)*. Therefore, the choice was based on the test that yielded one cointegrating vector.

Tables 2 to 7 below contain the estimated long-run coefficients in front of the independent variables for the regression (1)and ECM term, for each country separately. Additionally, the tables 2 to 7 include variable by variable in order to check the robustness of the estimated coefficients. Also, the tables do not include the results that indicated no cointegration.

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5 The following is valid under S-I=CAB where S is domestic savings and I is investment (IMF, 2013).

Table 2. Estimated long-run coefficients for the regression (1) for Albania by employing the VECM method, CAB is the dependent variable (normalization of CAB=-1)

	Albania					
	Dependent variable					
	CAB	CAB	CAB	CAB	CAB	CAB
Independent variables						
CORPORATE	-0.128*		-0.043	-0.103	-0.117*	0.043
HOUSEHOLD		-0.216*	-0.126**	-0.864*	0.004	-0.232*
LnRGDP				0.394*		
LnREERCPI					-0.062	
LnEARGDP						0.092*
ECM	-0.297*	-0.910*	-0.785*	-0.327	-0.772*	-0.877*
Probability for weak exogeneity of LNEARGDP***						0.007
No serial correlation in the first order (probability) ***	0.071	0.459	0.694	0.156	0.517	0.303
Normality (probability) ***	0.857	0.051	0.352	0.836	0.643	0.055
Homoscedasticity (probability) ***	0.242	0.920	0.589	0.148	0.612	0.502

* and ** indicate statistically significant coefficient at 1% and 5% level of significance (H$_0$: coefficient=0); *** a figure higher than 0.01 indicates non rejection at 1% statistical level of the following null hypothesis: (1) weak exogeneity of LNEARGDP, (2) no serial correlation in the residuals at the first order, (3) normality in the residuals and (4) homoscedastic residuals.

Source: Authors' calculations.

The results presented in Table 2 for the regression (1) for Albania, are in accordance with the expectations regarding the loan sector variables. Therefore, the CORPORATE loans deteriorate the CAB with an average effect ranging from 0.117 percentage points to 0.128 percentage points, while, the HOUSEHOLD loans negatively affect the dependent variable with an average effect between 0.126 percentage points and 0.864 percentage points, ceteris paribus. Domestic economic activity represented by the LnRGDP has unexpected positive influence on the CAB. The estimated coefficients in front of the LnREER is negative, but statistically insignificant. In accordance with the expectations, the statistically significant effect of the LnEARGDP is positive with an effect of 0.092. Finally, the ECM term is mostly negative, suggesting correction of the disequilibrium towards equilibrium.

Table 3. Estimated long-run coefficients for the regression (1) for Bosnia and Herzegovina by employing the VECM method, CAB is the dependent variable (normalization of CAB=-1)

	Bosnia and Herzegovina			
	Dependent variable			
	CAB	CAB	CAB	CAB
Independent variables				
CORPORATE		-0.146*	0.213*	0.158*
HOUSEHOLD	-0.215*	0.049	-0.102	-0.238*
LnRGDP			0.129*	
LnREERCPI				-0.226*
ECM	-0.171**	-0.850*	-0.433*	-1.046*
No serial correlation in the first order (probability) ***	0.153	0.089	0.872	0.279
Normality (probability) ***	0.000	0.100	0.865	0.938
Homoscedasticity (probability) ***	0.000	0.085	0.076	0.193

* and ** indicate statistically significant coefficient at 1% and 5% level of significance (H_0: coefficient=0); *** a figure higher than 0.01 indicates non rejection at 1% statistical level of the following null hypothesis: (1) weak exogeneity of LNEARGDP, (2) no serial correlation in the residuals at the first order, (3) normality in the residuals and (4) homoscedastic residuals.

Source: Authors' calculations.

The results presented in Table 3 for the regression (1) for Bosnia and Herzegovina, are in accordance with the expectations for household loans. Therefore, the HOUSEHOLDS loans deteriorate the CAB with an average effect ranging from 0.215 percentage points to 0.238 percentage points. Two regressions indicate that the CORPORATE loans positively affect the dependent variable with an average effect between 0.158 percentage points and 0.213 percentage points, ceteris paribus. However, one coefficient in front of CORPORATES is negative with a value of 0.146, indicating slight instability of this variable. Domestic economic activity represented by the LnRGDP has positive influence on the CAB. The estimated coefficients in front of the LnREER is negative, with value of 0.226. Finally, the ECM term is mostly negative, suggesting correction of the disequilibrium towards equilibrium.

Table 4. Estimated long-run coefficients for the regression (1) for Montenegro by employing the VECM method, CAB is the dependent variable (normalization of CAB=-1)

	Montenegro	
	Dependent variable	
	CAB	CAB
Independent variables		
CORPORATE	-13.358*	-0.950*
HOUSEHOLD	8.020	-0.019
LnRGDP	-3.796*	
LnEARGDP		0.568**
ECM	-0.008	-0.068
Probability for weak exogeneity of LNEARGDP***		0.000
No serial correlation in the first order (probability) ***	0.400	0.249
Normality (probability) ***	0.465	0.626
Homoscedasticity (probability) ***	0.445	0.305
* and ** indicate statistically significant coefficient at 1% and 5% level of significance (H$_0$: coefficient=0); *** a figure higher than 0.01 indicates non rejection at 1% statistical level of the following null hypothesis: (1) weak exogeneity of LNEARGDP, (2) no serial correlation in the residuals at the first order, (3) normality in the residuals and (4) homoscedastic residuals.		

Source: Authors' calculations.

The results presented in Table 4 for the regression (1) for Montenegro, are in accordance with the expectations for all variables, but they are with unstable (very large) dynamics. Therefore, the HOUSEHOLDS loans are statistically insignificant, while CORPORATE affects the CAB negatively with very changeable magnitude spanning from 0.950 to 13.358. Domestic economic activity represented by the LnRGDP has negative influence on the CAB. Finally, the ECM term is mostly negative, suggesting correction of the disequilibrium towards equilibrium, but statistically insignificant.

Table 5. Estimated long-run coefficients for the regression (1) for North Macedonia by employing the VECM method, CAB is the dependent variable (normalization of CAB=-1)

	North Macedonia				
	Dependent variable				
	CAB	CAB	CAB	CAB	CAB
Independent variables					
CORPORATE		-0.131	0.978*	0.058	0.429**
HOUSEHOLD	-0.575*	-0.988*	-5.302*	-0.717*	-1.296*
LnRGDP			2.057*		
LnREERCPI				-0.410*	
LnEARGDP					0.468*
ECM	-0.476*	-0.477*	-0.044	-0.370**	-0..222*
Probability for weak exogeneity of LNEARGDP***					0.002
No serial correlation in the first order (probability) ***	0.113	0.020	0.022	0.060	0.105
Normality (probability) ***	0.471	0.752	0.933	0.921	0.804
Homoscedasticity (probability) ***	0.257	0.004	0.011	0.003	0.001

* and ** indicate statistically significant coefficient at 1% and 5% level of significance (H$_0$: coefficient=0); *** a figure higher than 0.01 indicates non rejection at 1% statistical level of the following null hypothesis: (1) weak exogeneity of LNEARGDP, (2) no serial correlation in the residuals at the first order, (3) normality in the residuals and (4) homoscedastic residuals.

Source: Authors' calculations.

The results presented in Table 5 for the regression (1) for North Macedonia, are in accordance with the expectations regarding the loan sector variables. Therefore, the CORPORATE loans improve the CAB with an average effect ranging from 0.429 percentage points to 0.978 percentage points, while, the HOUSEHOLD loans negatively affects the dependent variable with an average effect between 0.575 percentage points and 5.302 percentage points. The estimated coefficients in front of the HOUSEHOLDS indicate instability in the magnitude, due to the large difference in the size spanning from 0.575 to 5.302. Domestic economic activity represented by the LnRGDP has positive influence on the CAB. The estimated coefficients in front of the LnREER have negative effect of 0.410. In accordance with the expectations, the statistically significant effect of the LnEARGDP is positive of value of 0.468. Finally, the ECM term is mostly negative, suggesting correction of the disequilibrium towards equilibrium.

Table 6. Estimated long-run coefficients for the regression (1) for Serbia by employing the VECM method, CAB is the dependent variable (normalization of CAB=-1)

	Serbia	
	Dependent variable	
	CAB	CAB
Independent variables		
CORPORATE	-0.234*	-0.261*
HOUSEHOLD	0.265	0.145
LnREERCPI		-0.169*
ECM	-0.733*	-0.714*
No serial correlation in the first order (probability) ***	0.221	0.012
Normality (probability) ***	0.828	0.853
Homoscedasticity (probability) ***	0.368	0.494
* and ** indicate statistically significant coefficient at 1% and 5% level of significance (H₀: coefficient=0); *** a figure higher than 0.01 indicates non rejection at 1% statistical level of the following null hypothesis: (1) no serial correlation in the residuals at the first order, (2) normality in the residuals and (3) homoscedastic residuals.		

Source: Authors' calculations.

      The results for Serbia are presented in the Table 6 for the regression. (1) Two regressions indicate that the CORPORATE loans worsen the CAB with an average effect ranging from 0.234 percentage points to 0.261 percentage points. The HOUSEHOLD loans have statistically insignificant effect. The estimated coefficients in front of the LnREER has negative effect of 0.169.

Table 7. Estimated long-run coefficients for the regression (1) for Turkey by employing the VECM method, CAB is the dependent variable (normalization of CAB=-1)

	Turkey				
	Dependent variable				
	CAB	CAB	CAB	CAB	CAB
Independent variables					
CORPORATE		-0.021	-0.114*	0.011	-0.023
HOUSEHOLD	-0.122*	-0.088*	-0.092*	-0.293*	-0.126*
LnRGDP			0.047		
LnREERCPI				0.059*	
LnEARGDP					0.020
ECM	-0.244*	-0.252*	-0.231*	-0.268*	-0.262*
Probability for weak exogeneity of LNEARGDP***					0.006
No serial correlation in the first order (probability) ***	0.180	0.883	0.752	0.561	0.350
Normality (probability) ***	0.764	0.868	0.610	0.708	0.677
Homoscedasticity (probability) ***	0.023	0.005	0.008	0.587	0.015

* and ** indicate statistically significant coefficient at 1% and 5% level of significance (H$_0$: coefficient=0); *** a figure higher than 0.01 indicates non rejection at 1% statistical level of the following null hypothesis: (1) weak exogeneity of LNEARGDP, (2) no serial correlation in the residuals at the first order, (3) normality in the residuals and (4) homoscedastic residuals.

Source: Authors' calculations.

The results for Turkey are presented in the Table 7 for the regression. (1) The estimated coefficients in front of the CORPORATE loans indicate negative effect on the CAB with an average effect of 0.114. The HOUSEHOLD loans have statistically significant negative effect ranging from 0.088 to 0.293. The coefficients in front of the LnRGDP and LnEARGDP are not statistically significant. The LnREER has unexpected positive effect of 0.059 probably indicating the J curve effect. Namely, the J curve effect would imply positive influence of the appreciation of the real effective exchange rate of the Turkish Lira up to some point and making the Turkish goods and services more expensive for the foreign partners. However, when the foreign partners realize that the Turkish goods and services are expensive and if they are able to replace them with cheaper ones, than the positive influence of the real exchange appreciation will exhaust and turn into negative effect. This would probably be an explanation of the positive effect of the LnREER, but it requires detailed analysis for confirming which is beyond the scope of this study that

focuses on the sectoral loan effect on the current account balance.

The diagnostic tests do not indicate large problems in the residuals. Furthermore, the LnEARGDP was tested for weak exogeneity in specified regressions, but the Likelihood-Ratio test implies rejection of this hypothesis in most of the regressions and thus the variable was taken as endogenous in the VECM procedure. This is economically illogical, because Western Balkan countries are small economy relative to the Euro Area and the CAB cannot affect the LnEARGDP, unlike the reverse relation. Therefore, the interpretation of the coefficient in front of the LnEARGDP should be cautiously interpreted in this paper, given the illogicality of its exogeneity. Nevertheless, the literature provides evidence that such variable could be taken as endogenous variable. For example, Bardakas (2014) investigates the effect of the bank loans on the Greek export of goods and amongst other variables (Greece is also a small economy relative to the world), the author considers world demand as endogenous, since the joint test of weak exogeneity rejects this hypothesis.

In summary, all the results are in line with the expectations. Concerning the main variables of interest, the results are robust and indicate that the companies' indebtedness improves the external balance only for Bosnia and Herzegovina and North Macedonia, unlike the effects for other countries. Moreover, household indebtedness has unambiguous negative effect for all countries.

Conclusion

The aim of this study is assessing the relationship between separate loan types (corporate and household loans) with the current account balance. The analysis was performed by utilizing the VECM cointegration method. The results obtained imply evidence for positive and significant relationship between corporate loans and current account dynamics only for Bosnia and Herzegovina and North Macedonia, while the household loans have a negative and significant effect on the external balance for all countries.

Hence, the results indicate that an increase in the corporate loans helps in decreasing the long-lasting deficit in the current account balance for Bosnia and Herzegovina and North Macedonia, and therefore, banks' lending support to exporting companies as well as the companies that try to invest and substitute the import with the domestic production, may improve the current account balance. On the other hand, the negative relationship between household loans and the external position for all Western Balkan countries, suggests that attempts to control loan dynamics to this sector may help to decrease the current account deficits. However, this study does not estimate the equilibrium credit growth that would improve or worsen the current account balance, and thus these results should be interpreted as indicative of the causal relationship between the sectorial loans and the current account dynamics in the Western Balkan countries and not as tools and advice to policy-makers to undertake measures to stimulate or destimulate certain types of private loans. Therefore, a more comprehensive analysis should be made before undertaking any activity or measure, concerning the different loan categories.

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