Davor Galinec, Ph.D.
Croatian National Bank, Zagreb, Croatia
davor.galinec@hnb.hr

Tomislav Kandžija, Ph.D.
Primorsko-goranska County, Rijeka, Croatia
tomislav.kandzija@pgz.hr

THE IMPACT OF STOCK-FLOW ADJUSTMENTS ON CHANGES IN CROATIAN GENERAL GOVERNMENT DEBT LEVEL

Recived: October 15, 2018
Accepted: December 20, 2018

Review

Abstract

Surveillance of government deficit and debt data is a very important issue from the point of view of national policy makers, as well as international financial and statistical organizations. Deficit and debt developments in EU member states has been regularly (twice a year) monitored by Eurostat, which collects and publishes so called excessive deficit procedure (EDP) statistics on government deficit and debt. The European Commission uses the EDP statistics to assess whether EU Member States' government deficits and debt levels comply with the relevant EU legislation (according to the Maastricht Treaty criteria, government deficit should be less or equal to 3% and government debt less or equal to 60%) of GDP. Deficit and debt data are published mostly in relative terms, i.e. compared with the nominal GDP and compiled according to the ESA2010 methodology. In simplified theory, annual government deficit/surplus should be equal to change in the level of government debt at the end of the actual year and at the end of the previous year. In reality, this is not true due to the impact of the stock-flow adjustments (SFA), which explains the difference between the change in government debt and the government deficit/surplus for a given year. Main aim of this paper is to identify the main factors contributing the changes in government debt other than deficit/surplus (SFA) in Croatia during the period 2010-2017. Those factors are divided into three main categories: net acquisition of financial assets (further broken down by financial instruments), adjustments (for coverage, valuation and exchange rate changes) and statistical discrepancies (reflects differences arising from the use of various data sources). Second, not less important aim of paper is to identify size and impact of the particular SFA factors on changes in debt level during the observed period in Croatia, and based on results obtained, short recommendations for Croatian policymakers will be outlined.

Keywords: *national government, fiscal policies, deficit, debt, stock-flow adjustment*

JEL: E62, H10, H30, H62, H63

1. INTRODUCTION

Government deficit and change in government debt are closely interrelated in theory, but in reality the change in the government debt level in particular period can be higher or lower than the corresponding deficit. At this point, somebody may ask a question: where is the (taxpayers) money? Stolen or not recorded properly in statistics? The right answer is that deficit and debt are properly recorded in statistics, but due to non-harmonized compilation methodologies, we have an explanatory statistics category introduced in order to assure the mutual consistency beetween two statistical datasets. The difference between the change in government debt and the deficit is known as the "stock-flow adjustment" (SFA).A positive SFA means that thegovernment debt increases more than the annual deficit (or decreases less than implied by the surplus). On thecontrary, a negative SFA means that the governmentdebt increases less than the annual deficit (or decreasesmore than implied by the surplus). A detailed "SFA decomposition analysis" tries to identify the origins of observed difference between deficit and change in debt, i.e. to identify the main factors contributing to changes in government debt other than government deficit/surplus. According to the Eurostat methodological framework, the SFA can be distinguished into the following main categories: net acquisition of financial assets, debt adjustment effects and statistical discrepancies. During the SFA decomposition it is possible to find out the size of the main contributing factor and legitimate explanation of discrepancy sources, but observed SFAs are closely monitored by Eurostat during quality checks of data for the excessive deficit procedure (EDP) provided by the member states, in order to ensure adherence to statistical rules and consistency across the reported data.Member states with exceptionally large SFAs in absolute terms deserve particular attention, even though these values normally have appropriate explanations. Close consideration should also be given to large but offsetting values. Also, SFAs decomposition analysis can highlight data quality problems: governments might, forexample, have an incentive to underreport their deficitsby reporting transactions under the SFA, especially in case if deficit figure during the compilation process becomes close to the deficit reference value of 3% of GDP, known as deficit criteria prescribed by the Maastricht Treaty.

Due to the fact that stock-flow adjustment (SFA) analysis is relatively now analytical tool, related recent literature is limited. A general conceptual framework for the measurement of government debt, which also explained stock-flow adjustments detailed analysis (or "deficit-debt adjustment" – DDA in the ECB

glossary of terms) is described in Lojsch, Rodriguez-Vives and Slavik (2011). Also, some additional useful technical explanations are disposable in Eurostat (2016, 2018). Finally, Weber (2012) used the results of the implemented SFA analysis to explain relations between the stock-flow adjustments and fiscal transparency, while Rybáček (2015) investigated the relations between government deficit and debt and the importanceof the SFA aggregate in case of government debt developments in Czech Republic during the 1996-2014 period. The data set used for the preparation of this paper is the Eurostat Database (online), series extracted from tables gov_10dd_edpt1 and gov_10dd_edpt3 for the Republic of Croatia, period 2010-2017.

The paper is structured as follows: section 2 provides basic definitions and general concept of stock-flow adjustment analysis, section 3 is dedicated to the evolution of general government deficit, change in government debt and stock-flow adjustments in Croatia during the 2010-2017 period, while section 4 provides detailed decomposition of the main SFA categories in Croatia 2010-2017. Finally, section 5 provides a summary of conclusions.

2. BASIC DEFINITIONS AND GENERAL CONCEPT OF STOCK-FLOW ADJUSTMENT ANALYSIS

General government deficit and change in debt are interrelated in theory, but the change in the debt level in any given period can be larger or smaller than the corresponding deficit in reality. Observed difference between the change in debt and the deficit is known as the "stock-flow adjustment" (SFA). In order to perform identification of the sources of this difference, use of "SFA analysis" is a necessary analytical framework.

Stock-flow adjustments (SFA)are simply defined with the following formula:

$$SFA_t = (D_t - D_{t-1}) - d_t \quad (1)$$

Where $D_t$is general government debt at the end of the period t;D_{t-1} is general government debt at the end of the period $t-1$ and d_t is general government deficit recorded in year t.

On the other hand, the stock-flow adjustment can bebroken down into the following main categories: netacquisition of financial assets, debt adjustmenteffects and statistical discrepancies (Eurostat 2016, 2018). We can denote this with the following formula:

$$SFA_t = NAFA_t + DA_t + SD_t \quad (2)$$

Where $NAFA_t$is netacquisition of financial assets in year t;DA_t is debt adjustment in year t and SD_t stands for statistical discrepancies in year t.

Each main SFA category can be further elaborated in details, as follows:

1.) **The net acquisition of financial assets ($NAFA_t$) adjustments** appear because financial transactions in assets are notcontributing to the deficit, but they lead to increasesor decreases in the stock of debt. Those transactions have been observed in practice as the main factor contributing the SFA. They reflects difference between the acquisition and disposal of financial assets held by the general government sector in the form of the following ESA 2010 financial instruments: currency and deposits (F.2), Debt securities (F.3), Loans granted by government to non-governmental units (F.4), Equity and investment fund shares/units (F.5), Financial derivatives (F.71), Other accounts receivable (F.8) and Other financial assets (Monetary gold and SDRs (F.1) and Insurancetechnical reserves (F.6)). Transactions in financial assets are reported regularly on a consolidated basis, excluding transactions with other government units (consolidated within general government). In such case, the lending from one unit of government to another is canceled out and is shown neither as acquisition of assets nor as increase in debt. Similarly, the acquisition of government bonds by government units is not shown as acquisition of assets, but as reduction in consolidated debt level. The amounts of transactions between sub-sectors of general government (central government, state government, local government and social security funds) can be also observed and canceled out in the second step of consolidation process. It means that such informations on SFAs broken down by government subsector exists. For the purpose of illustrating typical transactions in financial instruments, sales of governmet shares (F.4) have no direct impact on government debt, because they lead to increase in holdings of other types of financial assets, for instance currency and deposits (F.2). Later on, there can be a subsequent impact on the debt if government uses the privatization proceeds (currency and deposits, F.2) to repay its debt, bydecreasing the level of loan (F.4) liabilities. On the other hand, changes in market value (holding gains/lossesdue to price changes, both realized and unrealized)of financial assets owned by general governmentare not included in net acquisition of financial assets, but in the revaluationaccounts. It means that they have not any impact neither ongovernment deficit nor on the change in governmentdebt.

2.) **Debt adjustment (DA_t)** consists of three main sub-categories. The first category is related to *coverage adjustments* and includes transactions in thoseliabilities that exists in coverage of the deficit transactions, but they are excluded from the governmentdebt definition (Financial derivatives (F.71), Other accounts payable (F.8) and Otherliabilities (F.1, F.5, F.6 and F.72)). The second one comprises *valuation adjustments*, e.g. three types of valuationeffects (Issuances above/below nominal value, Difference between interest (D.41) accrued andpaid

and Redemptions of debt above/belownominal value). Those effects exist due to the fact thatgovernment debt (or Maastricht debt, defined in Council Regulation479/2009) is measured at face value, while deficit transactions are measured at market value. The third sub-category includes the*exchange rate adjustments* (Appreciation/depreciation of foreign-currencydebt, reflecting the impact of changes inexchange rates on those government debtcomponents denominated in foreigncurrencies, taking into account hedgingactivities) and *other changes in volume*: Changes in sector classification (K.61), arise from there classification of units inside or outside general government and Other volume changes in financial liabilities (K.3, K.4, K.5)), mainly arise in other rare cases of extinguishment of debt that are not reflected inthe deficit/surplus.

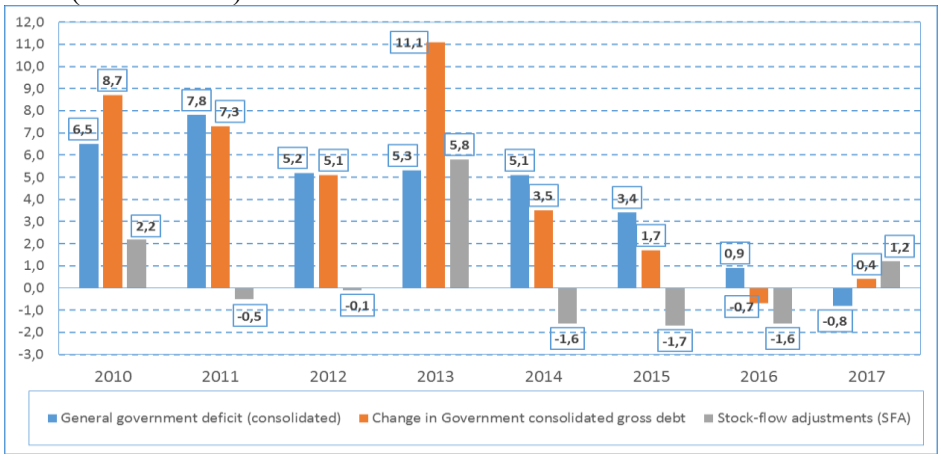
3.) **Statistical discrepancy (SDt)**, which reflects differences arising from the diversityof data sources and might also indicate problemswith the quality of data. The government sector accounts in nationalaccounts (ESA 2010) are often compiled from adiversity of sources, which may not be fully integrated or completely homogenous, leading todifferences between the revenue and expendituredata (non-financial accounts) and the financing data (financial accounts). Discrepancies between the non-financial and thefinancial accounts (B.9-B.9f) often relate to the time ofrecording of treasury or budget transactionscompared to the moment these flow through thebanking system. Therefore, a notable source ofdiscrepancies originates from the accrual recordingapplicable to ESA 2010 data and the difficulty tomatch cash and accrual data. One source of discrepancies is time of recording, refering to thedifference between the recording of expenditureand the related payments and that of revenueand the related cash flow to government. For instance, taxes are recorded as government revenue at the time of assesment, even though their receiptpayment may take place somewhat later. The delayed payment of taxes does not reduce the government borrowing requirement, although the taxes themselves decrease the deficit. A large accumulation of delayed taxes may lead to concerns as to whether tax revenue is overstated owing to amounts that are unlikely to be collected. Another time of recording difference, issue is related to the advance or delay in reimbursementby the EU of the funds the government spendson its behalf. In generally, time of recordingdifferences tend to broadly cancel out over time: for example, expenses reported as expenditure but notyet paid in one year will be paid, but no longerreported as expenditure in the subsequentyear. Second part of statistical discrepancies represents the Other statistical discrepancies (any unexplained remaining factors).

Finally, last key element of stock-flow adjustment analytical framework is a general government deficit (d_t from equation (1)), often called as a Net lending (+) / net borrowing (-) (B.9). This is a basic factor contributing to the change ingovernment consolidated gross debt ($D_t - D_{t-1}$) from equation (1).

3. EVOLUTION OF GENERAL GOVERNMENT DEFICIT, CHANGE IN GOVERNMENT DEBT AND STOCK-FLOW ADJUSTMENTS IN CROATIA 2010-2017

During the observed period 2010-2017, general government deficit and change in debt figures for Croatia were very high during the euroarea (post)crisis period 2010-2013, resulting with positive SFA's in 2010 (2.2% of GDP) and 2013 (5.8% of GDP), while small negative SFA's were recorded in 2011 (-0.5% of GDP) and 2012 (-0.1% of GDP, Chart 1). Croatian general governmet deficit in 2012 was amounted at 5.2% of GDP, huge amounts were also recorded in previous years and European Commision and Council (EU) has been decided to start the Excessive Deficit Procedure (EDP) in Croatia. The EDP is a rule-based process established by the Treaty on the Functioning of the European Union (TFEU, Article 126), with the main purpose to ensure that Member States adopt appropriate policy responses to correct excessive deficit (>3% of GDP) and debt (>60% of GDP). Introduced partly in response to the economic crisis, it forms the imperative part of the economic governance architecture in the EU. The EDP begins with a Member State either having breached or being at risk of breaching the deficit threshold (3% of GDP) or having violated the debt rule, which is not diminishing at a satisfactory pace. Official inclusion of Croatia into the EDP began in January 2014 and Council Recommendation set up initial deadline for correction for the end of 2016, with the possibility of official abrogation from EDP in mid-2017. Croatia successfully abrogated the EDP in June 2017.

Figure 1. General government deficit, change in debt and SFA - Croatia 2010 - 2017 (in % of GDP)



Source: Eurostat

During the EDP, Croatia has reduced government deficit from 5.1% of GDP in 2013 to 0.9% of GDP in 2016, while in 2017 Croatia recorded government surplus for the first time in history (0.8% of GDP). In mid-2013, Croatia became a full

member of the EU and Croatian statistical authorities started with the first official EDP statistical reporting on deficit and debt to the Eurostat. Croatian statistical authorities have immediatelly adopted the existing ESA95 statistical rules, but in September 2014 they make a quick methodological switch to the new ESA2010 rules. A huge change in debt growth at the end of 2013 compared to the end 2012 (11.1 percentage points) was a consequence of reclassification of several important public enterprises (HRT, HŽ, etc.) to the central government sub-sector, one-off increase due to debt assumption of certain Croatian shipyards by Croatian government, as well as by increase in debt (F.4, loans) related with huge accumulation of cash (F.2) by government in December 2013 (SFA, Net acquisition of assets). Aforementioned growth in debt was almost two times higher than corresponding deficit (5.3%). The result was huge positive SFA's of 5.8% of GDP in 2013. In the rest of observed period (2014-2017), economic recovery took place in Europe and Croatia, resulting in reduction of government deficit and debt in Croatia, as well as in reduction of corresponding SFA's. We can observe that developments in deficit, debt and SFA's during the 2010-2017 period were very volatile from one year to another. If we calculate 8 year total and average changes in deficit, debt and SFA's, we can easily observe that cumulative 8 year change in SFA's counts for 3.7% of GDP, while average annual SFA's counts for only 0.46% of GDP (Table 1). We may simply conclude that strong "cancelation effect" is observed, i.e that total cumulative and average size of SFA's is pretty low in the long run, probably due to the different time of recording in deficit and debt statistics.

Table 1: Total cumulative and average changes in deficit, debt and SFA's 2010-2017 (in % of GDP)

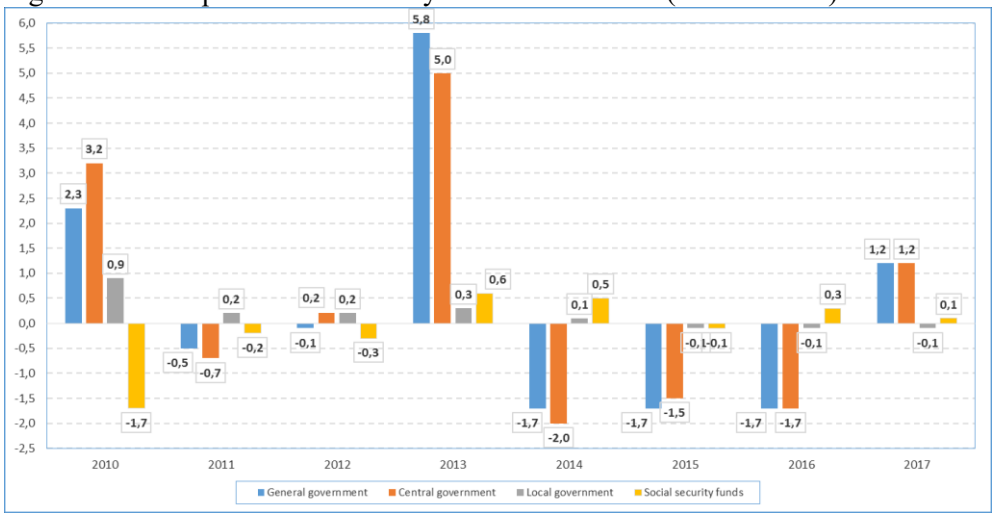
	2010-2017	**8y average**
General government deficit (consolidated)	33.4	4.18
Change in Government consolidated gross debt	37.1	4.64
Stock-flow adjustments (SFA)	3.7	0.46

Source: author's calculation based on Eurostat data

General government sector (S.13) in Croatian deficit and debt statistics (according to the ESA 2010 standard) consists of the three main subsectors: Central government (S.1311), Local government (S.1313) and Social security funds (S.1314). A strong interrelation between General government and Central government SFA's is obvious during the entire period under observation: it seems to be self-explanatory understandable because huge majority of total general government debt belongs to the Central government sub-sector. SFA's of Social securities funds were negative and high in 2010 (-1.7% of GDP), positive and moderate in 2013 and 2014 (0.6% and 0.5% of GDP, respectivelly), and negligible in the rest of observing period). Local government SFA's were 0.9% of GDP in

initial period, during the rest of period were volatile in range from -0.1% to 0.3% of GDP (figure 2).

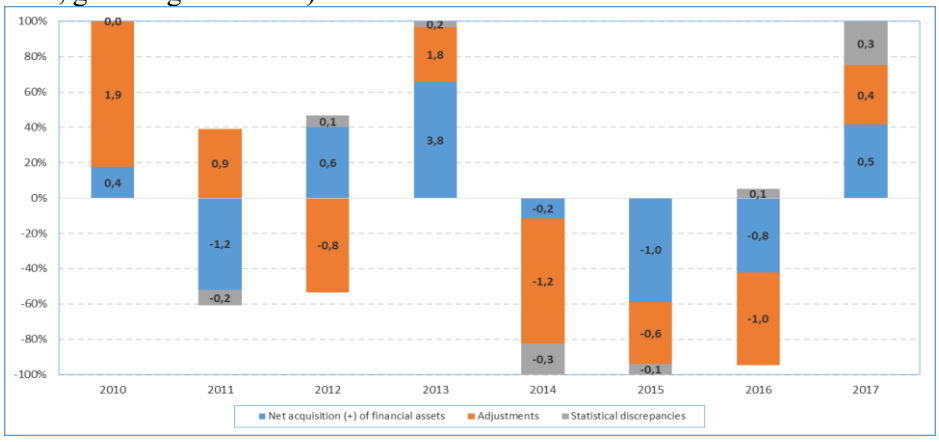
Figure 2. Decomposition of SFAs by sub-sectors of GG (in % of GDP)



Source: Eurostat

The impact of the three main SFA categories on change in government debt during the observed period is shown by Chart 3. Contribution of Net acquisition financial assets (NAFA) was the largest and positive in 2013 (3.8% of GDP or 65.5% of total annual SFA's). In the rest of observed period, impact of the NAFA varied from -1.2 to 0.6% of GDP. Adjustments are the second largest source contributing to the SFA's, ranging from -1.2% to 1.9 of GDP, while impact of Statistical discrepancies was negligible during the 2010-2017 period.

Figure 3. Decomposition of the 3 main SFAs categories (in % of GDP and of Total SFA, general government)



Source: Eurostat

Trends in SFA's development were very volatile during the observed eight years' period and we have to determine impact of "cancelation effect". Total cumulative size of Net acquisition of financial assets was 2.1% of GDP during the period of observation, while period average size was 0.3% of GDP, contributing with 58.3% to total SFA's. Total adjustments count for 1.4% of GDP in 2010-2017 period (or 0.2% of GDP in terms of period average), contributing with 38.9% to total SFA's. Finally, cumulative Statistical discrepancies were amounted to 0.1% of GDP (i.e. zero in average), with small contibution to total SFA's of 2.8% (Table 2).

Table 2. Total cumulative and average size of the 3 main SFA categories, cumulative 2010-2017 (in % of GDP and % of Total SFAs)

	2010-2017	**8y average**	**contribution**
Net acquisition (+) of financial assets	2.1	0.3	58.3%
Adjustments	1.4	0.2	38.9%
Statistical discrepancies	0.1	0.0	2.8%
Total SFAs	**3.6**	**0.5**	**100.0%**

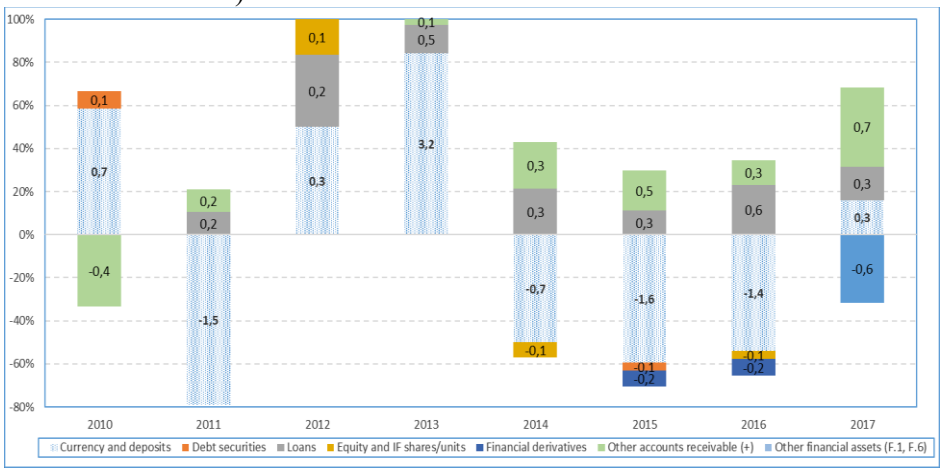
Source: author's calculation based on Eurostat data

4. DETAILED DECOMPOSITION OF THE MAIN SFA CATEGORIES IN CROATIA 2010-2017

As we have mentioned before, the Net acquisition of financial assets (NAFA) reflects difference between the acquisition and disposal of financial assets held by the general government sector in the form of the various ESA 2010 financial instruments. Financial transactions in assets are not contributing to the deficit, but they lead to increases or decreases in the stock of debt. During the observed period 2010-2017, currency and deposits were the most significant financial instrument contributing to the development of Net acquisition of financial assets, in range from -1.6% to +3.2% of GDP, or from -80% to 82% of total NAFA. In December 2013, one part of increase in debt (F.4, loans) was connected with huge accumulation of cash (F.2 / SFA / Net acquisition of assets) by central government in December 2013. Accumulation of cash on Croatian government treasury accounts in 2013 was used as a "buffer" for government deficit financing operations scheduled for 2014. It means that main source of discrepancies related to net acquisition of financial assets in 2013 and 2014 was due to different time of recording of book-keeping counterpart transactions in deficit and debt statistics (Chart 4). The second most NAFA contributing financial instrument was the Other accounts receivable. In 2010 Other accounts receivable was negative (-0.4% of GDP or around 36% of total NAFA), while positive amounts were recorded in the rest of observed period, varying from 0.1% (in 2013) to 0.7% of GDP (in 2017). Significant and positive contribution to the NAFA was observed for Loans, within a range from 0.2% (in 2011 and 2012) to 0.6% of GDP (in 2016). Starting from 2015, Croatian government has intensified the use of financial derivatives, which

contributed to creation of negative NAFA and further increase over the time, up to the maximal value of -0.6% of GDP (or around 32% of total NAFA) in 2017.

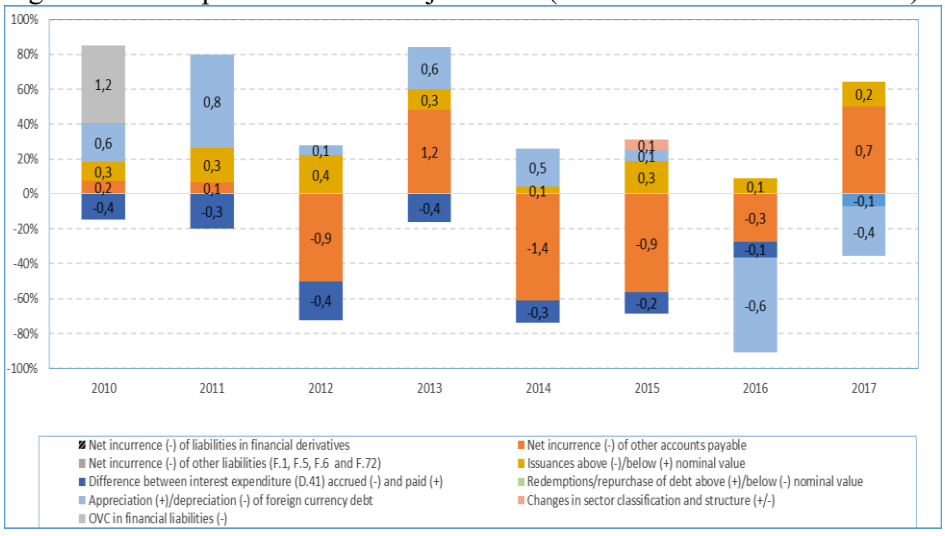
Figure 4. Decomposition of Net acquisition (+) of financial assets (in % of GDP and of Total NAFA)



Source: Eurostat

The second most influential SFA's category is known as a Debt adjustment (DA), which consists of three main sub-categories: coverage adjustments, valuation adjustments and exchange rate adjustments. Largest impact on Debt adjustments in Croatia during the 2010-2017 period arise from Net incurrence of other accounts payable, varying from -1.4% of GDP (in 2014) to 1.2% of GDP (in 2013, Chart 5).

Figure 5. Decomposition of Debt adjustments (in % of GDP and of Total DA)



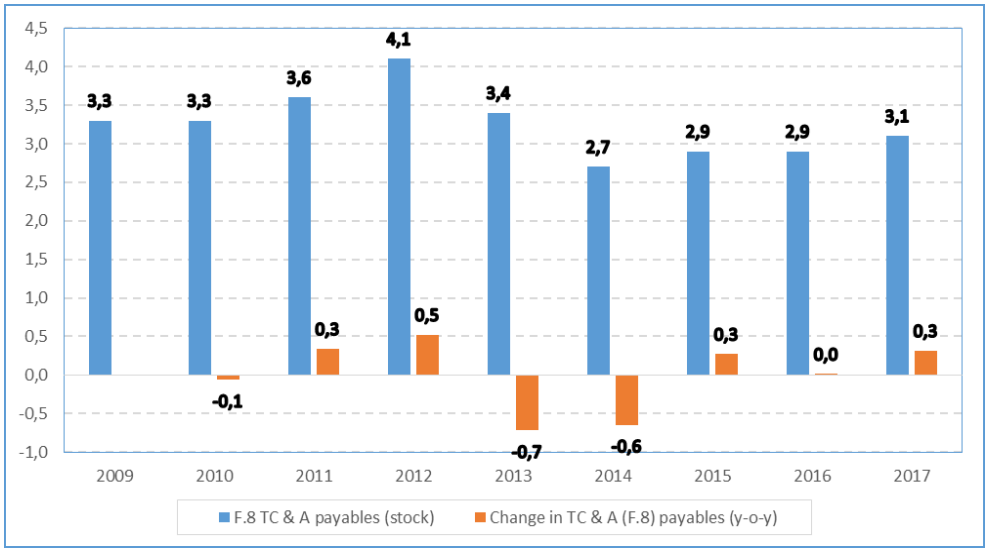
Source: Eurostat

Net incurrence of other accounts payable is generated by changes in trade credits and advances as well as other changes (on liability side). Those changes were recorded in government deficit statistics, but changes in trade credits and advances are not recorded in government debt statistics, due to different coverage and definition of so-called "Maastricht debt", which not includes "Other accounts payable" instrument. It wasthe main reason to introduce a separate debt adjustment sub-category within the SFA methodological framework, in order to overbridge two non-harmonized statistics.

If we took into account development of changes in "trade credits and advances" during the 2010-2017 period, we can easily observe a corellation between trade credits and advances on the liability side (Figure 6) and Net incurrence of other accounts payable (as shown on Figure 5).

The second large impact on the DA arise from exchange rate adjustments, namely appreciation and depreciation of foreign currency debt. During the sub-period 2010-2015, exchange rate changes effect on stocks and flows of government debt was significant and positive, varying from 0.1% of GDP (in 2012 and 2015) to 0.8% of GDP (in 2011). On the contrary, exchange rate changes from 2016 onwards becames negative (-0.6% of GDP in 2016 and -0.4% of GDP in 2017). A negative effect of exchange rate changes in 2016 and 2017 is highly correlated with the more intensive use of financial derivatives in public debt management operations, with the main aim to reduce exposure of public debt to the risk of exchange rate changes. It is also interesting that observed trends of Difference between interest expenditure accrued/paid and Issuances above/below nominal value over the time horizon are almost same in terms of size (in % of GDP), but with reversed sign, so we can conclude that "cancellation effect" exists between those two sub-category elements.

Figure 6: Stocks and changes in trade credits and advances (as part of F.8 liabilities, in % of GDP)



Source: Eurostat

5. CONCLUSION

The importance of the SFA analysis (decomposition) by Eurostat during quality checks of data for the excessive deficit procedure (EDP) provided by the member states is increasing, in order to ensure adherence to statistical rules and consistency across the reported data. Key motivation of this paper is to provide assessment of SFAs (including sub-categories) and their impact on changes in Croatian government debt. We used Eurostat Database (online) data, series gov_10dd_edpt1 and gov_10dd_edpt3 for the Republic of Croatia, period 2010-2017 for the purpose of analysis, but the main obstacle was the fact that SFA related recent literature is rare and limited. Despite of that and taking into account results of our analysis, we can generally conclude that SFA's phenomenon should be analyzed in the medium and long run, du to existence of „cancelation effect". Croatia joined the EU at July 1st 2013 and Croatian statistical authorities provided the first official EDP reporting to the Eurostat, based on immediate adoption of the ESA95 rules and followed by quick switch to the new ESA2010 rules since September 2014. The result was a reduction of SFA during the rest of the period. Relatively small increase of deficit followed by relatively high increase in debt was result of reclassification of several important public enterprises (HRT, HŽ, HAC,...) and development bank (HBOR) to the central government sub-sector. This fact is not visible under the SFA / Adjustmets / Changes in sector classification position for the period under observation, because the series were revised backwards and it should be recorded in years prior to initial year 2010. Also, one-off increase in debt

in 2013 due to privatization of Croatian shipyards and debt assumption by Croatian government resulted in low increase in deficit in 2013, while other repayments are recorded in deficit statistics during the rest of observed period. In December 2013, one part of increase in debt (F.4, loans) was connected with huge accumulation of cash (F.2 / SFA / Net acquisition of assets) by central government in December 2013. Accumulation of cash on Croatian government treasury accounts in 2013 was used as a "buffer" for government deficit financing operations scheduled for 2014. Very significant impact of F.8 Other accounts payable (trade credits & advances) is properly recorded in deficit statistics, but not recorded in debt statistics (for this reason, they are recorded in SFAs, adjustments), which emphasize a need for international statistical harmonization between deficit and debt statistics (Eurostat, IMF). Existing deficit statistics covers transactions in assets & liabilities, while debt statistics covers only transactions in financial liabilities, what means that the asset side transactions are largely covered as SFA, under the Net acquisition of financial assets. In order to improve statistical harmonization, there is a need for the use of „net debt concept". Finally, public debt management in Croatia should be improved, due to the huge impact of debt adjustments, caused by the strong influence of exchange rate changes on foreign currency denominated debt, as well as difference between interest expenditure accrued and paid and issuances above /below nominal value. A certain part of negative impact has been offsetted with the use of financial derivatives as an instrument used for the purpose of the exchange rate risk minimization in Croatian public debt management system since 2016.

REFERENCES

1. Eurostat (2014), *Measuring net government debt: theory and practice - 2014 edition*, Statistical working papers, available at: https://ec.europa.eu/eurostat/documents/3888793/5858885/KS-TC-14-005-EN.PDF/dc48be06-9e44-4cb9-b544-876457437955
2. Eurostat (2018), *Stock-flow adjustment (SFA) for the Member States, the euro area (EA-19) and the EU-28 for the period 2014-2017, as reported in the April 2018 EDP notification,* available at:http://ec.europa.eu/eurostat/documents/1015035/8441002/SFA-PR-2018-Apr.pdf/ec05dd93-5546-4715-af97-0d440effe529
3. Lojsch, Dagmar Hartwig & Rodríguez-Vives, Marta & Slavík, Michal (2011), *The size and composition of government debt in the euro area*, Occasional Paper Series 132, European Central Bank, available at: https://www.ecb.europa.eu/pub/pdf/scpops/ecbocp132.pdf?e5c5934a8886d15da59d68d6940dabff
4. Rybáček, Václav (2015), *How to Stabilize Debt While Running Deficit*, Statistics and Economy Journal, 2015, 95 (3). Available at SSRN: https://ssrn.com/abstract=2737376

Weber, Anke (2012), *Stock-Flow Adjustments and Fiscal Transparency : A Cross-Country Comparison*, IMF Working Paper No. 12/39, International Monetary Fund, available at: https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Stock-Flow-Adjustments-and-Fiscal-Transparency-A-Cross-Country-Comparison-25692

5. EUROSTAT Online –database of macroeconomic indicators