



European  
Commission

ISSN 2443-8022 (online)

# The Role of the Euro in the Eastern Partnership Countries

Radostin Neykov and Caroline Robert

DISCUSSION PAPER 138 | FEBRUARY 2021

EUROPEAN ECONOMY



Economic and  
Financial Affairs

**European Economy Discussion Papers** are written by the staff of the European Commission's Directorate-General for Economic and Financial Affairs, or by experts working in association with them, to inform discussion on economic policy and to stimulate debate.

## **DISCLAIMER**

The views expressed in this document are solely those of the author(s) and do not necessarily represent the official views of the European Commission.

Authorised for publication by by Elena Flores, Director for International Economic and Financial Relations, Global Governance.

## **LEGAL NOTICE**

Neither the European Commission nor any person acting on behalf of the European Commission is responsible for the use that might be made of the information contained in this publication.

This paper exists in English only and can be downloaded from [https://ec.europa.eu/info/publications/economic-and-financial-affairs-publications\\_en](https://ec.europa.eu/info/publications/economic-and-financial-affairs-publications_en).

Luxembourg: Publications Office of the European Union, 2021

PDF ISBN 978-92-76-23767-9 ISSN 2443-8022 doi:10.2765/50966 KC-BD-20-006-EN-N

---

© European Union, 2021

Non-commercial reproduction is authorised provided the source is acknowledged. For any use or reproduction of material that is not under the EU copyright, permission must be sought directly from the copyright holders.

CREDIT

Cover photography: © iStock.com/shironosov

# The Role of the Euro in the Eastern Partnership Countries

Radostin Neykov and Caroline Robert

## Abstract

This paper explores the role of the euro in a number of Eastern neighbours to the EU that are part of the Eastern Partnership (EaP) initiative: Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine. Based on a survey conducted by the European Commission at the end of 2019 on the use of the euro and other currencies in these countries, as well as desk research, it looks into four dimensions: cross-border trade transactions, foreign exchange reserves, external public debt and the commercial bank sector. It finds that most of the EaP countries are skewed towards using the US dollar. This reflects both historical developments and the efficiency of the US dollar financial market.

However, the growing political ties and economic exchanges between these countries and the EU provide a rational basis for a greater role of the euro. Since 2014, the euro is steadily increasing its share in trade invoicing and debt stock in a number of countries. Overall, Moldova stands out by a large margin as it uses the euro in more than half of its total international transactions. At the other end of the spectrum are Georgia and Armenia, where the euro plays a more moderate role in most areas. Based on these findings, the paper highlights some areas where the EU could encourage the use of the euro in the region through enhanced economic diplomacy and policy initiatives that would increase its attractiveness such as development of instruments that create sufficient supply of safe euro assets or target niche segments where the EU could play a leading role (for example social bonds, green bonds).

**JEL Classification:** E41, E42, E52, E58.

**Keywords:** Eastern Partnership, euro, international currency, foreign exchange reserves, exchange rate, invoicing currency, external public debt, foreign deposits and loans.

**Acknowledgements:** We would like to thank Heliodoro Temprano-Arroyo, Staffan Linden and Luis Martinez Reillo for reviewing the paper and providing a range of constructive suggestions, Pedro Carpintero for assistance with statistics as well as Elena Flores, Annika Eriksgaard-Melander, Jörn Griesse for their useful comments. We would also like to thank officials from the Eastern Partnership countries for their kind cooperation with regard to a survey we carried out in 2019 on the role of the euro in their international dealings.

**Contact:** Radostin Neykov and Caroline Robert, European Commission, Directorate-General for Economic and Financial Affairs, [radostin.neykov@ec.europa.eu](mailto:radostin.neykov@ec.europa.eu).

## ABBREVIATIONS

AMD	Armenian dram
AZN	Azerbaijani manat
BIS	Bank for International Settlements
BYN	Belarusian ruble
CBA	Central Bank of Armenia
CBAZ	Central Bank of the Republic of Azerbaijan
DCFTA	Deep and Comprehensive Free Trade Area
EBA	European Business Association
EBRD	European Bank for Construction and Development
ECB	European Central Bank
EMU	Economic and Monetary Union
EU	European Union
EaP	Eastern Partnership
FDI	Foreign Direct Investment
GEL	Georgian lari
IFI	International Financial Institution
IMF	International Monetary Fund
JRC	Joint Research Centre
MDL	Moldovan leu
NBG	National Bank of Georgia
SDR	Special Drawing Rights
SOFAZ	State Oil Fund of the Republic of Azerbaijan
SWIFT	Society for Worldwide Interbank Financial Telecommunications
UAH	Ukrainian hryvnia
USD	United States dollar

# CONTENTS

1.	Introduction.....	5
2.	Setting the scene: drivers of foreign currency use in the Eastern partnership Countries.....	7
2.1.	Historical perspectives on the use of foreign currencies in the Eastern partnership countries.....	7
2.1.1	The dollar as a safe haven.....	7
2.1.2	Currency crises following the break-up of the ruble's monetary zone resulted in highly dollarised economies.....	9
2.2.	Exchange rate REGIMES, anchor role and Monetary policy frameworks.....	10
2.2.1	Global currency zones analysis.....	14
3.	Economic links between the Eastern Partnership countries and the EU.....	16
3.1.	Trade flows.....	17
3.2.	Financial flows: FDI, remittances, Banking sector.....	18
3.2.1	FDI in the region.....	18
3.2.2	Inward remittances.....	19
3.2.3	Financial sector links.....	20
4.	Characteristics and determinants of the use of the euro in Eastern partnership countries.....	21
4.1.	Results of the European Commission's survey.....	21
4.1.1	Overview.....	21
4.1.2	Comparison with global use of euro.....	21
4.1.3	Analysis by country.....	22
4.2.	The Euro in trade invoicing.....	23
4.2.1	Literature review.....	23
4.2.2	Trade denomination in the EaP countries.....	25
4.3.	The Euro in foreign exchange reserves.....	28
4.3.1	Literature review.....	28
4.3.2	Foreign exchange reserves in the EaP countries.....	29
4.4.	The Euro in external public debt.....	30
4.4.1	Literature review.....	30
4.4.2	External public debt in the EaP countries.....	32
4.5.	The Euro in foreign currency deposits and loans.....	34
4.5.1	Financial dollarisation in the EaP countries.....	34
4.5.2	The euro in foreign currency deposits and loans in the EaP countries.....	36
5.	Concluding remarks.....	37

## LIST OF GRAPHS

1.1.	Overview of the international monetary system .....	5
2.1.	US dollar index .....	8
2.2.	Global economic policy uncertainty index vs US dollar index .....	8
2.3.	VIX vs US dollar index DX .....	8
2.4.	Armenia – exchange rate dynamics.....	13
2.5.	Azerbaijan – exchange rate dynamics.....	13
2.6.	Belarus – exchange rate dynamics .....	13
2.7.	Georgia – exchange rate dynamics.....	13
2.8.	Moldova – exchange rate dynamics.....	13
2.9.	Ukraine – exchange rate dynamics.....	13
2.10.	Estimated co-movement with the US dollar .....	15
2.11.	Estimated co-movement with the euro .....	15
3.1.	Trade turnover (weighted average) with goods with the EU, % of total.....	17
3.2.	Trade with goods by destination, 2019 .....	17
3.3.	Inward FDI stock, end-2018 .....	19
3.4.	Inward EU FDI in EaP countries, % of total.....	19
3.5.	Remittances inflows, % GDP, 2004-2019 .....	20
3.6.	Money transfers from abroad in 2019, %.....	20
4.1.	Overview: International monetary system vs Eastern Partnership in 2018, %.....	21
4.2.	Composite index of the use of the euro across EaP countries.....	22
4.3.	Invoicing of exports of goods by currency, 2018 (%).....	25
4.4.	Euro invoicing in exports vs trade with EU.....	25
4.5.	Invoicing of Imports of goods by currency, 2018 (%).....	26
4.6.	Main exports partners, goods, 2019 (%) .....	27
4.7.	Main imports partners, goods, 2019 (%) .....	27
4.8.	Foreign exchange reserves by currency, end 2018 (%) .....	29
4.9.	Currency composition of foreign currency debt (%).....	31
4.10.	Interest rate differential: historical spread between 10-year US Treasury Bond and Bunds (%).....	31
4.11.	External public debt by currency, end-2019.....	32
4.12.	Share of the euro in the foreign exchange-denominated public debt in selected EaP countries, % of the total.....	33
4.13.	Ukraine, state debt by currency, %, end-year.....	34
4.14.	Total loans per currency in the EaP, end-2018 (%).....	35
4.15.	Total deposits per currency in the EaP, end-2018 (%) .....	35
4.16.	Foreign currency deposits, by currency, end-2018 (%).....	36
4.17.	Foreign currency loans, by currency, end-2018 (%) .....	36

LIST OF BOXES

Box 1. Anecdotal evidence: what do exchange rates bid-ask spreads reveal?.....16  
Box 2. Invoicing Currencies in International trade: Drivers and obstacles to the use of the Euro . ....24  
Box 3. Currency denomination of cross-border trade transactions in Moldova .....26  
Box 4. Ukraine’s debt management strategy.....33

LIST OF TABLES

Table 1. Exchange rate arrangements and monetary policy frameworks in the EaP countries as per the IMF classification..... 10

REFERENCES

ANNEXES





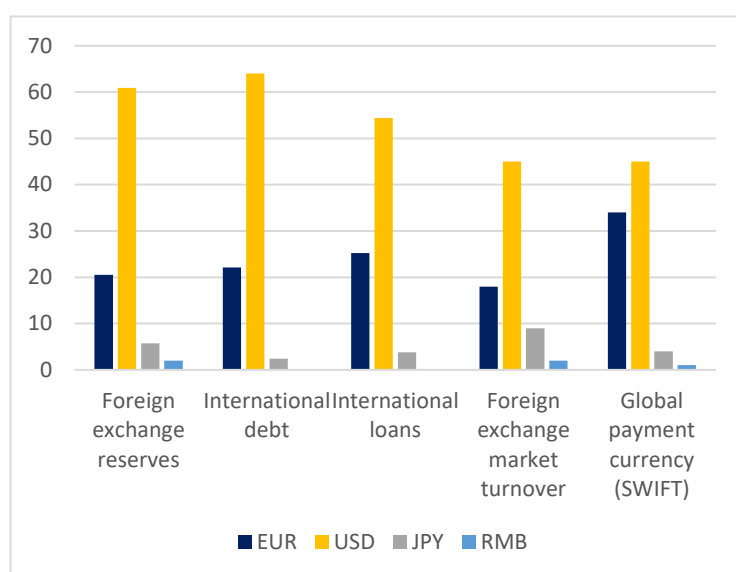
# 1. INTRODUCTION

This paper examines the role of the euro in the Eastern Partnership (EaP), which comprises six of the EU’s Eastern neighbours (Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine). In addition to a close political relation, the EU has developed strong economic and financial links with the EaP countries. For four of them, the EU is the largest trading partner. It is also a significant source of direct investment and remittances in the region.

Discussions around currency internationalisation usually start with the functions performed by an international currency. The classic three functions of money domestically can be transferred to the international use: a global currency has to play the roles of a store of value, a medium of exchange and a unit of account for both residents and non-residents.

The extent to which non-residents use one currency, as compared to others, shapes the international role of that currency. More specifically, this includes its use in official foreign exchange reserves, as vehicle currency in global foreign exchange markets, as a currency in which international bonds are denominated, as a unit in which to invoice and settle trade transactions, and as an anchor currency for the exchange rates of other countries. On top of that, and this is particularly relevant for the Eastern Partnership (EaP) region, an international currency can be used to the extent it becomes a substitute to the domestic currency, including as a currency of denomination of bank assets and liabilities.<sup>1</sup>

Graph 1.1 Overview of the international monetary system



Note: Figures are provided for Q4 2019.

Source: ECB, *The international role of the euro* (2020) based on figures from the BIS, CLS Bank International, IMF and SWIFT.

This analytical framework can be used as a compass for assessing currency internationalisation. As of today, only the US dollar, the euro and the Japanese yen can be regarded as fully displaying features of international currencies (graph 1.1). The British pound sterling stands as the third-most widely held reserve currency and the fourth most traded currency in terms of turnover.

China is explicitly aiming at the renminbi's internationalisation through the reform of the international financial architecture and the promotion of regional financial cooperation.<sup>2</sup> Yet, setting

<sup>1</sup> The Eastern Partnership is a joint policy initiative that aims to deepen and strengthen relations between the EU, its Member States and six of its Eastern neighbours - Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine.

<sup>2</sup> Among the efforts made to internationalise the renminbi (RMB), the Chinese authorities signed currency swap agreements with more than 30 countries and regions to boost its use as a global reserve currency and the RMB joined the IMF’s Special Drawing Rights (SDR) reserve currency basket on 1 October 2016. China supported cross-border RMB trade settlement scheme and the use of the RMB as an invoicing currency in China’s free trade agreements. It also tried to develop the RMB in the offshore market in Hong-Kong: use of RMB in project and trade finance, expansion of RMB bond and derivative markets, support for the listing of Mainland companies and cooperation between securities markets of Hong-Kong and Shanghai.

aside its reserve currency status, it appears the renminbi's global role has stalled, given the lack of its convertibility and the still tight controls maintained by the authorities on its capital account. Since 2017, the political focus in China has shifted from currency internationalisation to preventing capital flight and bolstering currency stability. Overall, China is not able to compete yet with the depth and efficiency of the capital markets of the US or Europe (EU and the UK).

The euro has been the second most important international currency in all dimensions, whether in the private or in the official domain, since its launch 20 years ago. As a safe store of value, the euro represented around 20% of international reserves of central banks at end-2019. It has become a widely accepted currency for international payments - about 35% of the value of global payments were invoiced or settled in euros in 2017 (ECB, 2018). Businesses and foreign governments use the euro for issuing debt - the share of the euro in outstanding amounts of international debt securities was about 22% at end-2019.

However, whilst clearly the second most used currency in the world, the euro is still trailing well behind the US dollar. The international role of the euro was negatively affected by the 2008-09 global financial crisis and the euro area sovereign debt crisis that it unfolded. As a result, despite somewhat stabilising in recent years, the composite index of the euro's international role compiled by the ECB remains close to its historical lows (ECB, 2020). This made Ilzetki, Reinhart and Rogoff (2019) to suggest that the euro has yet to expand its role as an international currency, as by some measures, the euro plays no larger role than the Deutschmark and the French franc that it replaced. The authors emphasised that a number of structural factors limits the euro's appeal such as the scarcity of high-quality marketable euro-denominated assets, the lack of a high-calibre financial centre, the EU's limited political outreach and Europe's secondary role in technology research.

The euro is not only an asset used in the settlement of transactions, a store of value, or a standard of deferred payment, but also a political project, which requires visible support from public institutions and a set of political representations. International currency status does not simply follow from technical considerations, but also from the extent to which external relations can provide a framework on which its economic and commercial attractiveness could grow.

Already in 2008, via its Communication on successes and challenges after 10 years of Economic and Monetary Union<sup>3</sup>, the European Commission encouraged the euro area to play a more active and assertive role both in multilateral fora and through its bilateral dialogues with strategic partners. In 2018, the European Commission launched an initiative to promote the international role of the euro and to this effect issued a Communication *Towards a stronger role of the euro*, advocating an active policy to encourage its international use.<sup>4</sup> Although the euro needs primarily to be supported by a deeper and more complete Economic and Monetary Union (EMU) and Banking Union, engaging with third countries was also highlighted as an important aspect to boost the attractiveness of the euro.

The objective of this paper is twofold: to explore the foreign currency use in the EaP countries across several dimensions (trade invoicing, public debt issuance, international reserves and bank loans and deposits) and identify areas and ways to strengthen the role of the euro. In *section 2*, we shed some light

---

<sup>3</sup> Communication EMU@10: successes and challenges after 10 years of Economic and Monetary Union (7 May 2008): <https://ec.europa.eu/transparency/regdoc/rep/1/2008/EN/1-2008-238-EN-F1-1.Pdf>.

<sup>4</sup> Communication *Towards a stronger international role of the euro: Commission contribution to the European Council and the Euro Summit (December 2018)*: [https://ec.europa.eu/commission/sites/beta-political/files/communication\\_-\\_towards\\_a\\_stronger\\_international\\_role\\_of\\_the\\_euro.pdf](https://ec.europa.eu/commission/sites/beta-political/files/communication_-_towards_a_stronger_international_role_of_the_euro.pdf).

on currency substitution in the region and discuss the reasons for the prevailing dominance of the US dollar. In *section 3*, we highlight the economic links between the EU and the EaP partners as a potential catalyst for a greater role of the euro in the region. *Section 4* presents the results from a survey the European Commission conducted in 2019 on the use of the euro and other currencies in international transactions of the EaP countries, which was complemented by desk research, and outlines a number of structural factors that may have limited the euro's international reach in the region. *Section 5* concludes by presenting a set of initiatives that could support a more prominent role of the euro in the region.

## 2. SETTING THE SCENE: DRIVERS OF FOREIGN CURRENCY USE IN THE EASTERN PARTNERSHIP COUNTRIES

### 2.1. HISTORICAL PERSPECTIVES ON THE USE OF FOREIGN CURRENCIES IN THE EASTERN PARTNERSHIP COUNTRIES

Money can be perceived both as a financial asset and as an institution (Aglietta and Orléan 1998, p.371). Doubts about the trustworthiness of money are sometimes able to throw out of balance a whole political system. According to Geoffrey Ingham, 'through the buying and selling of currencies the global money markets deliver their verdicts on the credibility of the 'working fictions'' [i.e. in comparison to gold] (Ingham 2005, p.170).

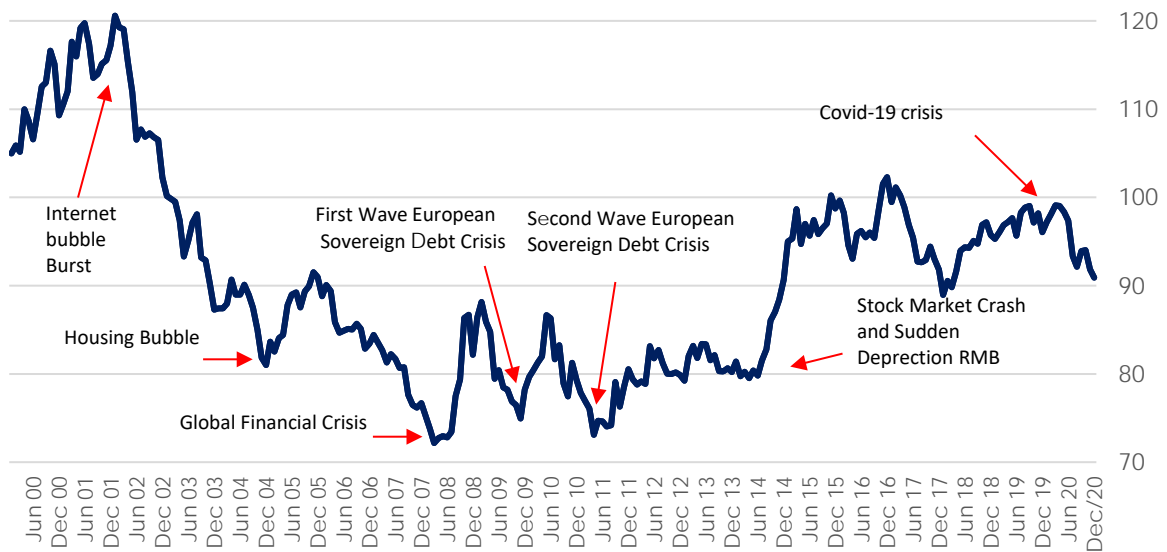
In the EaP, the historical narrative becomes an important factor for explaining the contemporary use of domestic and foreign currencies. The multiple financial and economic crises these countries went through since their independence in the early 1990s altered the way citizens perceive financial institutions and their view on trust in public institutions, risk and profitability, thereby explaining variations in currency uses.

#### 2.1.1 The dollar as a safe haven

Although one may consider as a 'safe haven' any asset with high liquidity and low risk, we will refer to it as what investors buy in uncertain times. According to Baur and Lucey (2010), the role of an asset as a safe haven with respect to another asset depends on the link between the two in times of extreme market volatility. If one asset is negatively related to another under extreme market stress, e.g. one that performs well when the reference portfolio suffers significant losses, then the safe haven property is verified.

In the past decades, each episode of global economic uncertainty has renewed the appreciation of the US dollar as a safe haven currency (graph 2.1). Crises usually led to higher demand for US Treasury securities, especially bills. The US dollar index, which measures the strength of the US dollar against a basket of other hard currencies, soared whenever shocks to the global economy arose. The index has been steadily rising since the beginning of 2018 — recently hitting a three-year high following the COVID-19 outbreak in early 2020 when market sentiment worsened driven by the fear of a global economic recession. With the worldwide coronavirus lockdowns, the US dollar remained one of the most appealing currencies as it capitalised on market demand for safe havens. Yet, against the backdrop of resurgence in cases in the US, the demand for the US dollar started to decline, questioning whether it should be traded at a safe-haven risk premium.

Graph 2.1. US dollar index

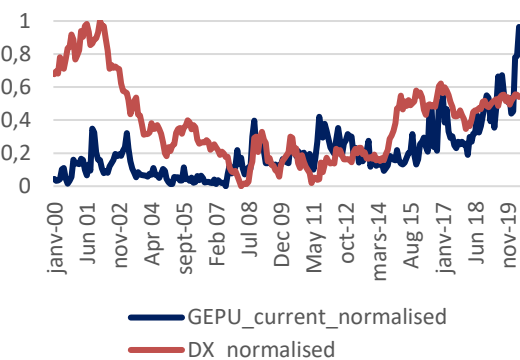


Note: The US Dollar Index (DX) is a measure of the value of the USD relative to a basket of foreign currencies corresponding to US most significant trade partners' currencies. The Index goes up when the US dollar gains "strength" (value) when compared to other currencies.

Source: Investing.

In times of high uncertainty, the US dollar tends to strengthen, with the Global Economic Policy Uncertainty index leading on the US dollar index VX (graph 2.2). The correlation is also high with stress on the financial market as measured by the Chicago Board Options Exchange Volatility Index (VIX), which gauges expectations about future volatility in US equity markets: whenever the global markets are in "risk off mode", the US dollar benefits from the flight to quality trade (graph 2.3).

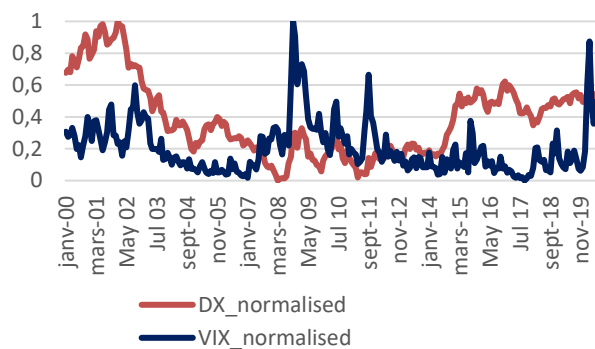
Graph 2.2. Global economic policy uncertainty index vs US dollar index



Note: The chart shows the two series in standardised terms (i.e. feature scaling, data were re-scaled to have values between 0 and 1).

Source: Investing and GEPU Index.

Graph 2.3. VIX vs US dollar index DX



Note: The chart shows the two series in standardised terms (i.e. feature scaling, data were re-scaled to have values between 0 and 1).

Source: Investing.

## 2.1.2 Currency crises following the break-up of the ruble's monetary zone resulted in highly dollarised economies

The EaP countries did not diverge in terms of foreign currency use patterns in times of hardship. The recurrent crises they went through since they gained independence in the early 1990s led all countries in the region to integrate a growing share of US dollars in their international and domestic dealings. Such a behaviour, also called currency substitution, is closely linked to the initial years of transition that were marked by a collapse of the command economy system and the break-up of the ruble-dominated monetary area that led to a prolonged period of hyperinflation.<sup>5</sup> While new institutions (such as national central banks) and currencies gradually appeared by mid-1990s, the process of building up sufficient credibility in the way these function is still ongoing in some cases.

Since the collapse of the Soviet Union in 1991, the EaP countries went through a succession of currency crises – defined as a substantial drop in confidence towards a specific currency reflected either by a sudden depreciation or by a decline in the country's international reserves (Dabrowski, 2003a).

Broadly speaking, we can distinguish four episodes of currency crises in the EaP region: (i) the collapse of the Soviet ruble and the ensuing hyperinflation in the established successor states (1992-1995), (ii) the financial crisis of 1998-1999, (iii) the fallout from the global financial crisis of 2008-2009, and (iv) the regional recession in 2014-2015 driven by the conflict between Ukraine and Russia and the slump in oil prices.

In early 2020, national currencies in the EaP region were under heavy, but in some cases temporary, pressure due to the capital flight from emerging markets associated with the outbreak of the COVID-19 pandemic. In addition to these exogenous shocks, some countries experienced their own policy-induced crises. A prime example is Belarus, whose lax monetary and fiscal policies amid significant structural weaknesses contributed to successive balance of payment crises (in 2011 and in 2013) that led to sharp currency depreciation and high inflation.

Dollarisation in the EaP countries is high and comes in various forms: financial, as evidenced by the high share of financial assets and liabilities in foreign currency, as well as in the real economy, as suggested by the ongoing quotation of prices (real estate; cars; some services) and indexation of wages in foreign currency.

The prime example of the high level of dollarisation is the banking sector where both foreign currency deposits and savings remain much higher than what fundamentals would suggest despite concerted attempts of the authorities to incentivise the use of local currencies.

In the absence of well-developed foreign exchange derivative markets, dollarisation serves as a main tool for hedging against sudden sharp volatility (whether depreciation or appreciation) of domestic currencies. Every crisis episode in the EaP region was signalled by a significant depreciation of the local currency, incentivising households to save in US dollars. This added to the mechanical impact of the currency depreciation, which boosted the share of foreign currency deposits and loans. In the aftermath of each crisis, the level of dollarisation of bank balance sheets gradually declined, as commercial banks

---

<sup>5</sup> The average annual consumer price inflation in the region (excluding Georgia for which data is unavailable) was 1,577% in 1993-1995. It ranged from 383% in Moldova to 3,061% in Armenia. While the three Caucasus countries, Armenia, Azerbaijan and Georgia, were relatively successful in containing inflation in the years to follow, others had experienced a persistent high inflation since the 1990s. This is the case in particular of Belarus and Ukraine, which recorded single-digit inflation only respectively 6 and 9 years in 1993-2019.

restructured foreign currency debts and converted them into local currency. Yet, a significant degree of inertia, typical of currency substitution processes, can be observed.<sup>6</sup>

## 2.2. EXCHANGE RATE REGIMES, ANCHOR ROLE AND MONETARY POLICY FRAMEWORKS

The use of an international currency in an economy is closely linked to the role such a currency plays in the exchange rate-setting mechanism of the country. Ilzetki, Reinhart and Rogoff (2019) argue that exchange rate arrangements reveal policymakers’ preferences over the use of a given currency.

In the EaP region, the euro has been traditionally having a rather limited role as an exchange rate anchor. At the beginning of the transition in the early 1990s, most countries in the EaP used the US dollar as an anchor when national currencies were introduced in order to manage inflation expectations and achieve sustained price stability. The US dollar was targeted either directly, by pegging the local currency, or indirectly through the Russian ruble that was also used as a policy anchor in the context of close historical, political and economic links. However, as capital flows gradually picked up, the EaP countries started to introduce exchange-rate flexibility. In fact, many central banks have followed a course from exchange-rate targeting to targeting monetary aggregates and then inflation.

In its *Annual Report on Exchange Arrangements and Exchange Restrictions* (IMF, 2020), the IMF classifies national exchange rate arrangements in several formal categories according to the degree of flexibility, distinguishing between hard pegs, soft pegs, floating regimes (market-determined rates) and residual (other managed arrangement). However, exchange-rate arrangements can be re-classified according both their degree of flexibility and the existence of formal or informal commitments to exchange-rate paths.

TABLE 1. Exchange rate arrangements and monetary policy frameworks in the EaP countries as per the IMF classification

Exchange rate arrangement	Monetary aggregate target	Inflation targeting framework	Other
<i>Stabilised arrangement</i>		Armenia	Azerbaijan
<i>Floating</i>	Belarus	Georgia; Moldova; Ukraine	

Source: Annual Report on Exchange Arrangements and Exchange Restrictions 2019 (IMF, August 2020).

In 2020, all EaP countries have *de jure* floating exchange rate regimes, according to what they report to the IMF. However, in practice (*de facto*) the situation varies as some of them still continue to conduct their exchange-rate policies based on anchor currencies, and in particular the US dollar. For this reason,

<sup>6</sup> See, for example, “Dollarisation in the Former Soviet Union: from Hysteria to Hysteresis” by O. Havrylyshyn and C. H. Beddies, *Comparative Economic Studies*, Volume 45, 2003, pp. 329-357. On the inertia or hysteresis that characterises dollarisation, see also “Prospects for Monetary Integration in Latin America: A View from the EU” by H. Temprano, published in the same issue of that journal.

the IMF classifies Azerbaijan and Armenia<sup>7</sup> as having a stabilised arrangement. In both cases this is due to the limited fluctuations their currencies show against the US dollar (see Table 1).

This discrepancy between *de jure* and *de facto* exchange-rate regimes was highlighted in a paper from Calvo and Reinhart (2002) where the authors show that “fear from floating” incentivised some countries to limit exchange-rates fluctuations. Indeed, the low variability of the nominal exchange rate does not arise from the absence of shocks to the economy, but stems from deliberate policy actions to stabilise the exchange rate. In return, reserve volatility, along with interest rate and monetary aggregate volatility, are high or at least higher than what it should be under full flexibility.

**Armenia** left the ruble zone at the end of 1993 when its own currency, the Armenia dram, was introduced. Even if deciding on a *de jure* independent floating exchange rate regime, the authorities followed a *de facto* crawling band to the USD dollar until early 2000. Sharp local currency appreciation at the start of the century prompted significant central bank interventions and led to a reclassification of the exchange rate regime by the IMF to a managed float in 2006. While the Central Bank of Armenia (CBA) adopted an inflation-targeting framework in 2006, it was only in early 2009 that it switched to a free float and abandoned the non-publicly communicated anchor to the US dollar. However, the country maintained significant stability in its AMD/USD exchange rate in recent years, which, as noted above, made the IMF reclassify retroactively as of 2017 the exchange rate regime as a stabilised arrangement.

**Azerbaijan** opted for a managed floating exchange-rate policy vis-à-vis the US dollar after the collapse of the Soviet Union. As a hydrocarbon-intensive exporter, this policy had intuitive appeal given that international oil markets are priced in US dollar. In addition, public spending requires converting US dollar oil revenues in local currency. In January 2017, following two devaluations in 2015 as a result of a banking crisis and a slump in global oil prices, the central bank decided to abandon the *de jure* exchange-rate corridor and let the local currency, the manat, float freely. *De facto*, however, the free float was short-lived as the authorities continued to use the US dollar as a nominal anchor.

In view of its fiscal and institutional weaknesses, **Belarus** opted in the early 1990s for a money-based stabilisation. However, this approach was soon abandoned for an exchange rate-based anchor (via a peg or a crawling band) that was centred around the US dollar and the Russian ruble. In 2009, the peg was modified to a currency basket that included the euro in addition to the two currencies. As of 2015, along with the switch to a monetary-targeting framework that uses growth in broad money as an intermediate monetary policy target, the central bank started allowing for more flexibility of the exchange rate by scaling down foreign exchange market interventions. In the same year, the bank announced plans to introduce inflation targeting in the future. As of August 2018, the IMF reclassified the *de facto* exchange rate arrangement to floating from ‘Other managed arrangements’ as the bank stopped following the currency basket.

Since its independence in 1991 and until 1997, **Georgia** had a fixed exchange rate regime. The local currency, the lari, was pegged to the US dollar given the low level of trust in the new national currency. In 1997, however, with monetary credibility established after years of prudent policies, the central bank switched to a floating exchange rate regime. Since 2009, monetary policy has been based on a formal

---

<sup>7</sup> In Armenia, the *de jure* exchange rate arrangement is a free float. As the exchange rate has stabilised within a 2% band against the US dollar since early 2017, the *de facto* exchange arrangement was reclassified retroactively by the IMF to stabilised from floating, effective January 2, 2017.

inflation-targeting framework. The US dollar is the reference currency used for establishing the exchange rate of the lari against other currencies.

In the 1990s, **Moldova** opted for a managed float against the US dollar in order to ensure price stability. Active foreign exchange interventions (predominantly in US dollar) by the central bank continued until the *de facto* introduction of an inflation-targeting regime in 2009 (*de jure* the new regime was launched in 2010). As of 2008, the IMF classifies Moldova's *de facto* exchange rate arrangement as 'floating'.

Following sustained hyperinflation in the early 1990s, **Ukraine** introduced its new currency, the hryvnia, in 1996. In order to anchor the high inflationary expectations, the country pursued exchange-rate targeting with the US dollar being the reference currency either in the form of a tight managed float or a conventional peg. The peg against the US dollar came under attack during the global financial crisis and again in 2013, with the outbreak of an armed conflict in the eastern part of the country. As Ukraine's reserves declined rapidly and the peg became unsustainable, the central bank switched to a floating regime as of 2014. In 2016, the central bank introduced inflation targeting.

Although, as seen above, most of the EaP countries have opted to abolish the US dollar as an outright anchor, the US currency remains key in setting official exchange-rate quotations. The exchange rates of the local currencies against other currencies are calculated as cross rates using the official exchange rate against the US dollar. As a result, the exchange rate against the US dollar is often used for accounting (as a reference rate by entities and banks) and statistical purposes, for Treasury operations connected with external debt service, as well as for issuing new external obligations.

In the case of Georgia, the official exchange rate for the US dollar may be even used (this is not mandatory) for state budget and tax accounting and for payments between the government and businesses and other legal entities.<sup>8</sup> For the above-mentioned reasons, central banks continue to conduct foreign exchange market interventions predominantly in US dollars even though the euro is also used in some cases (for example in Moldova).

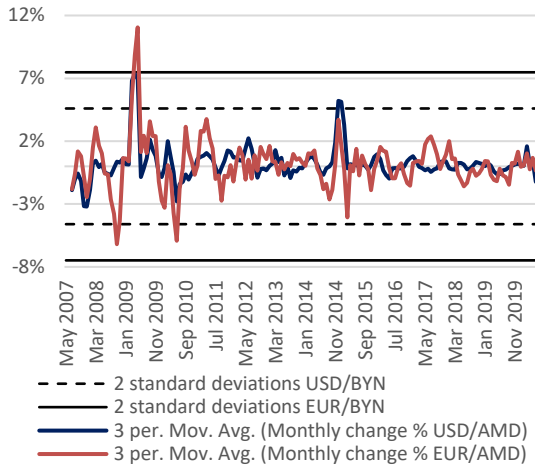
Graphs 2.4 to 2.9 plot quarterly changes in exchange rates of the euro and US dollar against local currencies. As can be seen from the graphs, the local currencies display over time a lower degree of volatility against the US dollar than against the euro. This is consistent with the exchange rate regimes and the use of the US currency for establishing exchange-rate quotations against other currencies.

---

<sup>8</sup> <https://www.elibrary-areaer.imf.org/Pages/Reports.aspx>

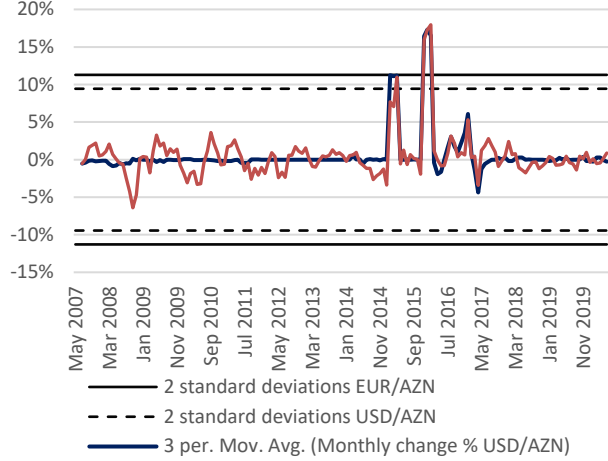


Graph 2.4. Armenia – exchange rate dynamics



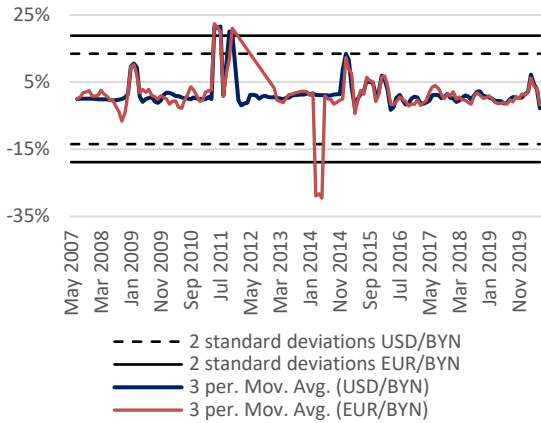
Note: Quarterly changes in AMD/USD and AMD/EUR  
 Source: Central Bank of Armenia.

Graph 2.5. Azerbaijan – exchange rate dynamics



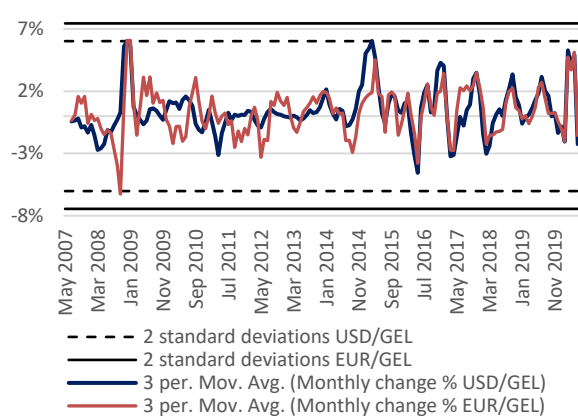
Note: Quarterly changes in AZN/USD and AZN/EUR  
 Source: Central Bank of Azerbaijan.

Graph 2.6. Belarus – exchange rate dynamics



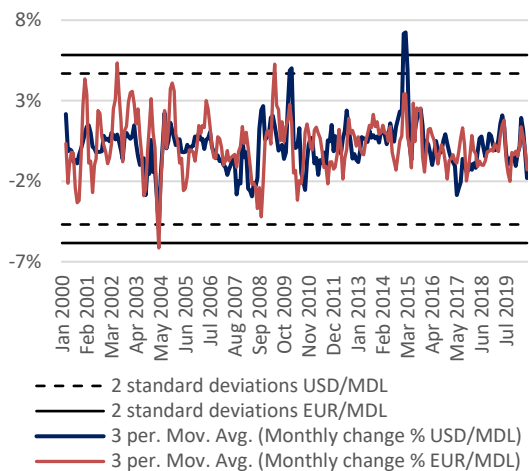
Note: Quarterly changes in BYN/USD and BYN/EUR  
 Source: Central Bank of Belarus.

Graph 2.7. Georgia – exchange rate dynamics



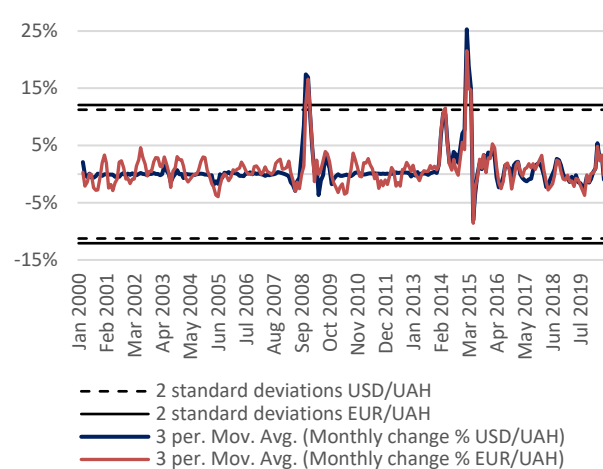
Note: Quarterly changes in GEL/USD and GEL/EUR  
 Source: National Bank of Georgia.

Graph 2.8. Moldova – exchange rate dynamics



Note: Quarterly changes in AMD/USD and AMD/EUR  
 Source: National Bank of Moldova.

Graph 2.9. Ukraine – exchange rate dynamics



Note: Quarterly changes in UAH/USD and UAH/EUR  
 Source: National Bank of Ukraine.

## 2.2.1 Global currency zones analysis

The international role of a currency can also be measured by estimating how shocks to the currency in question propagate to other currencies. That is, the exchange rate regimes of most of these countries can be approximated well by a soft peg to a currency basket dominated by the euro or the US dollar. The degree to which an international currency acts as an anchor for the exchange rate of other countries can be approximated by the degree to which its exchange rates vis-à-vis other currencies co-moves. By estimating the degree of exchange rate co-movement one can effectively split the global economy into a few currency areas, i.e. group of countries with exchange rates co-moving strongly with the US dollar, the euro or other major currencies.

In this section, we will refine the observations above and look at the extent to which each EaP country belongs to a given currency zone following the method developed by Frankel and Wei (1995). The principle is the following: an economy belongs to a given currency zone if its currency varies less against this currency than against others. Co-movement can arise from exchange-rate regime itself, but also from underlying trade relations and the pursued monetary policy (McCauley and Shu, 2018). It is beyond the scope of this report to analyse the channels and their importance behind such co-movements in the EaP region.

We estimate how much each EaP country co-moves with the US dollar, the euro, the renminbi, the Japanese yen, the British pound sterling and the Russian ruble over rolling windows of 36 months in 2000-2019. The beta coefficients are allowed to vary over time at the monthly frequency. We use the dollar as numeraire<sup>9</sup>.

We estimate the following regression:

$$\Delta e_t^{i/\$} = \alpha_i + \beta_{i\text{€}t} \Delta e_t^{\text{€}/\$} + \beta_{i\text{£}t} \Delta e_t^{\text{£}/\$} + \beta_{i\text{¥}t} \Delta e_t^{\text{¥}/\$} + \beta_{i\text{₽}t} \Delta e_t^{\text{₽}/\$} + \varepsilon_{i,t} \quad (1)$$

Where:

- $e_t^{i/\$}$  is the bilateral exchange rate of currency  $I$ , against the dollar
- $e_t^{h/\$}$  on the right-hand side of the equation is the exchange rate of the euro, the British pound sterling, the Japanese yen and the Russian ruble against the dollar.

The movements of each local currency against the US dollar on the left-hand side are reduced to a weighted average of the movements of the euro, the Japanese yen, the British pound sterling and the Russian ruble against the US dollar on the right-hand side, leaving a residual idiosyncratic movement. Thus  $\beta_{iht}$ , the estimated coefficient on the rate of change in the exchange rate of key currency  $h$  vis-à-vis the US dollar in period  $t$ , represents the weight of  $h$  in the behavioural basket.

The dollar's weight is calculated as  $\hat{\beta}_{i\$t} = 1 - (\hat{\beta}_{i\text{€}t} + \hat{\beta}_{i\text{£}t} + \hat{\beta}_{i\text{¥}t} + \hat{\beta}_{i\text{₽}t})$ . Hence, if a currency is pegged to the US dollar, then  $\sum_{h=1}^H \hat{\beta}_{ih} = 0$  so that  $\hat{\beta}_{i\$t} = 1$ . We have introduced the results on a map of Europe.

---

<sup>9</sup> Ma and McCauley (2011) demonstrate that the same Frankel-Wei results are obtained with the US dollar and the IMF's special drawing rights as numeraire. In principle, the currency anchoring and the degree of anchoring are two separate questions.

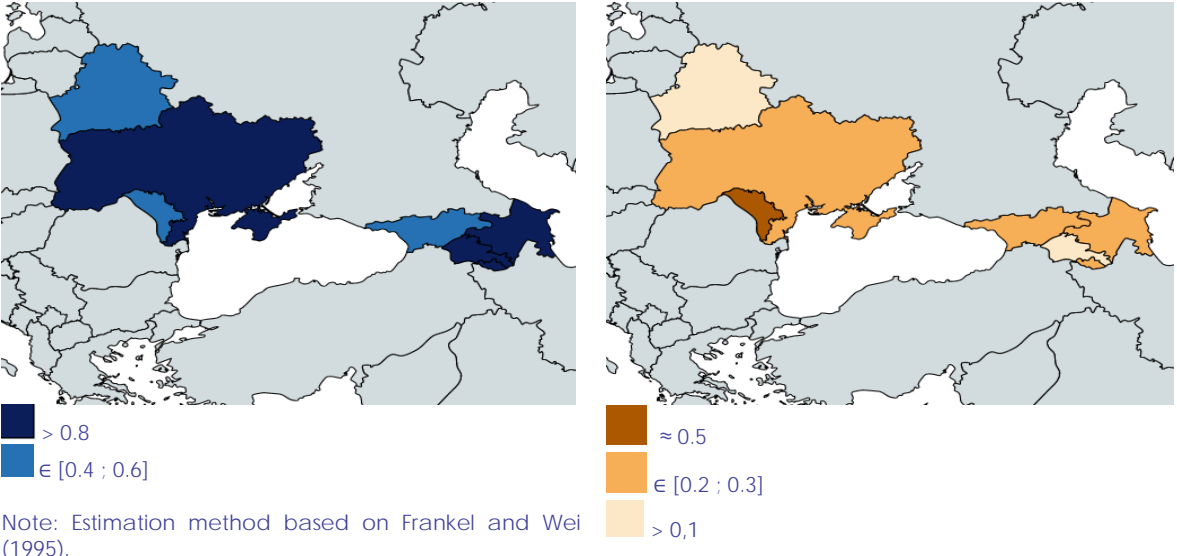
Equation (1) was first estimated over the whole sample (2000-2019). The adjusted  $R^2$  is very low for all the countries, meaning that overall, variations in the exchange rates of local currency against the euro, the renminbi, the Japanese yen, the British pound and the Russian ruble largely fail to explain shocks to demand for the domestic currency. On the other hand, it suggests that the US dollar plays a dominant role as an anchor currency. Only the Russian ruble and the euro, and to a lesser extent the renminbi, demonstrate statistical significance.

To see if and how their exchange rate regimes have evolved since 2016, when most countries applied floating regimes, we have extracted estimates from the last 36-month window regression and presented them in a map below. Our estimates show that the US dollar continues to play a dominant role in driving the exchange rates for all the EaP countries in 2016-2019. However, the adjusted  $R^2$  have improved, meaning that the independent variables have gained relevancy in explaining the variation in demand for the local currency.

Countries where the US dollar plays a greater role as an anchor currency are Azerbaijan (which reflects the *de facto* peg of the local currency to the US dollar) and Armenia, while its influence is most limited in Moldova and Belarus (graph 2.10). At the same time, the euro plays its greatest role (but still lower than the US dollar) in Moldova and Ukraine (graph 2.11). Its role is very limited in Armenia. The Russian ruble has a significant influence in Belarus and in Georgia (more important than the euro). It plays a very limited role for the other countries though.

Graph 2.10. Estimated co-movement with the US dollar

Graph 2.11. Estimated co-movement with the euro



Despite geographical proximity to the euro area, the findings confirm the dominant role of the US dollar in the EaP countries. This is partially due to historical inertia and the role of the US dollar as a safe haven. The multiple episodes of economic and financial crises led to currency substitution in favour of the US dollar and prompted central banks use the US dollar as a reference currency. Although most of the EaP countries have opted to abolish the US dollar as an outright anchor, the US currency remains key in setting official exchange-rate quotations. We have showed that not only the US dollar varies less against the different local currencies and displays a higher liquidity in comparison to the euro, but also that, by estimating the degree of exchange rate co-movement, it still acts as an informal anchor for the exchange rates of the EaP countries.

#### Box 1. ANECDOTAL EVIDENCE: WHAT DO EXCHANGE RATES BID-ASK SPREADS REVEAL?

Bid-ask spreads of exchange rates (i.e. the difference between the amount a dealer is willing to sell a currency for versus how much (s)he is willing to buy it for) can reflect the role a respective currency plays in a given country.

The bid-ask spread is a signal of the levels at which sellers are willing to sell, representing supply of a given security (ask), and at which the buyers are willing to buy, reflecting the demand (bid). An important determinant of the bid-ask spread is liquidity. A tight bid-ask spread usually reflects an actively traded security with high liquidity. If the volume is reduced, the spread will increase. As such, bid-ask spreads could be used as an intuitive proxy for the popularity of a particular currency, an indicator of its market liquidity in a country.

To this end, we gathered anecdotal evidence on the use of selected currencies in the six EaP countries by collecting buy and sell currency quotations as advertised by random foreign exchange bureaus in the capital cities. We have asked EU Delegations in each country to collect the sell/buy prices for several most widely quoted currencies, including the euro and US dollar, in two to three exchange kiosks per capital.

The findings from this exercise confirm the dominance of the US dollar. In all countries, save for Moldova and Belarus, the buy-sell spread is lowest for the US currency with the euro coming second. In Moldova, the euro enjoys a slight advantage against the US currency. In Belarus, the spreads of the two currencies are the same. According to the bid-ask spreads, the Russian ruble enjoys high popularity in Belarus and to a lower extent in Moldova and Ukraine.

### 3. ECONOMIC LINKS BETWEEN THE EASTERN PARTNERSHIP COUNTRIES AND THE EU

The EaP countries share close political and economic links with the EU. These have strengthened in recent years with the upgrade of the contractual relations through a new generation of bilateral association or partnership agreements that provide for an enhanced political and trade integration over the medium-term.<sup>10</sup>

The EU is now the largest trading partner for four of the six Eastern partners (second-biggest for the remaining two), while it is also a significant source of direct investment and remittances.<sup>11</sup> Strong trade, financial and migration links with the EU could favour a more prominent role of the euro in the region. We show below that the growing economic links between the Eastern countries and the EU provides a

---

<sup>10</sup> The EU has concluded Deep and Comprehensive Free Trade Area agreements with Georgia, Moldova and Ukraine (in force as of 2016-2017) as well as a Comprehensive and Enhanced Partnership Agreement with Armenia (applied provisionally as of 2019).

<sup>11</sup> The trade and other data used in this paper still include the UK in the definition of the EU. The exit of the UK from the EU in February 2020 will have significant applications for trade and investments statistics, as the UK is an important trade partner and foreign investor for some countries that trade heavily with oil and oil products (in particular Azerbaijan and Belarus).

rational to push for greater role of the euro in the region, notably thanks to its growing importance as a trade invoicing and trade settlement currency.

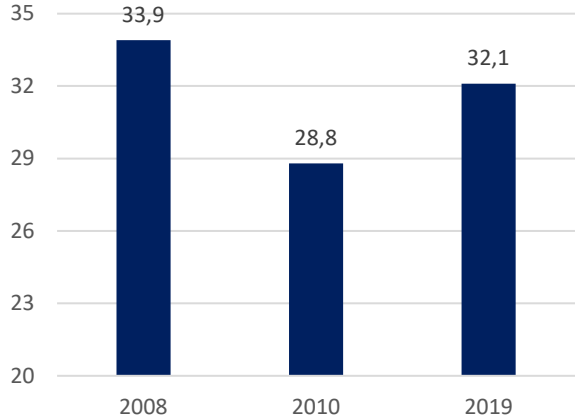
### 3.1. TRADE FLOWS

While the global financial crisis somewhat disrupted trade between the EU and its Eastern neighbours, there has been a revival in recent years, partly supported by the ongoing upgrade in EU-EaP relations through the above-mentioned new set of bilateral agreements (graph 3.1). For three countries, Georgia, Moldova and Ukraine, these include detailed provisions for enhanced economic integration on the basis of the establishment of free trade areas that support intra-regional trade of goods and services.

Armenia, Azerbaijan and Belarus have no preferential trade agreements and have chosen a different path for regulating their trade relations with the EU. Still, some of them have either recently concluded (Armenia) or are in the process of upgrading (Azerbaijan) their political agreements with the EU, which could also help stimulate bilateral trade and investments in the future.

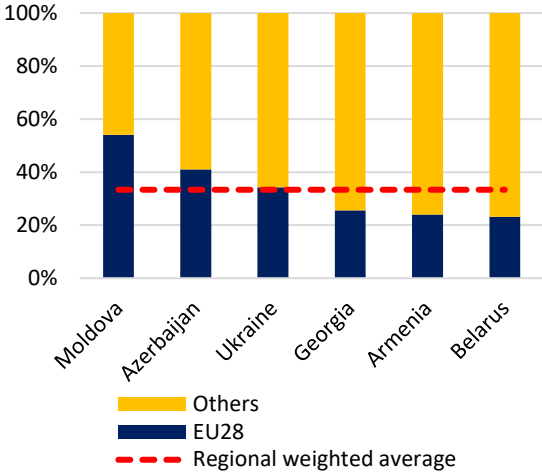
While the benefits for the EaP countries with Deep and Comprehensive Free Trade Area (DCFTA), which entered into force only in 2016-17, will be best seen over the long term, once the tariff dismantling will be completed and the various non-tariff barriers further eased, the first results observed give room for optimism. They reveal an increasing number of companies trading within the free trade areas with the EU and new products traded.<sup>12</sup> Trade flows with goods have increased significantly with Ukraine and Moldova (nearly 50% in the period from 2016 to 2019) but also Armenia, Azerbaijan and Belarus (30-40% in the same period).

Graph 3.1. Trade turnover (weighted average) with goods with the EU, % of total



Source: Commission calculations based on IMF Direction of Trade Statistics.

Graph 3.2. Trade with goods by destination, 2019



Source: Commission calculations based on IMF Direction of Trade Statistics.

The EU stands as the largest trade partner for the three DCFTA countries (Georgia, Moldova and Ukraine) and Azerbaijan (graph 3.2.). It comfortably holds the second position, as noted, for the remaining two, Armenia and Belarus, where Russia is the most important trade partner. In 2019, the EU trade in goods with the EaP region amounted to nearly EUR 79 billion. The EU share of goods trade per

<sup>12</sup> The number of Ukrainian companies exporting to the EU market rose by 24% since 2015 to 14,500 in 2019. In the case of Moldova, a 6% annual increase in the number of exporting companies to the EU was recorded in 2019.

country constituted 54% for Moldova, 40% for Ukraine, 37% for Azerbaijan, 23% for Georgia, 20% for Armenia and 18% for Belarus.

For the DCFTA countries, food products represent a large share of their exports to the EU. Base metals are important export items for Ukraine and Georgia. Benefiting from integration with the EU's car manufacturing industry, Moldova has a significant share of exports of automotive components. Regarding imports, chemicals and related products as well as machinery and transport equipment are a common denominator of the three countries: each of these sectors represent more than 10% of imports in Ukraine, Moldova and Georgia.

Armenia, Azerbaijan and Belarus are exporters mainly of commodities to the EU. Azerbaijan's exports are strongly concentrated in the mineral products (oil and gas). Mineral products in the form of refined petroleum are the dominant export item to the EU for Belarus as well. Other important export sectors are base metals (Armenia), chemicals (Belarus), and precious metals and stones (Armenia).

For all three countries, machinery constitutes a crucial import sector and - with the exception of Azerbaijan - mineral products, likely fossil fuels, are also important. We will see this further down, but it explains partly why the shift towards euro invoicing could be improved, as oil and gas products, where the US dollar is the dominant currency, constitute an important share of commodities exports to the EU.

In the wake of COVID-19 pandemic and disruption of global value chains, the process of nearshoring could further strengthen the trade links between the EaP countries and the EU. The crisis created serious disruptions (e.g. transport suspension, factory closures) in product inflows which exposed the vulnerabilities of global value chains. This could serve as an incentive for EU companies to reallocate outsourced activities closer to its borders, the so-called nearshoring, and ultimately further boost trade with the EaP region.

## **3.2. FINANCIAL FLOWS: FDI, REMITTANCES, BANKING SECTOR**

### **3.2.1 FDI in the region**

The EU is by far the dominant foreign investor in the region. It accounted for some 50% of the foreign direct investment (FDI) stock in the EaP region at end-2018 in weighted terms (graph 3.3). In particular, EU companies commanded over 60% of the foreign investments in Moldova and 70% in Ukraine, which is the largest economy in the region with a share of approximately a half of the total six countries. The EU is a key investor in the remaining four EaP countries, with shares ranging from 35% (Armenia) to 45% (Georgia).

The above-mentioned figures should be treated with caution though, as they tend to over-estimate the actual importance of the EU as investor, and thus the potential importance of the euro as a financing/trade-settlement currency. FDI in some countries has been substantially inflated by the so-called round-tripping – domestic investments routed through a foreign country for reasons like tax optimisation or property rights protection (including concealing direct ownership).

For example, such practices were widely used in Ukraine before the 2014 crisis. According to estimates of the National Bank of Ukraine, nearly 40% of the FDI inflows in 2010-2013 represented round-tripping transactions that were mainly implemented via Cyprus.<sup>13</sup> The figure has dropped drastically by 2018 and partly explains the much lower level of FDI inflows in recent years. Cyprus is also widely used by

---

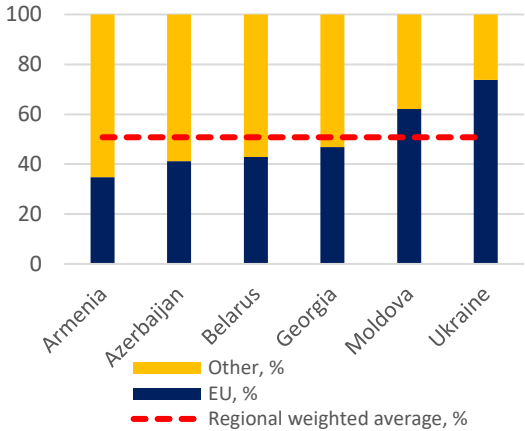
<sup>13</sup> <https://bank.gov.ua/en/files/rRSNvteXHvOavxA>

Russian companies for investment activity. This can explain the high share of the country in the investment stock of Belarus and, to a lower extent, Armenia and Moldova. Finally, it should be also noted that Russian companies often use their Netherlands-based subsidiaries for implementing their investment policies in the EaP region. This goes in particular for the oil and telecom sectors.

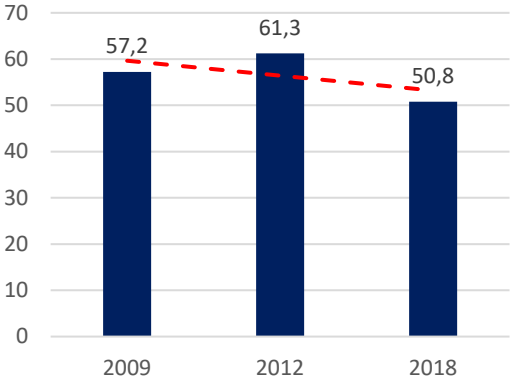
A number of factors have challenged inward FDI lately, including from the EU. Political risks have been on the rise due to domestic instability that often results in changes of governments and delayed reform implementation but also recurrent regional military conflicts (e.g. Eastern Ukraine in 2013-14, Armenia and Azerbaijan over the Nagorno-Karabakh enclave in the autumn of 2020). This, coupled with a structural shift of FDI from goods to services, largely explains the decline in investment inflows witnessed since 2008. Another impediment seems to be slow progress with the rule of law and institution building – key ingredients for attracting foreign investments. Unlike business environment and trade openness, progress with establishing independent and credible judicial systems in the region has been rather uneven.

Finally, there was a significant change in risk patterns post-2008 as foreign investors assumed a much more risk-averse approach. This seems to be particularly the case for key investor partners such as the EU and Russia. The outward investment activity of Russia has been further affected by international sanctions following the annexation of Crimea. In fact, Russian companies not only scaled back new investment in a number of EaP countries (namely Ukraine and Moldova) but also started withdrawing capital as the sanctions kicked in.

Graph 3.3. Inward FDI stock, end-2018



Graph 3.4. Inward EU FDI in EaP countries, % of total



Source: Commission calculations based on IMF FDI statistics database.

### 3.2.2 Inward remittances

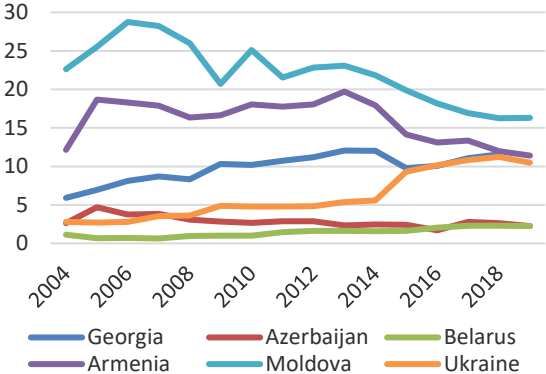
Due to significant levels of outward migration and the relatively small size of the six countries, remittances account for a sizeable part of these economies (graph 3.5). They are also an important source of foreign currency inflows. Moldova (16% of GDP in 2019), Georgia and Armenia (respectively, 13% and 11% of GDP), and Ukraine (11% of GDP) are particularly dependant on remittances. In nominal terms, Ukraine receives twice as much remittances as the five other partners combined.<sup>14</sup>

<sup>14</sup> The role of remittances in Moldova and Armenia has declined substantially since the global financial crisis. In 2007, remittances inflows stood at 29% and 17% of their respective GDP. However, high economic growth (denominator effect) and declining inflows brought these shares significantly down by 2019. By contrast, remittances more than doubled their weight in

Since 2013, the share of the EU as a source of remittances to the EaP countries has significantly increased, in particular in the ones that opted for closer economic and political integration through the DCFTA agreements (graph 3.6). This also coincided with a continuous decline in the importance of Russia as a source of remittances, a reflection of the oil shock in 2014 and the trade and investment sanctions imposed by Western countries on this country following its annexation of the Crimea peninsula. According to figures from national authorities on money transfers from abroad, which are a close proxy of the dynamics of remittances, the EU overtook Russia as the main source in Moldova (in 2017) and in Georgia (in 2018).

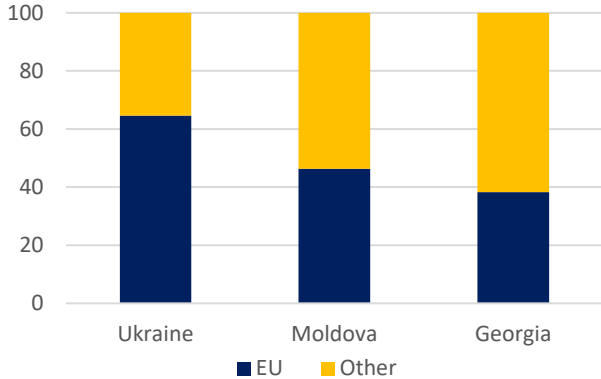
The re-orientation of Ukraine towards remittances from the EU was even faster. In 2019, nearly two-thirds of all inflows came from the EU. The share of Russia, once a dominant source of remittances for the country, dwindled to 10.6%. Overall, in 2019 the EU was the main source of remittances for the three DCFTA countries, which comes as another confirmation for their growing dependence on the EU economic cycle. Furthermore, for each of these countries, the share of EU flows has been continuously on the rise. In Armenia, Russia remains the dominant source for remittances (nearly 54% of the total in 2019) but, similar what has been observed in other countries, its share is rapidly decreasing - it stood at 75% in 2013.

Graph 3.5. Remittances inflows, % GDP, 2004-2019



Source: Commission staff calculations based on figures from the national administrations; World Bank.

Graph 3.6. Money transfers from abroad in 2019, %



Source: Commission staff calculations based on figures from the national administrations.

3.2.3 Financial sector links

Financial integration between the EU and the EaP countries is limited with the exception of Moldova. This could be explained by a variety of factors such as a dominant position of the state in the banking sector in a number of countries (Azerbaijan, Belarus, Ukraine) or of domestic private actors (Georgia), which serves as an entry barrier. Weak interest from EU financial institutions in entering/expanding on these markets is also an important factor behind the modest presence of EU financial institutions in the region. This reflects both domestic barriers, in particular a weak, although recently improving, institutional framework, and growing risk-aversion by European investors. The latter was particularly evident following the global financial crisis when significant deleveraging led several EU banks to exit from the EaP market, and in particular from Ukraine.

---

Ukraine as the 2014 crisis resulted in a significant migration to the EU (in particular Poland and more recently to Czechia) and a corresponding surge in remittances.



As for the institutional weaknesses, they are best evidenced by the 2014-15 banking crises in Azerbaijan, Moldova and Ukraine that were all driven by weak oversight, which led to the proliferation of fraudulent practices by some of the biggest commercial banks of these countries. On the positive side, they all took steps to address the shortcomings and strengthen the banking sector, moves that are not only likely to increase the its appeal for investors but also improve the overall macroeconomic fundamentals and support business activity.

## 4. CHARACTERISTICS AND DETERMINANTS OF THE USE OF THE EURO IN EASTERN PARTNERSHIP COUNTRIES

### 4.1. RESULTS OF THE EUROPEAN COMMISSION’S SURVEY

#### 4.1.1 Overview

At the end of 2019, the European Commission conducted a survey with the help of central banks, ministries of finance and other state institutions on the use of the euro and other currencies in the Eastern Partnership. The data gathered for 2018 covered five dimensions: cross-border trade transactions, remittances, foreign exchange reserves and swap lines, public debt and banking sector.

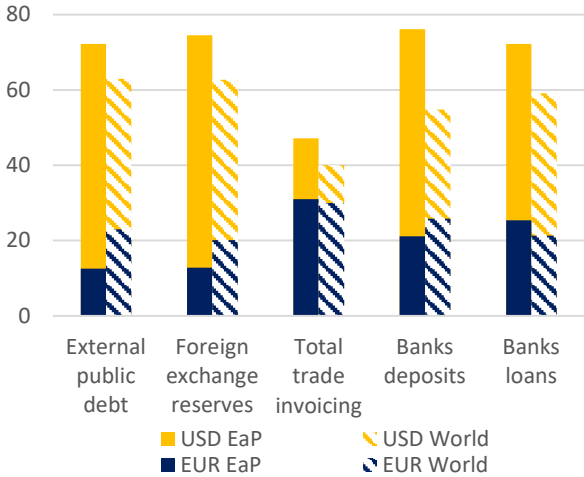
#### 4.1.2 Comparison with global use of euro

In spite of increasing political and economic links with the EU, the euro still plays a relatively limited role in the EaP region. Except for Moldova, the use of the euro remains below the global average. Across several dimensions – debt issuance, reserve assets and bank deposits – the countries in the EaP continue to exhibit a relatively high dependence on the US dollar, i.e. they use it, in relative terms, more than the rest of the world (graph 4.1). The use of the euro is, however, at par when it comes to trade invoicing and bank lending.

To explain why the share of the euro in trade invoicing matches global averages in the EaP, it is useful to recall the importance of the EU as a trade partner in the region, along with the increasing capacity of European importers and exporters to process payments in their own currency. As for bank loans, related trade financing needs and the low interest environment have boosted demand for euro-denominated loans.

When it comes to debt stock, it should be noted that while the share of euro is still relatively modest when compared to the one of the US dollar, the euro has been rapidly gaining weight in recent years. For example, all new debt signed by Georgia in 2019 was denominated in

Graph 4.1. Overview: International monetary system vs Eastern Partnership in 2018, %



Note: When reading the graph, keep in mind it is a clustered and stacked column chart – it clusters EaP vs World for each dimension and stacks USD and EUR.

Source: Survey 2019 DG ECFIN; ECB (2019, 2020) *The international role of the euro*; Gopinath, G., *The International Price System*, NBER Working Paper, No 21646, 2015.

euro. At the same time, Ukraine tapped the euro-denominated market for the first time in 15 years.

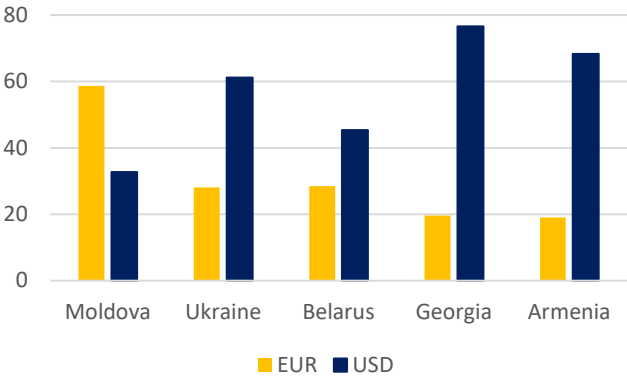
Despite a gradually increasing role of the euro in some dimensions, the US dollar remains by far the dominant foreign currency used by the EaP countries. On (weighted) average, at the end of 2018 they denominated around 75% of their foreign exchange reserves in US dollars. Furthermore, the US dollar accounts for 47% of their trade invoicing; 72% of the external public debt; 76% of the foreign currency deposits and 72% of loans to households and non-financial corporations. On average, 60% of the assets and 58% of the liabilities of the banking sector are denominated in US dollars, as well as nearly 28% of remittances inflow (without Belarus and Azerbaijan).

**4.1.3 Analysis by country**

Although consistent with what one could have expected given the depth of economic links with the EU, these average figures hide a rather diversified use of the euro among the EaP countries, with some using it more than global averages while others only at the margin.

Based on the survey’s results, we constructed a composite index of the use of the euro for each country. The index is based on the arithmetic average of the shares of the euro in stocks of external public debt, foreign-exchange reserves, domestic bank loans and deposits denominated in foreign currency, and gross foreign assets and liabilities of the banking sector, inward remittances and exports and imports of goods (graph 4.2).

Graph 4.2. Composite index of the use of the euro across EaP countries



Note: Azerbaijan’s overall position could not be determined due to lack of data.

Source: Commission staff calculations based on Commission 2019 survey, data from official national sources.

Moldova stands out by a large margin – it uses the euro in more than half of the above-mentioned dimensions on average. Ukraine and Belarus follow with a bit less than 30% of all their stocks and flows in foreign-currency transactions denominated in euro. Georgia and Armenia display the lowest share of exposure to the euro in the region. While there is not sufficient data across all dimensions to evaluate the use of different foreign currencies in Azerbaijan, the importance of the oil sector for the economy suggest a relatively modest role for the euro.

It should be also noted that Moldova is the only country in the region where the euro outweighs the use of the US dollar. This corresponds to the much closer economic ties this country enjoys with the EU. Another explanatory factor seems to be Moldova’s lower reliance on commodities in its trade as compared to the other EaP countries. Commodities are usually traded in US dollars in global markets. Belarus is the only other country where the US dollar enjoys less than a 50% share. This reflects the country’s relatively high exposure to the Russian ruble, in particular in trade invoicing. Overall, we see that the more highly dollarised an economy, the less euroised it is. This confirms the substitutability of the two currencies in their global role.

We explore in more details below four dimensions of foreign currency usage - cross-border trade transactions, foreign exchange reserves, external public debt and the commercial banking sector. To this end, following a short review of the relevant economic literature, we present the results of the survey across the various dimensions.

## 4.2. THE EURO IN TRADE INVOICING

### 4.2.1 Literature review

The euro is a major invoicing currency, reflecting the fact that the EU is the world's largest trading block. Since its introduction in 1999, most euro-area countries expanded their use of the euro in the trade of goods and services with countries outside the euro area. The share of the euro in the invoicing of euro-area international trade transactions in goods fluctuated around 50-60% over the last decade (ECB 2019). In 2019, over 61% of extra-euro area exports and 51% of extra-euro area imports of goods were invoiced in euro. Developments in some markets (in particular energy, where the role of the US dollar remains very important) may explain some of the variations in the share of the euro as an invoice/settlement currency, along with 'economic size, global value chain integration and strategic pricing complementarities in world export markets' (ECB, 2020).

However, unlike the US dollar, whose role as an invoicing and settlement currency exceeds significantly the weight of the US in global trade, the use of the euro for the invoicing of international transactions among third countries is rather limited. The ECB estimates that non-European countries use the euro proportionately no more than predicted by their exports to the euro area, except for the EU Member States in Central and Eastern Europe and Turkey. Ito and Chinn (2014), expanding a dataset constructed by Goldberg and Tille (2008) and Kamps (2006) covering 50 countries, found that overall around 40% of exports and 50% of imports of countries other than the US were invoiced in US dollar between 2010 and 2012.

A variety of factors defines the choice of a currency in international trade invoicing and settlement. They include, among others, (i) transaction costs and industry characteristics (market/bargaining power, homogeneous goods); (ii) inertia and market externalities; (iii) exchange rate and macroeconomic volatility; (iv) country size and monetary union; and (v) financial issues.<sup>15</sup>

Cost considerations are central when exporters/importers decide in what unit to invoice and settle transactions. Swoboda (1968) emphasised that currencies with low transaction costs are likely to be chosen as medium of exchange. McKinnon (1979) took this hypothesis and extended it to homogenous goods and primary commodities. He believed these types of goods were more likely to be invoiced in a vehicle currency that offered low transaction costs and increased international comparability and transparency. Indeed, using a similar invoicing currency enables potential buyers to compare prices and eases entry costs for international markets. This is particularly important for the pricing of international commodities (i.e. *numéraire* function).

McKinnon also emphasised the role of market and bargaining power. Goldberg and Tille (2005) introduced the "herding" characteristic, where producers follow their competitor's invoicing strategy, and emphasised the role of industry specific features together with the degree of competition and elasticity of demand. Network externalities are also deemed to play an important role (Rey, 2001 and Chinn and Frankel, 2008), with the wide use of a currency of exchange being self-reinforcing. In fact, it

---

<sup>15</sup> For a detailed overview of the factors influencing the currency choice in international trade invoicing, please see JRC report '*Invoicing Currencies in International Trade - Drivers and Obstacles to the Use of the Euro*'

goes beyond the invoicing role. For instance, knowing that the cost of credit is likely to be the lowest in the most liquid and deepest financial markets, exporters and importers are theoretically more likely to invoice and settle their trade transactions in a given currency with developed financial markets, meaning that network and scale effects could play a significant role for the choice of the trade invoicing currency.

Recent research (Gopinath et al, 2020) focuses on the so-called *dominant currency paradigm* that attributes the extensive use by companies of an international currency (the US dollar) in price setting for international trade and funding to, among others, the growing importance of global value chains. The use of imported intermediate inputs in exports favours the adherence to a single, dominant currency in international trade and results in a high degree of stickiness of trade prices in this currency.

At an empirical level, few studies have focused on what determines the use of a currency, and in particular the euro, in the invoicing of international trade. A 2016 study by the Joint Research Centre (JRC) emphasised the role of transaction costs, bargaining power, herding, as well as product and market characteristics when using the euro in international trade invoicing in selected industries (see Box 2).

A panel data analysis conducted by Ito and Chinn (2014) found that the larger the share of its exports that goes to the US or the euro area, the more likely it is for a country to invoice in dollars or euros, respectively. In addition, if a country exports more commodities, it tends to invoice in US dollar, while alternatively, the more differentiated products it exports, the more likely it is to invoice in the home currency. A country with higher inflation and exchange rate volatility is more likely to invoice in US dollars. Finally, they find that the deeper and larger a country financial market is, the less likely it is to invoice its exports in US dollar compared to other currencies, including its home currency.

The question here is how these theoretical considerations square up with the habits of exporters and importers in the EaP countries. In what follows, descriptive data on trade invoicing are provided for every country, except Azerbaijan. Additional insights are presented for Moldova, where the European Business Association in the country conducted a flash survey of exporters and importers' currency invoicing patterns.<sup>16</sup> It turns out that, in the absence of developed financial market infrastructure, the main determinants of the trade invoicing patterns in the EaP countries are market characteristics and bargaining power, along with inertia and network externalities.

**Box 2. INVOICING CURRENCIES IN INTERNATIONAL TRADE: DRIVERS AND OBSTACLES TO THE USE OF THE EURO**

A JRC (2016) study explores determinants and obstacles to the use of the euro in international trade invoicing across industries by looking at legal, regulatory, accounting and international payment infrastructure restrictions, and/or trade practices.

It examines five sectors – (i) aircraft, (ii) energy, (iii) financial services, (iv) electrical engineering, and (v) mechanical engineering. The survey consists of a quantitative and a qualitative part. The quantitative survey covers industrial firms in Germany, France and Italy, and financial services in the UK. The percentage of exports of euro-area firms to countries outside the euro area invoiced in euro ranges from 60% to 75% (depending on the methodology used).

For the industrial sectors, the survey finds out that:

<sup>16</sup> The European Business Association in Moldova is a non-governmental association promoting private business between the EU and Moldova.

- Euro-area firms mainly invoice in euro when exporting;
- Firms tend to adopt the invoicing currency of their main competitors;
- Firms in large countries tend to invoice more in their own currency than in other currencies;
- Large firms (in terms of turnover and total exports) invoice less in euro than in other currencies;
- More homogeneous goods tend to be invoiced in dollars (rather than in euros) in absolute terms;
- Availability of trade credit increases the likelihood of not invoicing in euros;
- Transaction costs in foreign-exchange markets are lower for the US dollar compared to the euro.

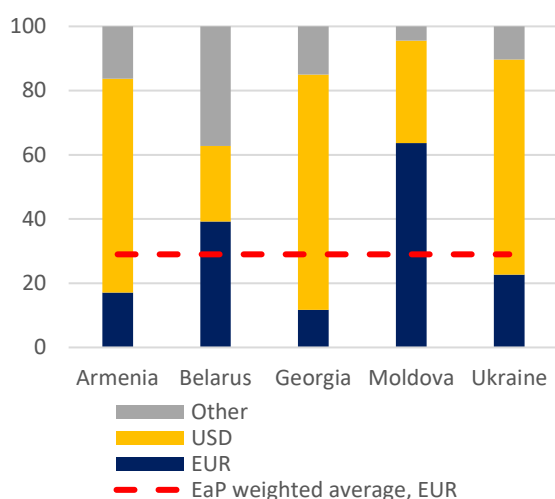
Source: Langedijk, Karagiannis & Papanagiotou, Invoicing Currencies in International Trade – Drivers and Obstacles to the Use of the Euro, JRC Science for Policy Report, 2016.

## 4.2.2 Trade denomination in the EaP countries

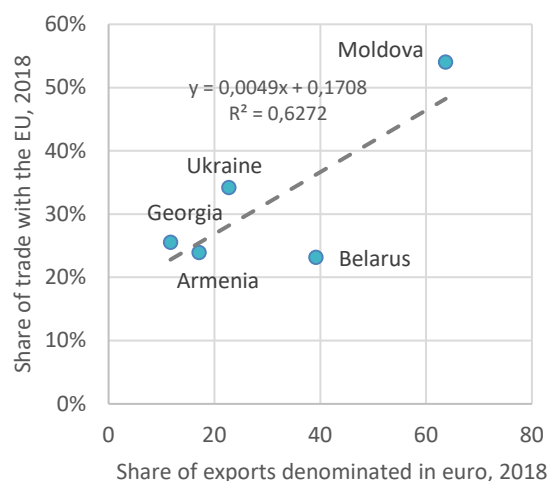
We report figures for cross-border transactions of goods only, as statistics for invoicing of trade with services are not available for the region.<sup>17</sup> The US dollar is the dominant invoice currency for most of the countries, save for Moldova and Belarus, where the euro and the Russian ruble play, respectively, a more important role.

As for the euro, on average, 29% of exports in goods of the EaP countries in 2018 was denominated in euros. The figure varies considerably, however, ranging from 11% in Georgia to 63% in Moldova. Overall, the greater the importance of trade flows with the EU, the greater the share of trade exports denominated in euro (graphs 4.3 and 4.4).

Graph 4.3. Invoicing of exports of goods by currency, 2018 (%)



Graph 4.4. Euro invoicing in exports vs trade with EU



Source: Commission 2019 survey, national administrations.

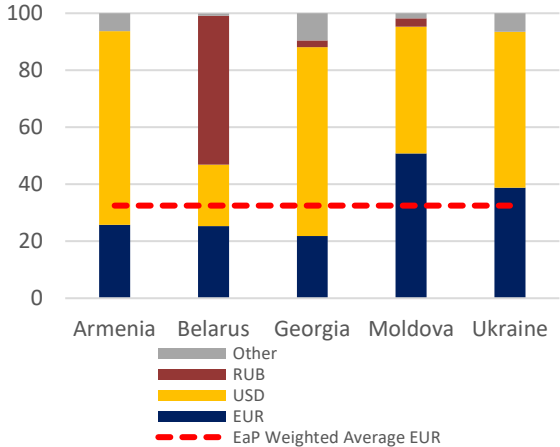
While overall export invoicing in euros largely corresponds to the share of trade with the EU, there are significant mismatches per countries. In Ukraine, only slightly more than 20% of the exports are invoiced in euro, whereas the EU accounts for approximately 35% of the country's exports. The euro

<sup>17</sup> Trade in services plays an important role for a number of EaP countries, in particular ones with a well-developed tourist sector. For example, in 2019, trade in services accounted for nearly 50% of total trade in Georgia and for 43% in Armenia. Services represented around 27% of the trade turnover of Ukraine and 21% of Belarus in the same year. In this case, they were mainly focused in transport and IT and communication, with the latter seeing strong growth across the countries in recent years.

seems to be under-represented (when compared to the trade turnover) in the case of Georgia and Armenia as well. This could be explained by the important share of commodity trade in these two countries.<sup>18</sup> We know that the US dollar is widely used as a vehicle currency – currency that is neither the exporter’s currency nor the local currency – for homogeneous goods such as oil and other energy products. As an example, around 85% of extra-EU oil imports are invoiced in US dollar according to Eurostat.

When it comes to merchandise imports in the EaP countries, the euro enjoys a slightly higher share (a weighted average of 32%). This could reflect the lower weight of commodities, save for energy, for some of the countries compensated by a greater importance of machinery and equipment as well as by the stronger position of EU exporting companies in the choice of invoicing currency. While Moldova is again a comfortable frontrunner, Ukraine stands second, with nearly 40% of its imports being denominated in euro. This is nearly twice higher than the share of euro-invoiced exports of goods, a likely reflection of the lower prominence of commodities in this case. Another interesting case is Belarus, where the Russian ruble is the dominant invoice currency.

Graph 4.5. Invoicing of imports of goods by currency, 2018 (%)



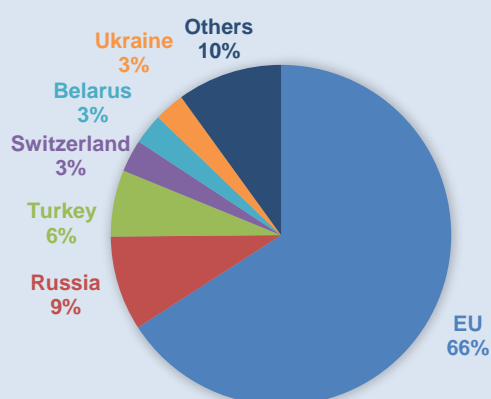
Source: Commission 2019 survey, national administrations.

**Box 3. CURRENCY DENOMINATION OF CROSS-BORDER TRADE TRANSACTIONS IN MOLDOVA**

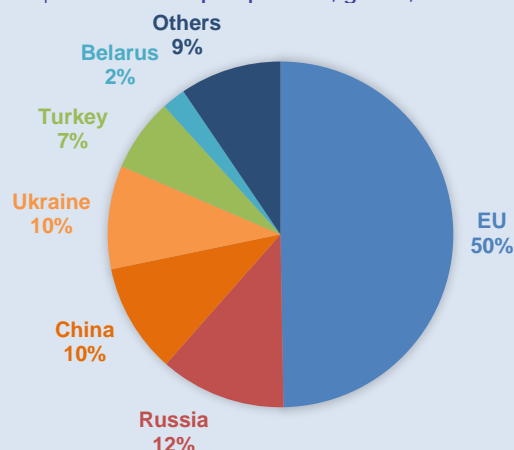
In February 2020, the European Business Association (EBA) in Moldova conducted a flash survey with some of its members on the invoicing practices of export/import companies. In 2018, goods invoiced in euros represented 64% of Moldova’s exports and 51% of its imports. This mirrors the country’s share of exports and imports to the EU (see graphs 4.6. and 4.7. for 2019 trade with goods). The rest was mainly in US dollars and, marginally, in Russian rubles. Exports denominated in euros consisted mainly of agricultural and food products, machinery and mechanical appliances, electrical equipment, and textiles. Imports also involved chemical products and transportation means. As for services, the euro share was around 57% of imports and 49% for exports. Within the EU, Moldova’s main trading partners are first Romania, then Italy and Germany.

<sup>18</sup> The main export item for both Georgia and Armenia is copper ore. Armenia also has a high share of exports of unpolished diamonds. On the import side, both countries are heavily dependent on hydrocarbon.

Graph 4.6. Main export partners, goods, 2019



Graph 4.7. Main import partners, goods, 2019



Source: EBA Moldova.

### Overall determinants of currency choice

In view of Moldova's relative small domestic market, local companies are usually "currency-takers". Given the low nominal value of imports and exports, they are rarely in a position to decide on the currency in which transactions should take place. Hence, the lack of bargaining power often implies using the trade partner's national currency or a vehicle currency.

### Factors supporting the use of the euro

The EBA's survey revealed a number of factors favouring trade invoicing in euros. The most important one seems to be the strong and growing economic links with the EU. Following the signature of the DCFTA in 2014, trade flows between the EU and Moldova rose considerably. As a result, the share of the EU in the trade turnover of the country surged by nearly 10 percentage points to 55% in 2019. This resulted in an automatic increase in the share of traded goods denominated in euro. Companies also highlighted the rising share of EU investments in Moldova as a key driver for the increased use of the euro in trade settlement transactions. Some companies noted the lack of financial derivative products to hedge against local market fluctuations as a barrier for an even wider use of the euro.

### Factors supporting the use of the US dollar

The US dollar is the reference currency in Moldova's exchange rate regime. This means that the MDL/USD exchange rate is less volatile than other currency pairs, including the MDL/EUR. Although Moldova has become increasingly "euroised" and its monetary policy framework is classified as an inflation-targeting regime, it has been tracking the US dollar to smoothen domestic price developments.

Furthermore, a high level of foreign exchange reserves denominated in US dollar ensures a greater level of stability to the MDL against the US currency. This point is rather important as Moldova's financial infrastructure is not sufficiently well developed and very few exporters/importers hedge foreign currency risk, meaning that they would rather opt for the currency with the lowest exchange-rate movements.

## 4.3. THE EURO IN FOREIGN EXCHANGE RESERVES

### 4.3.1 Literature review

The currency composition of official foreign exchange reserves is affected by each country's exchange-rate arrangements and co-movements of the domestic currency with main international currencies, and the currency composition of trade invoicing, financial liabilities and investment flows (Ito and McCauley, 2019). Other factors, although difficult to quantify, include the level of development of the financial sector as well as geopolitical role of a particular country (group of countries). Last but not least, as for other international currency functions, inertia seems to play an important part in the currency composition of foreign exchange reserves.

According to the ECB (2020), the shares of the US dollar and the euro in global holdings of foreign exchange reserves<sup>19</sup> remained relatively steady from 1999 to 2019, with roughly 20% being in EUR-dominated assets, compared to approximately 60% in ones in US dollars. It means that the euro's share is no substantially higher than the combined weight of the currencies that were part of the European Exchange Rate Mechanism before the euro was launched in 1999.

After bottoming out at 19.2% at end-2017, the share of the euro in global official reserve holdings gradually increased to 20.5% at constant exchange rates at the end of 2019. While in 2018, the increase resulted from a mechanical effect as emerging economies sold USD-denominated reserves due to tensions in financial conditions, reversals in cross-border capital flows (local currency stabilisation), international trade tensions and unilateral sanctions, motives underlying the purchase of euro assets in 2019 were less clear. We can note the diversification strategies pursued by some countries.<sup>20</sup> The already mentioned geopolitical considerations incentivised China and Russia to sell a combined USD 204 billion worth of US Treasury debt securities in 2018 and another USD 58 billion in 2019.

Although the US dollar remains the global reserve currency, the share of USD-denominated reserves declined by more than 8 percentage relative to its peak before the global financial crisis to 60.9% at end-2019. While some countries such as Japan and euro area countries increased their exposure to the US dollar, it is worth noting that others are increasingly seeking to diversify their reserve portfolios away from the two leading international currencies, including in the search of higher yields as the amount of reserves keeps on growing at a rapid pace.

As a result, the share of reserves held in currencies other than US dollar or the euro has nearly doubled (from 10% to 18%) since the global financial crisis. This was mostly due to rising holdings in Japanese yen (also considered as a safe haven currency) but also British pound sterling. More recently, diversification extended to other currencies such as the renminbi, the Australian dollar, and the Canadian dollar, among others.

---

<sup>19</sup> In addition to the official reserve assets, the international reserves statistics include the foreign currency liquidity of the monetary authorities of a country, as well as other balance-sheet and off-balance sheet activities such as forwards, futures and other financial derivatives, undrawn credit lines and loans guarantees.

<sup>20</sup> In response to US sanctions in 2018, Russia decided to halve its US dollar holdings by more than USD 100 billion in the final quarter of 2018 (sell-off of long-term US treasuries), boosting the share of euro- and renminbi-denominated reserves by USD 44 billion each, and by USD 21 billion for the Japanese yen. As of early 2020, the Russian central bank kept 32% of its USD 485 billion reserves in euros, as opposed to 22% in US dollars.



### 4.3.2 Foreign exchange reserves in the EaP countries

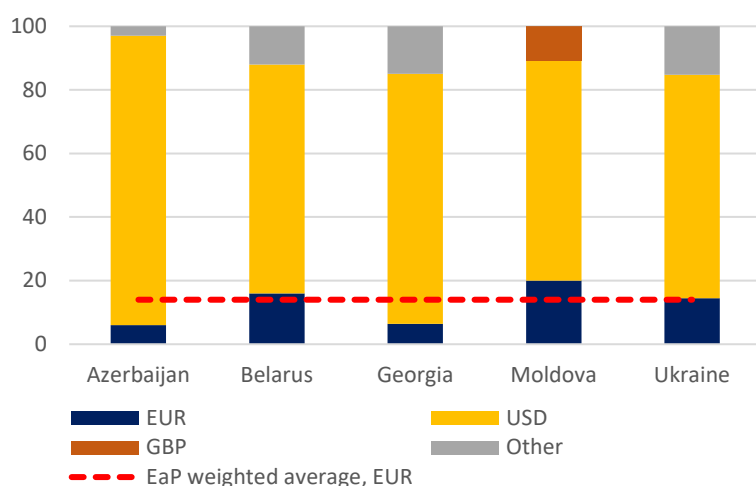
Central banks in the EaP countries hold a much lower share of their reserves in euro when compared to the global average. At end-2018, the share ranged from 5-6% in Georgia and Azerbaijan to 20% for Moldova, with the weighted average being around 13% (graph 4.8).<sup>21</sup> Hence, in spite of the ‘dominant currency paradigm’ which states that central banks tend to hold their reserves in the same currency in which resident firms invoice their imports and exports, so as to be in a position to provide that currency in case needed, the euro seems to be punching well its weight in all EaP countries given the intensity of trade relations between the two regions.

For Azerbaijan, it is worth noting that these calculations do not cover the assets of the sovereign wealth fund of the country, SOFAZ. At USD 43.4 billion at the end of 2019, these were close to the central bank reserves of the six EaP countries combined. In the case of SOFAZ, the euro plays a more prominent role - at end-2019 some 31% of the reserves were in euro-denominated instruments as compared to 56% in US dollars, which also includes a sizeable part in gold. If the assets of the sovereign wealth fund were included in the CBAZ reserves, the share of euro-denominated assets in Azerbaijan’s total international reserves would reach 28% and the weighted average for the region would correspond to nearly 23%, or above the global average.

As for the EaP region, several factors, both external and internal, influence the level of euro-denominated reserves. The use of the US dollar as a vehicle currency for foreign exchange intervention by central banks and in some cases, in particular Azerbaijan, as a *de facto* anchor currency tends to undermine the role of the euro in the international reserves.

Highly-dollarised banking systems (see section 4.5) and the still dominant, although declining, share of US dollar-denominated debt further reinforce the argument for relatively low holdings of euro-denominated reserve assets. Moreover, low yields also tend to drag down the attractiveness of holdings in euro at the expense of other currencies, whose instruments offer a higher return.

Graph 4.8. Foreign exchange reserves by currency, end-2018 (%)



Source: Commission staff calculations based on Commission 2019 survey, national administrations.

<sup>21</sup> In 2019, there were considerable changes in the currency distribution of foreign exchange reserves for some of the EaP countries. In Georgia, the share of euro-denominated reserves jumped by 8 percentage points in one year, while in Moldova by 3 percentage points. In contrast, the share of euro-denominated reserves declined in Ukraine in 2019 and continued its downward trend in the first nine months of 2020 (to less than 11% at the end of September).

The limited supply of euro safe assets also seem to impede a greater role of the euro in foreign exchange reserves. In 2018, the supply of marketable US government debt, at over USD 14 trillion, overshadowed by far the combined availability of German and French marketable government debt, at just over USD 3 trillion (USD 4 trillion if we include the marketable debt of euro area sovereigns). With volatile spreads throughout the crisis, the debts of Italy, Spain, Portugal, and Greece have not been widely included in official reserve portfolios outside the euro area. Similarly, the stock of non-financial corporate debt securities differs significantly. At end-2018, the US stock was about five times bigger than the one of euro area corporate issues. The gap reflects the high reliance of the EU on bank financing as compared with capital market financing that is prevalent in the US.

It is also interesting to note that supply of US government debt has been growing much faster than the one of euro assets since the global financial crisis. Eichengreen and Gros (2020) estimate that the stock of US government bonds more than doubled since the global financial crisis until end-2019. At the same time, the stock of safe euro assets (excluding supranational issuance) rose by mere 10% when adjusted for the exchange rate fluctuations. However, this situation might change as in a response to the COVID-19 pandemic EU Member States tasked the European Commission to borrow on international markets sizeable amounts on their behalf. This move will increase significantly the supply of safe euro assets and thus serve as an incentive for increased holdings of euro-denominated assets by central banks (as well as institutional investors and fund managers).<sup>22</sup>

With regard to the euro, there are a number of factors that would justify its more prominent role in the official reserves of the EaP countries. Rising trade flows, inward remittances and, in recent years, debt issuance in euro, all speak in favour of a higher share of euro-denominated holdings by the respective central banks. In the context of closer political and economic relations between the EU and the EaP region with the various political and trade agreements inked by the two sides, it could be expected that trade and investment with the EU will continue growing in the years to come.

In addition, rising inflows of direct EU financial support (in the form of grants or macro-financial assistance) could also contribute to euro-denominated reserve accumulation. Finally, it should be noted that most of the EaP countries have either adopted (or plan to do so) an inflation targeting regime. Thus, the incentive for accumulating US dollar reserves in order to intervene in the foreign exchange markets could decline. However, this might also just reduce the need for holding large reserve cushions, without affecting the incentives determining the currency composition of reserves.

#### **4.4. THE EURO IN EXTERNAL PUBLIC DEBT**

##### **4.4.1 Literature review**

This section discusses the structural determinants of the choice between issuing in local currency and in foreign currency as well as how governments choose the preferred currency composition of their foreign currency portfolio.

According to the “original sin” theory (Eichengreen and Hausmann, 1999), the ability of emerging economies to issue in domestic currency in the international capital markets is restrained. Debt managers tend to set a target on foreign-currency debt that corresponds to the supply of government securities that the domestic debt market cannot absorb. Otonello and Perez (2016) found that the share of foreign currency in the total debt of emerging economies moves in a pro-cyclical manner: it tends to be higher during economic booms than during recessions, with a positive correlation between output and the share

---

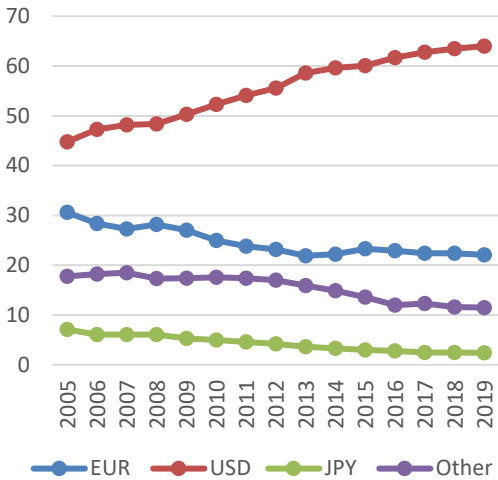
<sup>22</sup> The first issue of supranational bonds by the Commission, of EUR 17 billion in October, was perceived very well by investors whose demand came at more than 13 times above the offer - [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_1954](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1954).

of debt denominated in local currency. In recessions, emerging markets often lose access to international capital markets, pushing up the local-currency share. By contrast, in good times, risk aversion and the demand by foreign investors for emerging-market assets tends to increase, boosting the share of debt issued by these countries in foreign currency, which tends to carry lower interest rates.

The literature distinguishes at least four variables influencing the currency choice in sovereign bond issues. First, assets denominated in widely used international currency benefit from network externalities and economies of scale, which tends to increase the market liquidity of assets denominated in it, making them attractive as a funding vehicle. The second factor is the size of the issuing country. The larger the share of a country in global output, the more likely it is that it will issue debt in its domestic currency (Chinn and Frankel, 2007). The third factor is the confidence put in a given currency – that is whether it can steadily store value. Finally, the borrower aims at minimising costs and risks when issuing debt (interest, foreign exchange and transaction costs). In the case of a public borrower, strategic aspects may also enter such as economic and political ties with the country whose currency is to be used as a funding vehicle (see Box 4).

The US dollar is the most common currency for debt contracts worldwide. At end-2019, the proportion of outstanding euro-denominated international debt securities was around 22% at constant exchange rates, while the US dollar accounted for 64% (compared with less than 50% ahead of the global financial crisis).

Graph 4.9. Currency composition of foreign currency debt (%)



Source: Dialogic and ECB, 2019.

Graph 4.10. Interest rate differential: historical spread between 10-year US Treasury Bond and Bunds (%)



Note: Figures were retrieved prior to the Coronavirus outbreak and Fed's decision to cut interest rates.

Source: Bloomberg.

Emerging markets have shown lately a greater interest in issuing debt in euros, suggesting that they are seeking to diversify their foreign debt portfolio but also to benefit from the low borrowing cost. The decline of US dollar's popularity as a borrowing currency was due to weaker global growth, the expectation of a downward correction of the US dollar exchange rate amid concerns about increasing debt-servicing costs, and an increased interest-rate differential with the euro. However, the latter was largely erased with the COVID-19 pandemic in early 2020, which is likely to revert the trend and renew the attractiveness of the US dollar as a borrowing currency.

#### 4.4.2 External public debt in the EaP countries

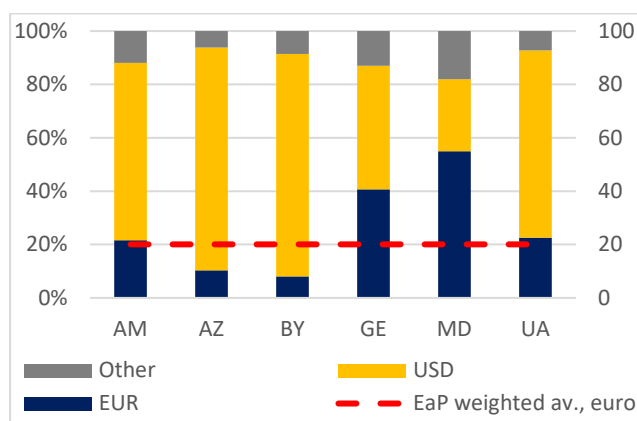
The US dollar plays a dominant role in sovereign-debt issuance in the EaP countries. Overall, it accounted for nearly 72% (weighted average) of the foreign-currency public debt in the region at the end of 2019, or substantially above its global share (63%). The euro was accounting for approximately 20% of the debt stock, which is a tad below its global weight as a debt currency (graph 4.11). The Japanese yen and the renminbi come well behind, mainly as a result of their shares in the SDR basket that is used for IMF loans but also as a unit of account for lending by some other international financial institutions (IFIs) such as the World Bank and the Asian Development Bank.

A large part of the sovereign debt of the region reflects bilateral and multilateral financing. Bilateral debt, in particular, comes almost exclusively in US dollars when provided by non-EU countries. However, more recently there have been attempts for diversify the currency composition of debt stock.<sup>23</sup> Bonded debt plays a relatively limited role apart from Ukraine and, to a lesser extent, Belarus. This is explained by the relatively small size of the markets but also the ongoing easy access to official financing that comes at preferential terms.

When looking at disaggregated figures, Moldova and Georgia rank first and second for external debt stocks denominated in euro. While for Moldova a relatively high share of the euro in public debt is consistent with the euro's strong showing also in other areas (trade invoicing, official reserves), it is more surprising for Georgia. In this case, however, strong activity by Europe-based IFIs (in particular the EIB, but also the EBRD) as well as high, and rising, bilateral financing from France and Germany help explain the relatively high share of the euro in the country's external debt.

It should be noted that European IFIs are demand-driven when it comes to the currency for denomination of loans. Thus, Georgia's increased recourse to such lending could be partly explained by the low euro funding cost in recent years. As of 2017, the EUR has been the dominant currency in sovereign borrowing by Georgia. In 2019, all new external loan commitments, including ones from the Asian Development Bank and the World Bank, were in euro. As a result, the share of the euro-denominated debt in the total stock surged by more than 10 percentage points since the end of 2016 to nearly 41% at the end of 2019.

Graph 4.11. External public debt by currency, end-2019

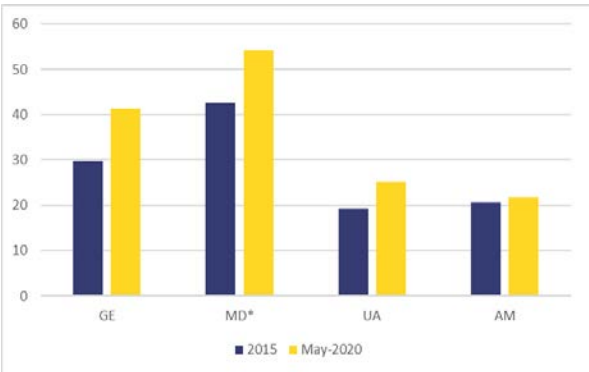


Source: Commission staff calculations based on data from national administrations; Debt in SDR calculated according to the weight of the respective currency.

<sup>23</sup> At the end of 2019, Belarus borrowed RMB 3.5 billion (approximately USD 500 million) from China Development Bank. It also tapped the Russian ruble debt market in 2019 and 2020. Moldova was considering a EUR 200 million loan from Russia.

Favourable financing terms and a desire to diversify the investor base have also made Ukraine increase its exposure to EUR-denominated debt in 2019 and early 2020. This trend also reflects closer economic links with the EU as part of the DCFTA agreement (see Box 4). Attractive borrowing costs made Moldova select the euro (rather than the US dollar) when negotiating a EUR 200 million loan with Russia in 2020.<sup>24</sup> Belarus is another country that attempts to diversify the foreign currency base of its debt, which is highly skewed towards the US dollar. In this context, Belarus placed ruble-denominated debt on the Russian market in 2019 and 2020 and announced plans for offering euro-denominated debt in early 2020. However, these changed with the market turmoil associated with the COVID-19 pandemic and the country ultimately borrowed in US dollar in June 2020.

Graph 4.12. Share of the euro in the foreign exchange-denominated public debt in selected EaP countries, % of total



Source: Authors' calculations based on data from national administrations.

the expanding operations of Europe-based international financial institutions such as the EIB and the EBRD. Bilateral assistance is another main channel for expanding the share of euro in debt issuance. Assistance, in the forms of preferential credits, provided by Germany and France and by Romania were important factors behind the rapid expansion of euro-denominated debt in respectively Georgia and Moldova.

While the stock of sovereign debt of the EaP countries remains heavily skewed in favour of the US dollar, there is a clear, continuous trend for a rising share of euro-denominated debt in the region. This is most evident in the case of Georgia and Moldova, where the share of the euro in the country's debt rose by nearly by 12 percentage points in less than five years. A less significant, but a steady upward trend can be also seen in the case of Ukraine and Armenia (see graph 4.12).

Apart from low borrowing costs, this trend seems to be driven by increased trade and economic relations, which is also supported by

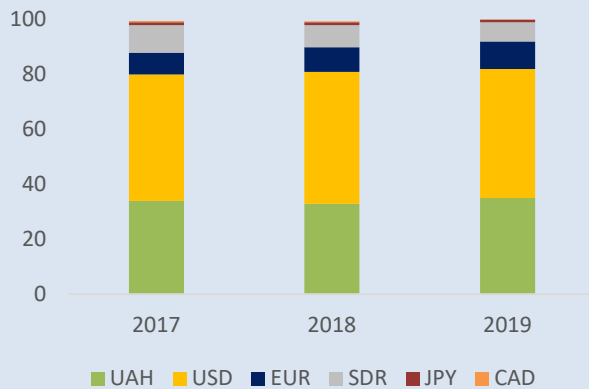
**Box 4. UKRAINE'S DEBT MANAGEMENT STRATEGY**

In its medium-term State Debt Management Strategy for 2019-2022, the Ukrainian Ministry of Finance outlines four main objectives for public debt management: to increase the share of UAH-denominated debt, to lengthen average debt maturity, to attract long-term concessional funding and to develop strong investor relationships. To contain the foreign exchange risk, Ukraine seeks both to increase local currency issuance and to diversify the foreign currencies within its debt portfolio.

With regard to the latter, Ukraine has been focusing on increasing its debt exposure in euro. To this end, the Ministry of Finance returned after a 15-year pause to the euro Eurobond debt market in 2019 by placing EUR 1 billion with 7-year maturity. This was followed by EUR 1.25 billion of 10-year papers placed in January 2020. Seeing an oversubscription of six times, the issue yielded record low 4.375%. Both placements were in line with the plan of the authorities to construct a EUR-denominated yield curve for its Eurobonds.

<sup>24</sup> In early May, however, the Constitutional Court of Moldova ruled that the procedures with which the loan agreement had been conducted was breaching the country's constitution.

Graph 4.13. Ukraine, state debt by currency, %, end-year



Source: Ministry of Finance of Ukraine.

Ukraine’s attempts to diversify its debt in favour of the euro reflect a number of factors such as a high and growing trade integration with the EU. Other factors that favoured increased borrowing in euro include the low interest-rate environment and the need to capitalise on lower funding costs, along with the wish to broaden the investor base. Finally, it should be noted that the euro still plays a rather limited role as a debt currency in the case of Ukraine, which also serves as a reason for diversification away from the dominance of the USD in a move to reduce foreign exchange risks.

## 4.5. THE EURO IN FOREIGN CURRENCY DEPOSITS AND LOANS

### 4.5.1 Financial dollarisation in the EaP countries

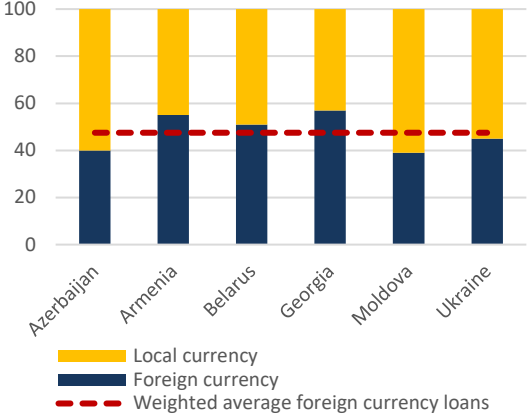
The share of the euro in cross-border loans stood around 21% at constant exchange rates at end-2019. Having declined between 2006 and 2014, this trend has reversed in the past few years, in part because of the ECB’s accommodative monetary policy (ECB, 2019). Thanks to credit easing programmes, euro area banks operating internationally have started to re-allocate funds abroad, supporting cross-border lending (Gräb and Zochowski, 2017), which in turn boosted euro lending from banks outside the euro area.

Their findings suggest that bank-specific supply effects, stemming from increased ability to lend following the expansion of central banks’ balance sheets, are a major driver of trends in the currency of denomination of cross-border loans. Following developments in international loan markets, the share of the euro in outstanding international deposits also increased, standing around 19% at end-2019 at constant exchange rates.

The banking sector of the EaP countries is highly dollarised. As mentioned, this is largely a legacy from the hyperinflation in the 1990s and recurrent currency crises, which led to a currency substitution and a permanent hysteresis effect. Other factors that contribute to the high level of financial dollarisation in the region include (i) macroeconomic instability (in recent years driven by a combination of external shocks, regional conflicts and high domestic political instability), and (ii) institutional weaknesses and low governance quality, (iii) monetary policy regimes (while *de jure* floating a number of countries in practice continue to track the US dollar to a varying extent), (iv) underdeveloped domestic financing markets that serve as an impediment for absorbing local-currency savings, (v) high remittance inflows.

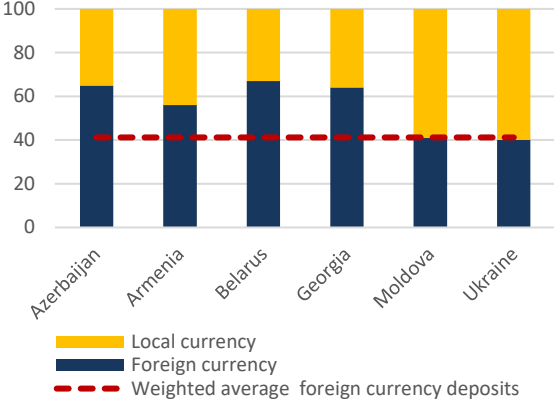
Last but not least, the high level of *real* dollarisation (wage indexation; use of the US dollar as a unit of account for certain transactions - real estate, cars) also supports financial dollarisation.

Graph 4.14. Total loans per currency in the EaP, end 2018 (%)



Source: Commission staff calculations based on data from the national administrations.

Graph 4.15. Total deposits per currency in the EaP, end 2018 (%)



Source: Commission staff calculations based on data from the national administrations.

At the end of 2018, nearly 50% of the stock of loans (weighted for the size of the economies) in the EaP countries was in foreign currency (graph 4.14.). This ratio was somewhat lower for deposits – 40% (graph 4.15.). However, this was mainly due to the lower share of forex deposits in Ukraine. In contrast, the figure was above 60% in Azerbaijan, Belarus and Georgia. These levels seem excessive when compared to the fundamentals of the economies based on their level of trade openness and institutional development.

Khvedchuk, Sinichenko and Topf (2019) estimate the natural (consistent with the structure of the economy) level of dollarisation in Ukraine at 20%. Even when accounting for the hysteresis effect, they estimate that the actual financial dollarisation (around 40%) exceeds considerably the optimal level of 30%. Their estimates also show excess dollarisation in Armenia and in particular in Georgia, where regulatory quality, a key element for supporting de-dollarisation, is considered rather good.<sup>25</sup>

While dollarisation remains high in the EaP region, it has been on a gradual downward trend reflecting concerted policies by the local authorities to incentivise the use of local currencies in domestic financial intermediation. These include various macro-prudential measures such as limitations (or an even outright ban) on foreign currency lending, differentiated reserve requirements for deposits, higher provisioning on foreign currency lending as well as restrictions on the regulatory capital on banks’ open foreign currency positions.

Coupled with improved macroeconomic stability since 2016 and efforts by international partners (such as the EU, the EBRD) to encourage the use of local currencies, these measures seem to have boosted the

<sup>25</sup> To reduce the high dollarisation of the banking sector, the government and the National Bank of Georgia (NBG) adopted a 10-point de-dollarisation plan in 2016. It envisaged to increase access to long-term GEL loans, provide adequate sharing of foreign exchange risks and quote prices in GEL. The plan also included regulatory incentives for issuance of corporate loans in local currency, bans on foreign currency lending for small loans, subsidises conversion of dollar denominated loans secured by real estate into local currency, and ensured preferential treatment of local currency under the NBG’s prudential regulations.

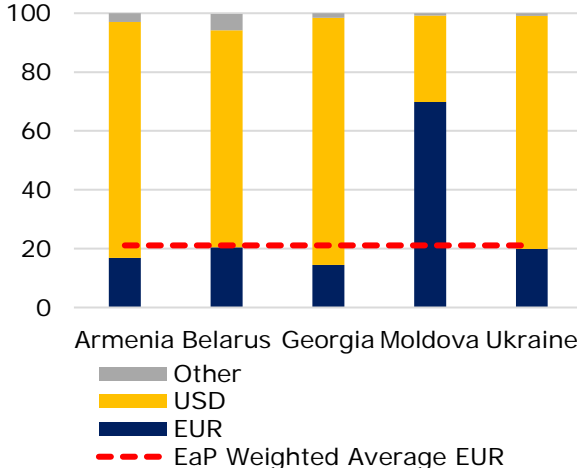
credibility in local currencies. This is most evident in the fact that the COVID-19 shock in early 2020 did not result in a significant dollarisation as was the case in previous crisis episodes.

**4.5.2 The euro in foreign currency deposits and loans in the EaP countries**

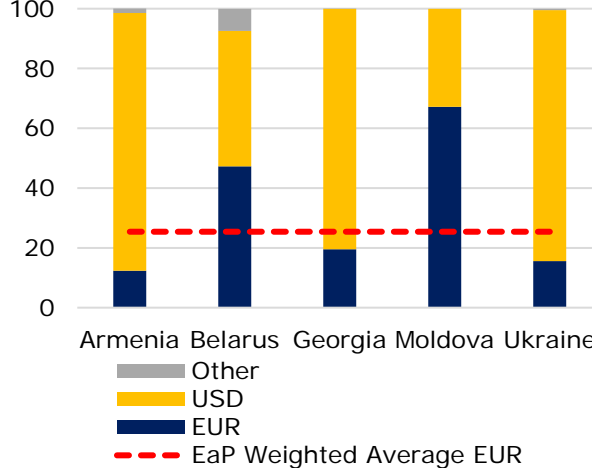
The dominance of the US dollar in the EaP region is probably most visible in the banking sector. When accounting for the size of the countries, nearly 75% of loans and 80% of deposits denominated in foreign currency are in US dollar (see graphs 4.16. and 4.17.). As usual, Moldova stands out as having a very high exposure to the euro – nearly 70%. However, due to the small size of the country, high levels of euroisation do not significantly affect the overall figure for the region. In Belarus, lending in euros is also sizeable and is split equally between households and corporates.

The figures for Moldova and Belarus are consistent with trade flows dynamics as these two countries are the ones trading the most in euro. Furthermore, it should be noted that Moldova is the EaP country that is most reliant on remittances, which mainly come from the EU. The share of the EU in the money transfers to Moldova rose from 28% in 2015 to 47% in 2019. In the meantime, Russia’s share declined from 43% to 21% (and further down to 14% in the third quarter of 2020). A growing part of the money transfers is coming in euro. As a result, the euro accounted to nearly two-thirds of all the transfers in the third quarter of 2020 compared to one-third in 2015.

Graph 4.16. Foreign currency deposits, by currency, end-2018 (%)



Graph 4.17. Foreign currency loans, by currency, end-2018 (%)



Source: Commission staff calculations based on data from national administrations.

The share of corporate lending in euro in Armenia and Ukraine is well below their trade exposure. As far as deposits are concerned, their share is also significantly below what one could have expected in view of the importance of the EU as a source of remittances for the region, in particular for Ukraine. The EU accounts for nearly two-thirds of the remittances inflows in the country.

However, the main source of EU remittances are two non-euro area countries, Poland and Czechia. The high share of dollar deposits suggests that financial inflows from these countries to Ukraine (usually in euro) are largely converted into US dollars when deposited with commercial banks. The low use of euro in the banking sector could be explained by the inertia arising from the historical bias towards the US dollar as well as the high real dollarisation of the EaP economies. Another reason could be desire of banks to match the currency structure of their assets and liabilities.



## 5. CONCLUDING REMARKS

Despite close, and deepening, political and economic links with the EU, the role that the euro plays in the EaP countries is still limited. Across several dimensions, in particular central bank reserve assets and bank deposits, the EaP neighbours exhibit a relatively high dependence on the US dollar. For debt issuance and trade invoicing, they use the euro at par with the rest of the world. Still, taking into account the fact that the EU is the biggest trade partner, investor and source of remittances for the region, the euro seems to be punching below its weight in all dimensions.

Moldova is the only country in the region where the euro outweighs the use of the US dollar, according to the composite index we calculated across the various functions an international currency can play. This is consistent with the close economic ties this country enjoys with the EU but also reflecting its structure with a lower reliance on commodities in its trade as compared to the others.

Belarus is the only other country where the US dollar enjoys less than a 50% share. This reflects its relatively high exposure to the Russian ruble, in particular with respect to trade invoicing. Similar to Belarus, some 30% of Ukraine's overall stocks and flows in foreign currency dealings are denominated in euro. Georgia and Armenia display a lower share of exposure to the euro with the US dollar having a high prevalence. While we do not possess sufficient data across all dimensions to evaluate the use of different foreign currencies in Azerbaijan, the importance of the oil sector for the economy suggest a relatively modest role for the euro.

A number of factors could explain the dominance of the dollar in the region. One of the most important is the historical predilection for the US currency. Its roots can be traced back to the early 1990s, when all EaP countries went through long periods of hyperinflation following the break-up for the former Soviet Union and the launch of independent institutions. At the time, the euro did not yet exist and the US dollar was unchallenged as the world's dominant currency. Recurrent currency crises as of 2000 revived these memories and further eroded the confidence in the local currencies, while favouring a widespread dollarisation of the economies and financial systems. This has been reinforced by the exchange rate regimes, some of which – despite being *de jure* floating regimes – remain linked to the US dollar. Close links with Russia, where the US currency has played a key role since the 1990s, that many of these countries continue to enjoy could also be an explanatory factor for the dominance of the US dollar plays in the region.

Prevalence of the US dollar could be largely explained by its importance as a vehicle currency. Most of the EaP countries are still heavily dependent on commodity trade (energy, metals, agricultural products), with many of these being internationally quoted in US dollars. Thus, despite the fact the US has weak trade relations with the region, the US currency has a dominant position in trade invoicing. In this case, it should be also noted that the EaP countries are term-takers because of their small size.

On the supply side, a key factor hindering a wider use of the euro is the more fractured and shallow EU financial market (as compared to the one in the US). The lack of a sufficient pool of debt instruments and their limited liquidity seems to be a key factor for preference for US dollar-denominated debt instruments. However, it should be noted the instruments being developed to support the EU's response to the COVID-19 pandemic will increase considerably the availability of euro-denominated assets and thus increase the appeal of the euro.

Another reason is the rather conservative profile of the EU investors, who have so far been relatively risk averse and thus avoided high-yielding emerging markets such as the one in the EaP. Still, favourable borrowing terms in euro in recent years, in line with the considerable interest rate differential between the EU and the US before the COVID-19 outbreak, had made a number of countries (notably Ukraine and Georgia) opt increasingly for euro-denominated debt when borrowing on the market or third counterparts (IFIs, bilaterals).

Low yields are a double-edged sword. While they may push governments to borrow more in euros in an attempt to reduce borrowing costs, they also make central banks reluctant to allocate their reserves in such low-yield instruments. This seems to be an important factor for the significant US dollar bias when it comes to reserve management.

While the role of the euro in the EaP countries is firmly growing, further steps could be taken to intensify this process. The size of EU's foreign trade flows with the Eastern partners are paramount to promoting the international use of the euro by increasing economies of scale and network externalities. Hence, continuous efforts to deepen trade links, including through the facilitation of the free trade agreements, will be an important step to ensure liquidity and foster the role of the euro in the region.

This may be further supported by ongoing changes to global value chains and the sought-after process of nearshoring in the wake of the pandemic. Deviating from the status quo, i.e. the US dollar as the incumbent standard for some commodity trade, will require a careful sectoral examination of the advantages and drawbacks of using the euro versus the US dollar. While a change of the current practices might appear costly in the short-run, it could be balanced by the benefits of currency diversification over the long run.

An additional point is that financial-market developments in the EaP region – in particular the use of hedging products to cover for exchange-rate fluctuations – are still at an early stage. Reflections around how to decrease the costs of trading exotic currencies versus the euro and establish additional forms of settlements and hedging tools in euro will need to be pursued.

In contrast with the trade dimension, which might require a positive involvement from both trade partners, the share of the euro in foreign-exchange reserves is closely linked to the internal situation within the euro area. A greater role of the euro will be primarily supported by a deeper and more complete European Economic and Monetary Union, including a fully-fledged Banking Union and the Capital Markets Union, and sound economic and fiscal policies in the euro area.<sup>26</sup>

In particular, as central banks hold a large part of their reserves in government securities, an earlier lack of supply of safe euro-denominated assets hampered the growth of euro-denominated reserves. An important step to remedy the situation could be provided by the 'Next Generation EU' instrument proposed by the European Commission as part of the EU's plan to recover from the COVID-19 crisis.<sup>27</sup> It will trigger the issuance of up to EUR 750 billion in euro-denominated bonds by the EU, which will complement smaller issuances under other new instruments. The EU's leading role in niche bond

---

<sup>26</sup> For recent initiatives to strengthen the EU's financial market infrastructure see 'The European economic and financial system: fostering openness, strength and resilience' from January 2021, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0032&from=EN>

<sup>27</sup> [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_940](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_940)

markets (for example green and social bonds) could be also used to promote a greater role of the euro in the EaP region and beyond.<sup>28</sup>

However, while an important step in the right direction, the impact of these issuances on increasing the supply and liquidity of euro safe assets, and hence increasing the attractiveness of the euro as a funding and reserve currency, should not be overestimated. Eichengreen and Gros (2020) calculate that a considerable part of the new supranational EU issuance will be absorbed by the ECB under its pandemic emergency purchase programme. As a result, the supply of euro safe assets available to other investors will remain well below the one of US securities. To remedy this situation, they propose a more active role by the ECB in increasing the menu of investable euro assets available to international reserve holders, for example issuing short- and medium-term ECB certificates of deposit.

Another option that could be explored is fostering financial market integration, for example by establishing common payment infrastructures that could help boost the role of the euro in the financial sector of the EaP countries. In addition, reducing exchange rate fluctuations of the euro against EaP currencies will be important, either through hedging products or by increasing support to economic and political stability in the region.

Improving the availability of financial market products could also help create euro benchmarks. This is particularly important for commodity markets (mainly oil and metals, but to some extent agricultural products) where the US dollar is dominant in its role of a vehicle currency.

---

<sup>28</sup> In Ukraine, legislation regulating the issuance of so-called green bonds entered into force in August 2020. In November the same year, Ameriabank, Armenia's leading financial institution, made the first issuance of a green bond in the country, placing securities of approximately EUR 42 million.

## REFERENCES

- Aderhold, R., Cumming, C., & Harwood, A. (1988). International linkages among equities markets and the October 1987 market break. *Quarterly Review*, (Sum), 34-46.
- Aglietta, M., & Orléan, A. (1998). *Monnaie souveraine (La)*. Odile Jacob.
- Allayannis, G., & Ofek, E. (2001). Exchange rate exposure, hedging, and the use of foreign currency derivatives. *Journal of international money and finance*, 20(2), 273-296.
- Amato, J. D., & Gerlach, S. (2002). Inflation targeting in emerging market and transition economies: Lessons after a decade. *European Economic Review*, 46(4-5), 781-790.
- Baur, D. G., & Lucey, B. M. (2010). Is gold a hedge or a safe haven? An analysis of stocks, bonds and gold. *Financial Review*, 45(2), 217-229.
- Calvo, G. A., & Reinhart, C. M. (2002). Fear of floating. *The Quarterly journal of economics*, 117(2), 379-408.
- Chinn, M., & Frankel, J. A. (2008). Why the euro will rival the dollar. *International Finance*.
- Cohen, B. J. (1971). The seigniorage gain of an international currency: an empirical test. *The Quarterly Journal of Economics*, 85(3), 494-507.
- Dabrowski, M. (2003a). Currency crises in emerging-market economies: An overview. In M. Dabrowski (Ed.), *Currency crises in emerging markets*. Boston, Dordrecht & London: Kluwer.
- Eichengreen, B., & Hausmann, R. (1999). *Exchange rates and financial fragility* (No. w7418). National bureau of economic research.
- Eichengreen, B., Mehl, A., & Chitu, L. (2019). *How global currencies work: past, present, and future*. Princeton University Press.
- Eichengreen, B., Gros, D. (2020). Post-COVID-19 Global Currency Order: Risks and Opportunities for the Euro, *Study requested by the Committee on Economic and Monetary Affairs of the European Parliament*.
- European Central Bank (2007), *Review of the International Role of the Euro*. Frankfurt am Main.
- European Central Bank (2018), *The International Role of the Euro*. Frankfurt am Main.
- European Central Bank (2019), *The International Role of the Euro*. Frankfurt am Main.
- European Central Bank (2020), *The International Role of the Euro*. Frankfurt am Main.
- European Commission (2008), Communication on EMU@10: successes and challenges after 10 years of Economic and Monetary Union, COM(2008) 238 final, 7.5.2008, Brussels.
- European Commission (2013). The EU's neighbouring economies: managing policies in a challenging global environment. *European Economy, Occasional Papers 163*

European Commission (2018), *Towards a stronger international role of the euro*, Communication From The Commission to the European Parliament, the European Council (Euro Summit), the Council, the European Central Bank, the European Economic and Social Committee and The Committee of the Regions, COM(2018) 796/4, 5.12.2018, Brussels.

European Commission (2021), *The European economic and financial system: fostering openness, strength and resilience uro*, Communication From The Commission to the European Parliament, the European Council (Euro Summit), the Council, the European Central Bank, the European Economic and Social Committee and The Committee of the Regions, COM(2021), 19.01.2021, Brussels.

Frankel, J., Stein, E., & Wei, S. J. (1995). Trading blocs and the Americas: The natural, the unnatural, and the super-natural. *Journal of development economics*, 47(1), 61-96.

Frieden, Jeffrey A., David Leblang, and Neven Valev (2010). The Political Economy of Exchange Rate Regimes in Transition Economies. *Review of International Organizations* 5 (1): 1– 25.

Gräb, J., & Żochowski, D. (2017). The international bank lending channel of unconventional monetary policy.

Goldberg, L., & Tille, C. (2005). *Vehicle currency use in international trade*, Federal Reserve Bank of New York. Staff Report 2005.

Habib, M. M., & Joy, M. (2010). Foreign-currency bonds: Currency choice and the role of uncovered and covered interest parity. *Applied Financial Economics*, 20(8), 601-626.

Havrylyshyn O., Beddies C. H. (2003). “Dollarisation in the Former Soviet Union: from Hysteria to Hysteresis”, *Comparative Economic Studies*, Volume 45, pp. 329-357

Ilzetzki, E., Reinhart, C. M., & Rogoff, K. S. (2017). *The Country Chronologies to Exchange Rate Arrangements into the 21st Century: will the anchor currency hold?* (No. w23135). National Bureau of Economic Research.

Ilzetzki, E., Reinhart, C. M., & Rogoff, K. S. (2020). *Why Is the Euro Punching Below Its Weight?* (No. w26760). National Bureau of Economic Research.

Ingham, G. (2005). The social institution of money. *Craig Calhoun, Chris Rojek et Bryan Turner eds. The Sage Handbook of Sociology*, Londres, 154.

International Monetary Fund (2020), *Annual Report on Exchange Arrangements and Exchange Restrictions 2019*, Washington, IMF

Ito, H., & Chinn, M. D. (2014). The rise of the'redback'and the people's republic of china's capital account liberalization: An empirical analysis of the determinants of invoicing currencies.

Ito, H., & McCauley, R. N. (2019). A key currency view of global imbalances. *Journal of International Money and Finance*, 94, 97-115.

Kedia, S., & Mozumdar, A. (2003). Foreign currency–denominated debt: An empirical examination. *The Journal of Business*, 76(4), 521-546.

- Kenen, Peter. 1983. The role of the dollar as an international currency. Group of Thirty Occasional Papers no. 13
- Kvedchuk, K., Sinichenko, V., Topf, B. (2019). Estimating a natural level of financial dollarisation in Ukraine. *Visnyk of the National Bank of Ukraine*, No. 247, pp 38-44
- McCauley, R. N., & Shu, C. (2018). Recent RMB policy and currency co-movements.
- McKinnon, R. (1979). Money and International Exchange: The Convertible Currency System. Oxford University Press, New York.
- Müller, H. (1999). From dollarisation to euroisation. *Intereconomics*, 34(6), 286-296.
- Langedijk S., Karagiannis S., Papanagiotou E. (2016). Invoicing Currencies in International Trade – Drivers and Obstacles to the Use of the Euro. *JRC Science for Policy Report*.
- Papaioannou, E., Portes, R. (2008). The international role of the euro: a status report. *European Economy, Economic Papers 317*
- Perez, D., & Ottonello, P. (2016). The currency composition of sovereign debt. *In 2016 Meeting Papers* (No. 596). Society for Economic Dynamics.
- Portes, R., Rey, H., & Oh, Y. (2001). Information and capital flows: The determinants of transactions in financial assets. *European economic review*, 45(4-6), 783-796.
- Slavov, S. (2017). Exchange Rate Regimes in Central, Eastern and Southeastern Europe: A Euro Bloc and a Dollar Bloc?. *IMF Working Paper 17/83*
- Swoboda, A. K. (1968). The euro-dollar market: an interpretation. *Princeton NJ*.
- Temprano-Arroyo, H. (2003), Prospects for Regional Monetary Integration in Latin America: A View from the EU, *Comparative Economic Studies volume 45*, pp. 384–420

## ANNEXES

### I. Regression results for the 6 Eastern Partnership countries, 2000-2020

	(1) AR	(2) AZ	(3) BY	(4) GE	(5) MD	(6) UA	Median
Constant	-0,05 (0,14)	0,37 (0,26)	1,76*** (0,41)	0,19 (0,15)	0,14 (0,14)	0,80* (-0,37)	0,16
B <sub>1</sub> EUR.USD	-0,15* (0,07)	-0,13 (0,12)	0,18 (0,20)	0,01 (0,07)	0,25*** (0,07)	-0,01 (0,18)	-0,01
B <sub>2</sub> CNY.USD	0,27 (0,18)	0,83* (0,35)	0,41 (0,55)	0,59** (0,20)	0,37* (0,18)	0,88 (0,49)	0,41
B <sub>3</sub> GBP.USD	0,06 (0,05)	0,00 (0,10)	0,01 (0,16)	0,02 (0,06)	-0,01 (0,05)	0,11 (0,18)	0,02
B <sub>4</sub> JPY.USD	0,13 (0,07)	0,04 (0,13)	-0,15 (0,21)	0,18* (0,08)	-0,06 (0,07)	0,01 (0,14)	0,01
B <sub>5</sub> RUB.USD	0,07 (0,04)	0,04 (0,07)	0,43*** (0,12)	0,04 (0,04)	0,13*** (0,04)	-0,03 (0,10)	0,04
Observations	239	239	239	239	239	239	
Adjusted R <sup>2</sup>	0,05	0,03	0,09	0,12	0,21	0,02	

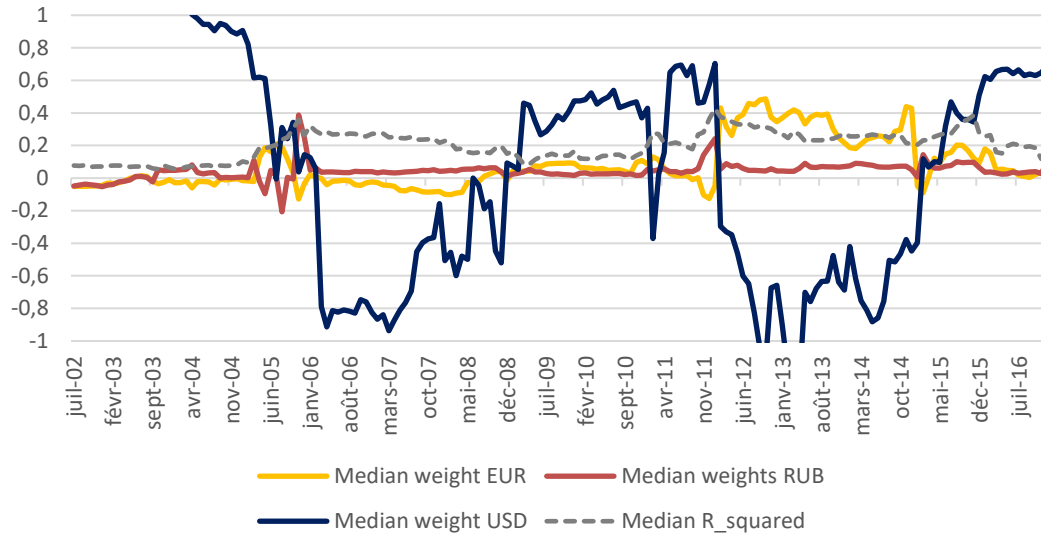
The dependent variable is the percentage change in the country's exchange rate against the US dollar.  $\beta_1$  EUR.USD is the percentage change in the euro's exchange rate against the US dollar. The remaining independent variables are defined similarly for the renminbi, the British pound sterling, the Japanese yen and the Russian ruble. Standard errors are reported in parentheses. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5%, 10% level, respectively.

### II. Regression results for the 6 Eastern Partnership countries for the last window, 2016-2020

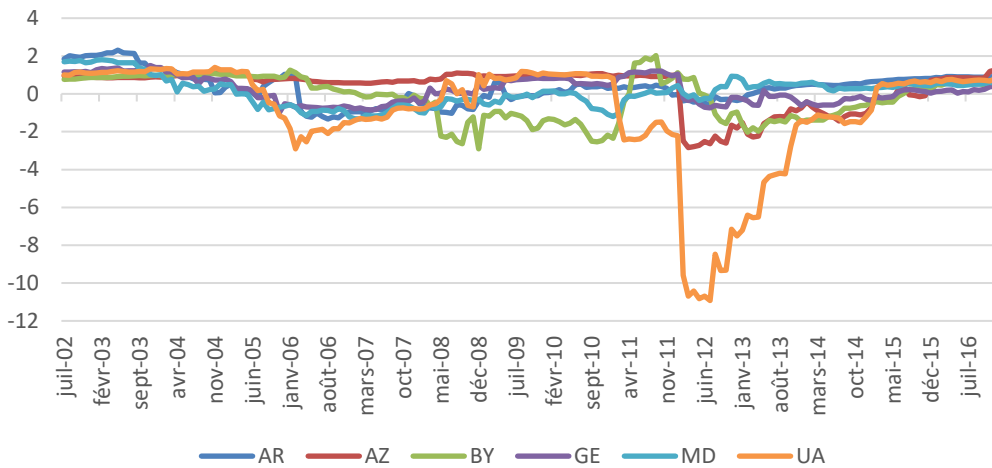
	(1) AR	(2) AZ	(3) BY	(4) GE	(5) MD	(6) UA	Median
Constant	-0,01 (0,08)	-0,08 (0,34)	0,21 (0,21)	0,41 (0,45)	-0,41* (0,22)	-0,20 (0,42)	-0,04
B <sub>1</sub> EUR.USD	0,17* (0,08)	-0,34 (0,31)	0,07 (0,20)	0,06 (0,41)	0,60** (0,20)	-0,15 (0,38)	0,07
B <sub>2</sub> CNY.USD	-0,04 (0,07)	0,14 (0,28)	-0,01 (0,18)	0,27 (0,38)	0,11 (0,18)	0,41 (0,35)	0,12
B <sub>3</sub> GBP.USD	0,02 (0,05)	-0,07 (0,22)	0,14 (0,14)	0,14 (0,29)	-0,23 (0,14)	-0,10 (0,28)	-0,02
B <sub>4</sub> JPY.USD	-0,07 (0,06)	0,09 (0,23)	-0,13 (0,14)	0,11 (0,30)	-0,14 (0,15)	0,14 (0,27)	0,01
B <sub>5</sub> RUB.USD	0,02 (0,03)	0,00 (0,11)	0,36*** (0,07)	0,13 (0,15)	0,05 (0,07)	0,01 (0,14)	0,04
Observations	37	37	37	37	37	37	
Adjusted R <sup>2</sup>	0,20	0,06	0,49	0,13	0,36	0,06	

### III. Median regression results from rolling 36-month regressions for the six EaP countries

The X-axis indicates the starting date of the 36-month window rolling regression. The data points on the far left corner in each figure correspond to the 36-month period from July 2002 to July 2005. To avoid clutter, the graph below reports only the median weights on the euro (or the dollar) and the median adjusted R2 for each 36-month period.

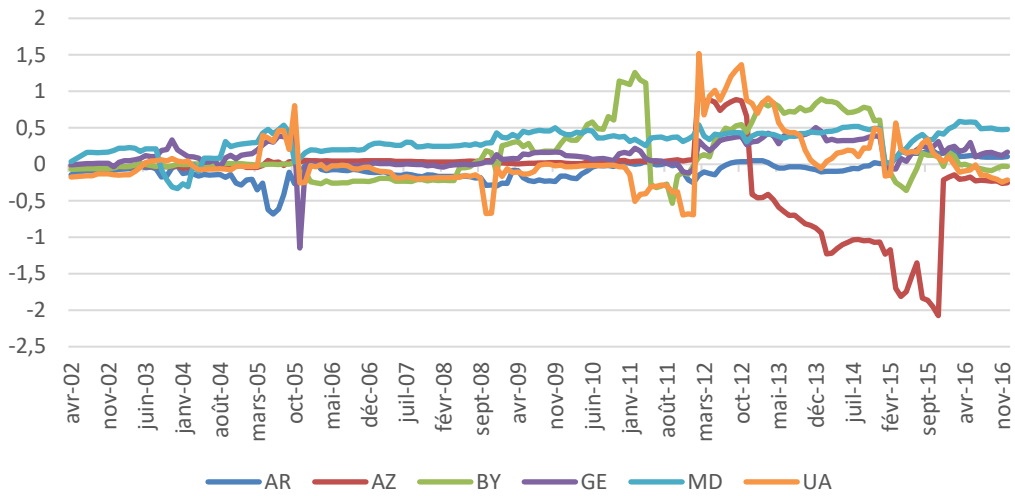


### IV. Weights on the US dollar from rolling 36-month regressions for the six Eastern countries

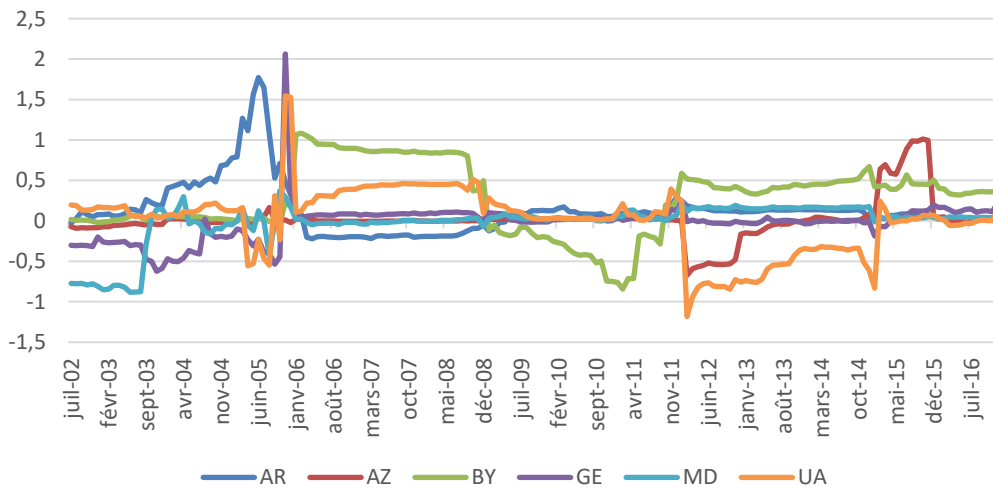




V. Weights on the euro from rolling 36-month regressions for the six Eastern countries



VI. Weights on the Russian ruble from rolling 36-month regressions for the 6 Eastern countries





## **EUROPEAN ECONOMY DISCUSSION PAPERS**

European Economy Discussion Papers can be accessed and downloaded free of charge from the following address:

[https://ec.europa.eu/info/publications/economic-and-financial-affairs-publications\\_en?field\\_eurovoc\\_taxonomy\\_target\\_id\\_selective=All&field\\_core\\_nal\\_countries\\_tid\\_selective=All&field\\_core\\_date\\_published\\_value\[value\]\[year\]=All&field\\_core\\_tags\\_tid\\_i18n=22617](https://ec.europa.eu/info/publications/economic-and-financial-affairs-publications_en?field_eurovoc_taxonomy_target_id_selective=All&field_core_nal_countries_tid_selective=All&field_core_date_published_value[value][year]=All&field_core_tags_tid_i18n=22617).

Titles published before July 2015 under the Economic Papers series can be accessed and downloaded free of charge from:

[http://ec.europa.eu/economy\\_finance/publications/economic\\_paper/index\\_en.htm](http://ec.europa.eu/economy_finance/publications/economic_paper/index_en.htm).



## **GETTING IN TOUCH WITH THE EU**

### **In person**

All over the European Union there are hundreds of Europe Direct Information Centres. You can find the address of the centre nearest you at: <http://europa.eu/contact>.

### **On the phone or by e-mail**

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696 or
- by electronic mail via: <http://europa.eu/contact>.

## **FINDING INFORMATION ABOUT THE EU**

### **Online**

Information about the European Union in all the official languages of the EU is available on the Europa website at: <http://europa.eu>.

### **EU Publications**

You can download or order free and priced EU publications from EU Bookshop at: <http://publications.europa.eu/bookshop>. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see <http://europa.eu/contact>).

### **EU law and related documents**

For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex at: <http://eur-lex.europa.eu>.

### **Open data from the EU**

The EU Open Data Portal (<http://data.europa.eu/euodp/en/data>) provides access to datasets from the EU. Data can be downloaded and reused for free, both for commercial and non-commercial purposes.

