

A map of Europe with a red square highlighting Romania. A line connects this square to the Friedrich Ebert Stiftung logo in the top left corner.

# Beyond the Maastricht Criteria Romania Country Study

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- In the absence of the exchange rate as an adjustment instrument, Romania's economy would need to be more flexible, in both factor and product markets.
- In 2017 Romania had a GDP in PPS/capita of 63 (EU-28 = 100), the fourth highest among the six non-member states (NMS), a level which is too low to deem the income convergence process satisfactory.
- The advancement in labour compensation, most notably after 2015, has pushed up labour costs and, starting with 2017, overtook labour productivity.
- The recent trend in wage growth has been partly influenced by the evolution of minimum wages. In PPS terms, minimum wages in Romania are already second highest among NMS, after Poland.
- At the end of 2017 there was an estimated 3.6 million Romanians working abroad, more than a third of the total workforce. As a share of emigrants in total population, Romania ranks second among NMS, at 18.3%, after Croatia at 22.1%.
- Over the period 2008-2017, both the mean and the volatility (measured as standard deviation) of Romania's annual average inflation was twice higher compared to that of EZ. This puts into a different perspective the efforts Romania will need to make in order to fulfil the Maastricht criteria of inflation.
- One major issue in Romania potentially joining the EZ would be its level of government revenues. At 30.7% of GDP in 2017, these are less than two thirds of the average EZ level and by far the lowest among NMS countries. Fiscal policy in Romania would need to be more transparent, disciplined and pro-active.

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## 1. Introduction. The Political and Economic Setting of Euro Adoption in Romania

By joining the European Union (EU) in January 2007 the Romanian economy has, implicitly, pledged to join the European and Monetary union (EMU). For now, Romania has a derogation regarding the adoption of the euro but has committed itself to introducing the euro in the future. The Treaty on the functioning of the EU (Article 140) specifies that at least every two years both the European Commission (EC) and the European Central Bank (ECB) have to report to the European Council the progress made in respect with the convergence criteria of each EU member country which is not yet a Eurozone member. The convergence criteria take into consideration both economic indicators (price stability, budget deficit and public debt, exchange rate stability and the convergence in long-term interest rates) as well as national legislation's compatibility with the 'acquis'. (see Table A1.1 in Annex 1). According to the latest report by the EC (EC 2018), among the six countries with a derogation for euro adoption, there is currently no one which would fulfill all criteria (Table A1.2 in Annex 1).

Since becoming an EU member, the euro adoption has been a recurrent topic in Romania. So far there have been three attempts to set a year for the euro adoption, all of them driven by the political establishment. First attempt dates back to 2009 when the government announced plans for entering into the ERM II, in the 2012-2014 period. As these dates got closer the plan was aborted given the non-compliance with the convergence criteria. At the end of 2014 the authorities set the target year for euro adoption to be 2019. This was once again abandoned for the same reasons as before. The latest target year for euro adoption is 2024, which was put forward in March 2018 by the largest party in the current governing coalition, the Social Democratic Party (PSD). This time round a National Commission for the Euro Adoption was set up. Its members are representatives of all

stakeholders in the economy (political parties, business representatives, trade unions, National Bank, Ministry of Finance, academia, independent experts, etc.) and its objective is to come up with a National Plan for euro adoption by the end of 2018. It also aims at building a consensus across various stakeholders through the preparation of a technical document – which will assess Romania's risks and benefits of the euro adoption and put forward a strategy for achieving this objective. While the presence of a technical document marks a remarkable improvement from the previous two attempts of adopting the euro – which were based simply on political statements, with no economic justification behind it, it is still somewhat uncommon to commit politically to a target year first, before the defining elements of the strategy are known.

However, PSD is not the only political party keen to support the Euro adoption. The National Liberal Party (PNL), which is the second largest party in the Parliament also acknowledged the euro adoption is a "fundamental objective".

The Romanian population has, in general, a favorable attitude towards the euro (see Annex 1, Fig A1.1-A1.4). At nearly 70%, Romania has the highest share of population who are in favor of introducing the euro among the six NMS.

At the institutional level, a Committee for Preparing the Changeover to the Euro has been set up at the National Bank of Romania (NBR) since early 2010. Also, at the national level there is an Inter-ministerial Committee, set up in 2011, which aims at coordinating preparations for the euro introduction. This is chaired by the Prime Minister, and includes top level representatives from the Minister of Public Finance, the NBR, other public authorities and institutions, as well as from employers' associations and trade unions.

This analysis looks at some issues which mostly relate to the Romanian labor market, from the perspective of euro adoption. It also touches briefly on the fiscal criteria and regional trade aspects. It aims to highlight the potential costs and benefits of euro adoption in these fields.

## 2. The Potential Effects of Euro Introduction in Romania - Selected Issues

By joining the Eurozone, EU countries will give up their control over monetary policy. As a consequence, the flexibility of labor markets will play a key role in the adjustment of the economy in face of economic shocks. It is well documented that the structure of labor market (see for example Christoffel et al. 2007) impacts the transmission of shocks to marginal costs and inflation and thus it affects the transmission of monetary policy to the economy. Beyond this however, the characteristics of the labor market, such as its institutional structure, the degree of labor market rigidity or the unionization rate are in themselves sources for economic fluctuations. In the absence of exchange rate adjustment, internal devaluation – i.e. achieved through wage adjustment – becomes the main channel through which competitiveness can be preserved in the short run.

A comprehensive analysis of euro adoption costs and benefits is beyond the scope of this paper. However, from an economic point of view, one measure of real convergence, namely GDP/capita in purchasing power standards (PPS), could be used as a rule of thumb for judging the level of a country's preparedness for introducing the euro. As it can be seen from Fig 2.1 in Annex 2 Romania had a GDP/capita of 63 (EU-28 = 100), the fourth highest among the six NMS. At 89, Czechia has the highest level of real income convergence, followed at some distance by Poland with 70. Both Romania and Poland have recorded the highest growth rates in income convergence over the last decade, around 2.5%/year. As a guidance, a potential date for adoption of the euro can be inferred by setting a threshold for GDP/capita in PPS together with some assumptions on future growth pace, as in Lungu and Kallai (2015). However, this should be taken only as a crude measure and not as a substitute for a more complex analysis. As such, convergence in per capita income levels, while not being a

prerequisite for joining the EZ, it is an important objective of the economic integration process.

### 2.1. Employment and Unemployment Rates

In a monetary area, when economic cycles are not fully harmonized and transfer mechanisms across member countries are not fully developed, as it is the case with the EMU, the functioning of the other adjustment mechanisms, notably those in the labour market, acquire a greater importance. Employment in Romania has been following a downward trend since 2008, falling from 9.5 to 8.8 million persons (see Table 2.1 below). This has been a consequence of an unfavourable demographics trend, which is expected to worsen in the years to come. The unemployment rate followed the business cycle fluctuations. It went up from 5.8% in 2008 to a peak of 7.2% in 2011, as austerity measures, aimed at addressing the macroeconomic imbalances build up in the pre-2008 boom period, were implemented. Subsequently, unemployment rate fell to 4.9% in 2017 as economic recovery got stronger. The long-run structural unemployment rate currently stands at 1.8%, pressured down also by labour migration trends. At 18.3%, youth unemployment rate is slightly below its pre-crisis level, but above the Eurozone level of 16.8%. Given the tight labour market, this might seem peculiar. It can be explained by the skills mismatch, a relatively limited internal labour mobility, and the low starting salary levels account.

Post 2018-crisis labour market trends have revealed the slightly diminishing importance of the standard unemployment rate as an explanatory variable for wage growth and economic activity in several countries. In a new research paper (Bell and Blanchflower, 2018) the authors suggest that underemployment – i.e. the persons who would like to work more but do not have where to – has become a more relevant variable for labour market policies. In their paper, Romania's underemployment stood at 7.2% in 2016, only 1.3% above the headline ILO unemployment rate.

Table 2.1. Employment, Unemployment and Activity Rate:

	Youth unemployment rate, %, 15-24yrs	Unemployment rate, %, 15-74yrs	Part time workers, % of total population	Employment, 15-64yrs, thousands	Active population, % of total population, 20-64yrs	Self-employment thousands
<b>2008</b>	18.6	5.8	8.6	9,457	68.2	1,570
<b>2012</b>	22.6	6.8	9.3	8,849	69.5	1,587
<b>2016</b>	20.6	5.9	7.4	8,696	70.3	1,279
<b>2017</b>	18.3	4.9	6.8	8,812	72.3	1,308

Source: Eurostat

The labour activity rate in Romania remains high, at over 72%, but a large part of employees work, in fact, abroad (see section 2.4). The number of self-employed, despite falling since 2008, remains elevated, a trend more visible especially in agriculture. As they do not, in general, pay taxes, this accentuates some of the challenges fiscal policy is confronted with (see section 2.5).

## 2.2. Wages and Labour Costs

In the economic theory there is a direct link between the real economic convergence and the

evolution of labour productivity. If real wages per employee grow in parallel with real productivity, this implies that wage developments are more or less consistent with changes in labour demand and supply – at full employment.

Over the last decade Romania's nominal labour productivity has risen at a rate of 2.9% per year, the highest among NMS (see Table 2.2 below). However, despite that, given the initial low level, labour productivity is still slightly less than half when compared to the EZ level.

Table 2.2. Nominal labour productivity per hour worked, % of EU28 total (based on Mill. PPS), current prices

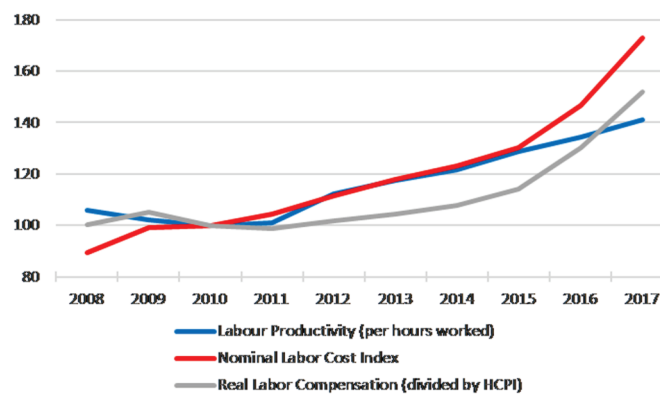
Year\Country	EZ	BG	CR	HR	HU	PO	RO
<b>2008</b>	112.0	39.0	72.8	61.2	59.7	50.3	45.8
<b>2012</b>	111.2	43.4	70.2	61.7	68.2	59.5	50.2
<b>2016</b>	111.6	45.1	73.4	63.5	62.8	59.2	55.9
<b>2017</b>	111.4	46.3	73.6	64.2	63.8	61.1	59.3
<b>Annual Average Growth Rate 2008 - 2017, %</b>	-0.1	1.9	0.1	0.5	0.7	2.2	2.9

Source: Eurostat

The advancement in labour compensation, most notably after 2015, has pushed up labour costs and, starting with 2017, overtook labour productivity (see Figure 2.1 below). This trend is likely to be exacerbated in 2018 as excess demand has persisted. Substantial wage increases in recent years are partially a

consequence of labour market tightening. But fiscal policy had also had an impact on wages, more notable net wages. These are going to be affected by the recent shift in social security contributions from the employer to the employee (see Figure A2.5 in Annex 2).

Figure 2.1 Labour Productivity and Compensation, 2010=100



Source: Eurostat

The aggregate data level masks the deep existing asymmetries among various economic sectors. The relation between real wages and labour productivity holds for the private trading sector (i.e. manufacturing). As these companies compete in international markets, they cannot afford themselves large deviations from the wage-productivity equilibrium for extended periods of time. In practice, the tightness of the labour market, the degree of competition in the economy and wage push factors will determine the amplitude of these deviations. However, public sector wages have been set according to a different mechanism. Given that public sector activities are largely non-tradable, they are not facing competition and thus can be increased without paying a close attention to the wage-productivity relationship. Over the last years public sector wages went up constantly, often recording a double-digit annual growth. As a consequence of that, the ratio of public sector wage to the economy average has return again to over 160, after the massive post-crisis downward adjustment efforts.

The trend in wage growth has been partly influenced by the evolution of minimum wages. These have witnessed remarkable increases (see Figure A2.2 in Annex 2) going up almost threefold since 2009, to the equivalent of EUR 410 in 2018. Statutory minimum wage was introduced in 1990. The minimum wage setting process requires the government to have prior consultations with social partners. Starting with 2012, the government implemented a so-called wage growth economic policy whereby minimum wages have been increased in successive steps, at an accelerated pace. As a consequence, the gap between minimum and average wage has been shrinking continuously, while the share of labour contracts set at the minimum wage level in total labour contracts rose to 32% in 2018, from 14% back in 2014. The increases in minimum wage will impact labour productivity and economic activity in the near future. In PPS terms, minimum wages in Romania are already second highest among NMS, after Poland (see Table A2.1 in Annex 2).

Increasing more the wage convergence between Romania and EZ is a prerequisite for euro adoption. The increase in domestic purchasing power can be achieved through higher productivity. Also, the structure of value chains in the economy will need to gradually shift in order to capture higher value-added activities.

### 2.3. Migration and Labour Mobility

Labour mobility has been a central topic of the post crisis debates in the Eurozone. Relative low intra-EZ states labour mobility is a result of a mix of exogenous factors, such as linguistic and cultural barriers, but also other factors that are in fact endogenous to economic policy, such as the limited level of harmonization in the tax and pension systems, in bank lending, or in the recognition to professional qualifications. However, these factors appear to bear little

impact on Romania's emigration. Since 2000, the year when Romania started talks for the EU accession, the net stock of Romania's emigrants has advanced at an annual rate of 7% globally, growing more than threefold. Towards Europe, Romania's emigration rate expanded considerably, growing at an annual pace of 8.7% (see Table 2.2 below).

After Romania joined the EU, in 2007, migration rates have increased, both for the high-skilled (especially physicians) and low skilled migrants, with migrant outflows gradually shifting towards EU countries. According to the UN data, at the end of 2017 almost 3.6 million Romanians lived abroad, 3.2 million in Europe. Italy, Spain and Germany – all EZ countries – being the main destination. These three countries together account for almost three quarters of the Romanian migrants' stock.

Table 2.3 Romania – Select Emigration Statistics

	Year	World Total					
		of which:	Europe				
			of which:	Germany	Italy	Spain	UK
Total Stock Emigrants (Thousands)	2000	1139	765	323	119	8	7
	2017	3579	3143	592	1040	652	231
As % of total	2017		87.8	18.8	33.1	20.8	7.4
Annual Growth Rate, %	2000-2017	7.0	8.7	3.6	13.6	29.1	22.5

Source: Own Calculations based on United Nations data.

As a share of emigrants in total population, Romania ranks second among NMS, at 18.3%, after Croatia at 22.1%. This high outflow of human capital has had a negative impact on the domestic labour market, and implicitly on the working-age population growth. Partially as a consequence of this, domestic unemployment rate has fallen to record low levels. The high emigration rate of the skilled workers appears to have negatively affected real productivity growth

(EC 2014). Supply shortages in sectors such as information and technology, health and education, science and engineering or technicians tend to be mostly permanent (IMF 2016) and impacted negatively GDP growth. On the other hand, however, emigrants' remittances have constituted a constant source of inflows in the economy, channeled towards either investment or consumption.

In Romania, domestic labour mobility (i.e. intra counties) is rather low. Employees prefer to work in countries which have higher productivity when compared to that of Romania. At current rates, wage differentials between domestic regions with high unemployment rates and other regions across the EU are still high enough to incentivise external rather than internal migration. This phenomenon is also supported by the existing high level of domestic house ownership - at almost 97% in 2017 – a variable which traditionally has a strong explanatory power in the determinants of labour mobility.

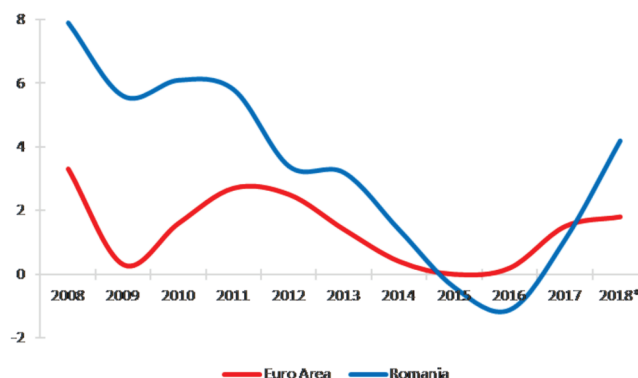
Given that both Romania's labour external migration and the migrants' share in total population are already quite high – in absolute terms and relative to other NMS countries - joining the EZ is unlikely to bring more benefits in the short and medium term. Unless domestic living costs catch up significantly and economic policies are geared more towards sustaining long-term growth, a trend reversal in migration trends looks unlikely.

## 2.4. Prices and Inflation

A high degree of inflation convergence is mandatory for a proper functioning of monetary policy in the EZ. A common monetary policy coupled with decentralized fiscal policies make large cyclical inflation differentials across EZ member countries difficult to deal with. Therefore, price level convergence, between Romania and EZ average is an imperative precondition before adopting the euro. If the price level of tradable goods is easier to equalize, the prices of non-tradables adjust slower. This happens because catching up in terms of productivity and real incomes would implicitly require a temporary higher price level in the non-tradable sector.

Annual average inflation in Romania followed a downward trend since 2008, until 2016. Over that period, it fell from 7.9% to -1.1%, initially driven by the drop in aggregate demand and, later on, by a reversal of tax increases, notably the VAT, enacted after economic recovery started to strengthen (see Figure 2.5 below).

Figure 2.2 Annual Average Inflation, %



Source: Eurostat and EU Convergence Report 2018

However, since the start of 2017 annual inflation rate has started to rise once again, slightly exceeding expectations. Several factors contributed to this. Excess demand, a tightening of the labour market, increasing labour costs,

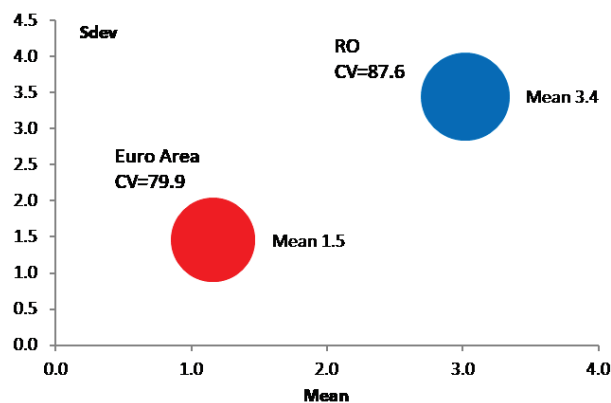
import prices pass-through, the role of administered prices and the discretionary behavior of fiscal policy. The latter is relatively an important driver of unanticipated inflation component.



One salient feature of Romanian inflation is that it has a higher volatility compared to the EZ average. Figure 2.3 below depicts this. Over the period 2008-2017, both the mean and the standard deviation of Romania annual average inflation was twice higher compared to that of EZ. The coefficient of variation (CV) – which is a measure of variability of inflation in relation to its

mean – at 87.6, was higher than in EZ. This puts into a different perspective the efforts Romania will need to make in order to fulfil the Maastricht criteria of inflation. Since 2008, barring the 2014-2016 period, when prices have been negative or close to zero, Romania failed to comply with the inflation criterion (see Table 2.1, Annex 2).

Figure 2.3 Inflation Volatility, Romania and Eurozone



Source: Own Calculations using Eurostat data over the time period 2008-2017. See also Lungu (2018)

Beyond discrepancies in inflation dynamics across business cycles in Romania and the EZ, there are also significant differences in the price levels for consumer goods and services. For instance, in 2017 the price level index for household final consumption expenditure in the EZ was double the level in Romania (Figure A2.3, Annex 2). This reveals the remarkable size of the gap that needs to be bridged before Romania joins the EZ. Subsequently to the euro adoption, price dispersion tends to become smaller, as stressed in Cavallo et al. (2014).

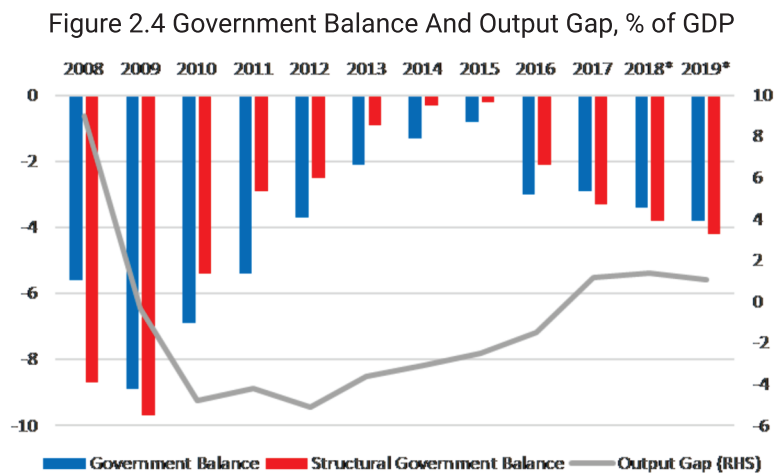
Romania will not be able to join the EZ unless a certain (relatively high) degree of price level convergence is achieved first. But there are limits to which this process can be sped up. Reducing the share of administered prices in total consumer price basket for instance would be a prerequisite.

## 2.5. Select Fiscal Issues: Budget Balance, Social Security Contributions and Public Debt

The government's taxation and spending decisions influence aggregate demand, thus complementing the monetary policy actions in stabilizing the economy against economic shocks. If Romania were to join the Eurozone, a more proactive fiscal policy could potentially help to mitigate, to a small extent, for the loss of monetary policy independence. So, discretionary changes in fiscal policy, such as those altering tax rates or the structure of government expenditures would require active decisions to stabilize the economy, with the objective of limiting strong adverse effects on intergenerational equity. Given this, fiscal policy economic impact assessments would prove to be fundamental in designing effective policy actions. This would constitute a serious drawback as the current capabilities of domestic public sector authorities for complex impact assessments appear to be rather limited.

The Government Budget Balance. Gains in fiscal consolidation achieved after 2009 have been gradually squandered away since 2015 as economic growth resumed and fiscal policy has been increasingly used to stimulate demand,

unnecessarily, through tax cuts and wage increases. The government balance deficit has been on a rising path (see Figure 2.4 below) and EC forecasts a deepening of the deficit, above the -3% of GDP Maastricht limit in the short term.



Source: EC (2015a), EC (2018a), \* - EC forecasts.

One major issue in Romania joining the EZ would be its level of government revenues. At 30.7% of GDP in 2017, these are less than two thirds of the EZ level (see Table A3.1 in Annex 3) and by far the lowest among NMS countries. More importantly, fiscal revenues from tax receipts have been falling rapidly from the equivalent of 20% of GDP in 2015 to 16.6% of GDP in 2017, as successive tax cuts, supporting a procyclical fiscal policy, reduced drastically tax-related revenues (see Table A3.1 in Annex A3). The low tax/GDP ratio is a structural issue in Romania. A relatively large informal economy and low tax compliance are among the main factors that have been keeping the tax revenues/GDP ratio hovering around 32% (with a minimum of 29.4% in 1996 and a maximum of 35% of GDP in 2015) since 1995.

Traditionally, political business cycles introduce an additional source of uncertainty in the economy. Electoral promises are sometimes fulfilled at the expense of non-compliance with EU legislation. For instance, the structural deficit

has increased above its -1% of GDP target - consistent with the medium-term budgetary objective (MTO) – over the last four years.

Social Security Contributions (SSC). Starting with 2018, there has been a radical change in the Romanian tax code regarding the payment of SSC to the budget. Besides the reduction in the effective number of contributions owed by both the employer and the employee, from six to three, the amendments to the tax code envisaged the transfer of SSC from the employer to the employee. Thus, the SSC rate payable by the employee stands now at 35% of the gross wage, while the employer's SSC payable rate is 2.25%. These changes are expected to increase the SSC received by the government from 2018 onwards. But it is likely to have some adverse effects on other revenue categories.

The budgetary constraints prevent larger spending on social security contributions. Social benefits paid amounted to 10.8% of GDP in 2017, a quarter higher than the amounts collected (see Figure A2.4 Annex 2). In absolute terms, transfers from the budget towards social security were almost the same in Romania and the EZ, the equivalent of around 2.5% of GDP. But the EZ spends much more on social security, the equivalent of 16.8% of GDP in 2017, than Romania.

*Public Sector Debt.* Romania's public debt/GDP ratio went up from a low of 12% to 35% in 2018 (see Figure A2.6 in Annex 2). Future demographic pressures and the expected increase in costs related to health care and long-term care are likely to put additional upward pressure on public debt/GDP ratio.

## 2.6. Regional Cooperation and Trade Integration

Romania has an open economy and it is integrated with the EZ through both trade and investment. More than three quarters of Romania exports go towards the EU countries (see Table 2.4). EZ is the largest trading partner, absorbing 45% of Romania's exports in 2017. Trade openness is relatively high, in 2017 it stood at 45% of GDP. The share of trade with the EZ has been going up over the last years reaching 25%. Germany, Italy and France are the largest trade partners in the Euro area, the three of them together absorbing 40% of Romania's exports. Regional trade links are quite strong, the NMS, as a whole, taking in 14% of Romania's total exports. Turkey is also an important trading partner in the region. For years Romania has been running a trade balance deficit as excess demand could not be met by domestic production capacities. The trade balance deficit has been following the business cycle patterns. More recently, trade balance has started to deteriorate due to increased domestic consumption.

However, a significant part of imports represents items used in the intermediary production processes. Over the 2000-2016 period Romania's export market shares rose almost four times, helped by moderate increases in unit labour costs. Market share gains came mainly from the machinery and equipment export industry - accounting for almost half of the increase in market shares in 2016. The vehicles industry together with the transport and telecommunication sector also contributed to market share gains.

After the 2008 crisis has been increasingly acquired a larger part of trade which relates to the EU production chains (see Figure A2.7 in Annex 2). Its share of regional value chain integration, particularly in manufacturing and business services, has been rising, in parallel with the increase in specialisation across the regional European value chains.

Adopting the euro would lead to the elimination of the exchange rate risk, thus reducing transaction costs. In turn, this could stimulate exports of existing firms and encourage non-exporters that previously limited their operations on the domestic market. Eliminating the exchange rate risk between Romania and the EZ should contribute to foreign trade expansion and the related benefits: increasing specialization and scale of production, increased investment and the transfer of new technologies and "know how" to the country. But, the gains from eliminating exchange rate risk might not be so large after all. The increasing sophistication of financial products allow now for effective currency hedging. And, having the implicit option of a slight domestic currency devaluation, especially in dire economic times, might help recovery in the short term.

Table 2.4 Romania, Exports and Balance of Trade Statistics, 2017 Data

		Total Exports, Bn EUR	Percentage in Total Exports, %	Net Trade, Bn EUR
World		62.7		-12.9
	Intra EU	47.5	75.8	-9.8
	Extra EU	15.2	24.2	-3.1
	Eurozone	33.9	44.8	-7.1
Top 5 trade destination countries - Western Europe			Percentage in EU-28 Exports, %	
	GE	14.4	22.9	-0.78
	IT	7.0	11.2	-0.55
	FR	4.2	6.8	+0.23
	UK	2.6	4.1	+0.87
	ES	1.9	3.0	-0.16
Exports to NMS Countries				
	BG	2.1	3.4	-0.05
	CR	1,8	2.9	-0.37
	HR	0.2	0.3	+0.05
	HU	2.9	4.7	-2.70
	PO	2.0	3.1	-2.15
Exports to Turkey		2.1	3.3	-0.92

Source: Computations based on Eurostat and Romania National Institute for Statistics data.

### 3. Concluding Remarks

In the absence of the exchange rate as an adjustment instrument, if Romania were to join the euro, its economy would need to be more flexible. Here, flexibility refers to the ability of both factor and product markets to be able to absorb the effects of an asymmetric shock through changes in relative prices and wages and to the effectiveness of fiscal policy as an instrument of counter cyclical stabilization. At the moment, there are still some rigidities in both factor and product domestic market.

Under a fixed exchange rate, labour mobility – both internal and external – would play a key mechanism in the amortization of asymmetric shocks in an euro area that still exhibits barriers to migration. There are a set of policies that could enhance labour market flexibility which exploit the existing market trends, such as extending flexible forms of employment (part-time, flexible hours, temporary employment). However, the policies that would stimulate further labor mobility across the EZ and NMS cover a wider range of potential interventions, ranging from further deregulation in financial and insurance markets, banking, to property markets. But, for Romania, external labour mobility does not seem to be an issue. Romania has already a large part of its working population working abroad, mostly in the EZ countries. Internal labour mobility is low but this relate more to the opportunity cost of moving across domestic regions when differences in potential earning power are considered.

For euro adoption it is essential that convergence in nominal variables is firstly reached. A large part of them, especially those related to financial variables, were not covered at all, being beyond the subject of this paper. Price level adjustment, closer to the EZ average, would be paramount. This can only be achieved through productivity increases. Romania, as other NMS countries, has become increasingly integrated in the value-added EU chains. A rising level of specialization should lead to higher intra-

industry trade with EZ countries and thus a closer synchronisation with EZ business cycles. Although in theory, joining the EMU should increase trade volume with EZ countries, in practice it is rather difficult to estimate such effects – as they are already ongoing.

Fiscal policy in Romania would need to be more disciplined if Romania were to join the EZ. With the current level of tax revenues/GDP ratio Romania would find it difficult to implement effective redistributive effects across domestic regions. With an ineffective fiscal policy, the risk is that potential output in the fixed exchange rate scenario would fall below the level that would have prevailed under flexible exchange rates, leading to a loss of welfare.

Making steps towards setting up some sort of a central fiscal authority in the EZ would also improve the coordination between national fiscal policies, and between ECB's monetary policy, leading thus to lower output and inflation volatility across the whole EZ.

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## Annex A 1

Table A1.1 Economic and Legal Criteria For Joining the Eurozone

Criteria	Reference value	Short description
Economic convergence		
Prices	Not more than 1.5 percentage points above the rate of the three best performing member states.	“the achievement of a high degree of price stability; this will be apparent from a rate of inflation which is close to that of, at most, the three best performing Member States in terms of price stability”
Fiscal	Deficit criterion, not more than 3% of GDP	Not under the excessive deficit procedure at the time of examination
	Debt criterion, not more than 60% of GDP.	Idem, as above.
Exchange rate	ERM 2, deviations from a central rate within +/-15%.	The criterion on participation in the Exchange Rate Mechanism (ERM) of the EMS “a Member State has respected the normal fluctuation margins provided for by the exchange-rate mechanism on the EMS without severe tensions for at least the last two years before the examination”.
Long term interest rate	Not more than 2 percentage points above the rate of the three best performing Member States in terms of price stability.	“the durability of convergence achieved by the Member State with a derogation and of its participation in the exchange-rate mechanism being reflected in the long-term interest-rate levels”
Legal convergence - compatibility of national legislations with the Treaty		
<p>The aim of assessing legal convergence is to facilitate the Council's decisions as to which Member States fulfill 'their obligations regarding the achievement of economic and monetary union'. In the legal domain, such conditions refer in particular to central bank independence and to the national banks' legal integration into the euro zone.</p>		

Source: (ECB, 2016)

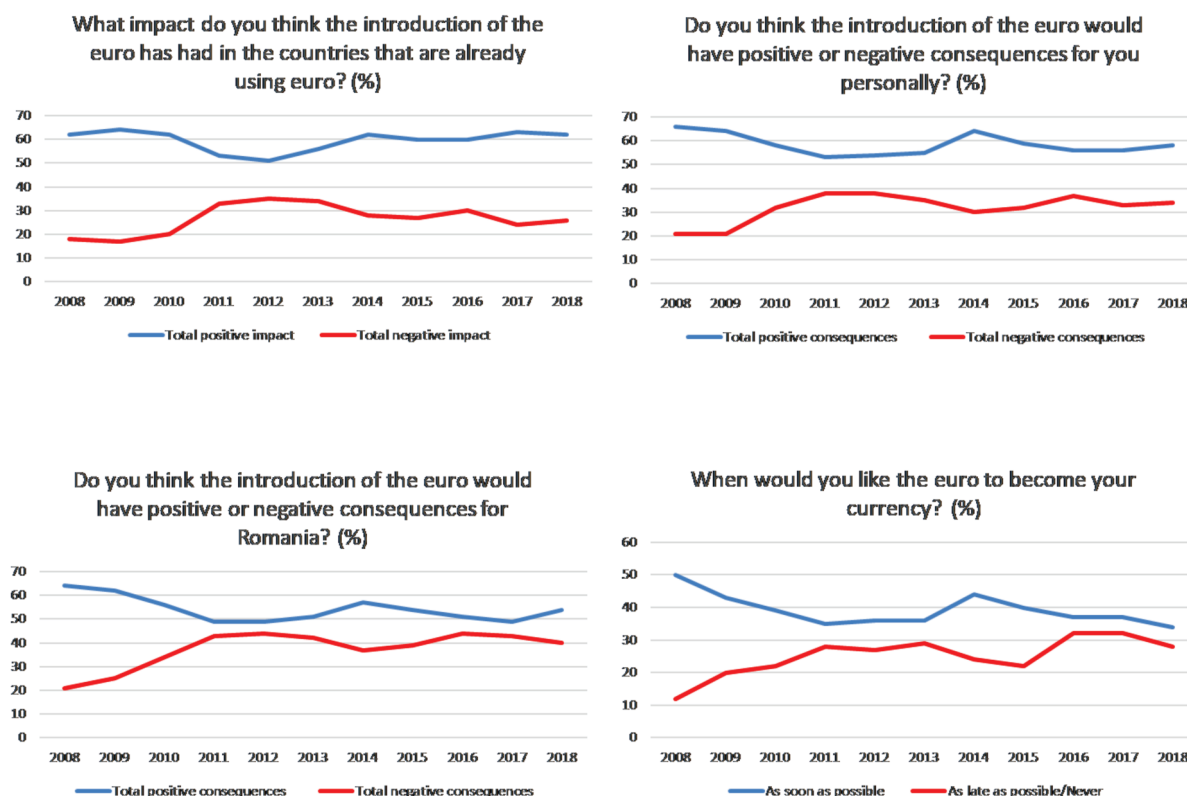
Table A1.2. NMS Euro Adoption Criteria Fulfilment

Compatibility of Legislation and Fulfilment of Convergence Criteria (as of 23 Apr 2018)

	Legal compatibility	Price stability criterion	Fiscal criterion (no EDP)	Exchange criterion (ERMII)	Long-term interest rate criterion
Bulgaria	no	yes	yes	no	yes
Czech Republic	no	no	yes	no	yes
Croatia	yes	yes	yes	no	yes
Hungary	no	no	yes	no	yes
Poland	no	yes	yes	no	no
Romania	no	no	yes	no	no

Source: EU Convergence Report 2018

Figures A1.1 – A1.4 Opinions About Euro Adoption

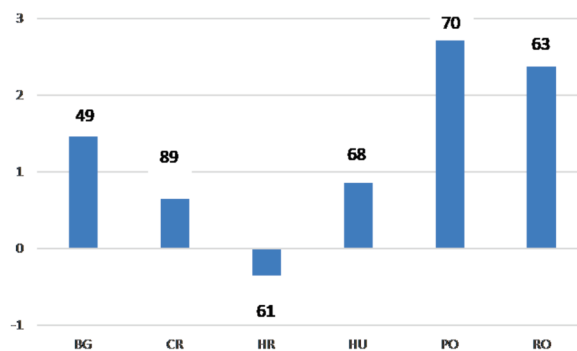


Source: Flash Eurobarometer 465, April 2018.



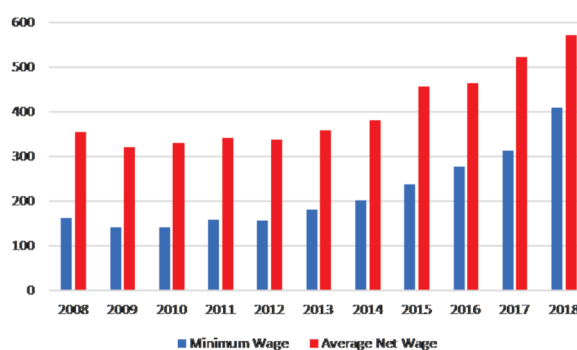
## Annex A 2

Figure A2.1 Annual Average Growth in GDP/capita at PPS, 2008-2017, %.



Source: Eurostat and Own Calculations. Figures on top of the bars represent GDP/capita in PPS at the end of 2017 (EU-28=100).

Figure A2.2 Minimum and Average Net Wages, EUR, current prices



Source: Stoiciu (2017) and Own Calculations

Table A2.1 Minimum Wage Indicators in NMS

	Min wage, July 2018, EUR/month	Average annual growth rate in min. wage (EUR/month), %, 2008-2018	Min wage, July 2018, PPS/month	Min Wage as a % of median gross monthly wage, %
BG	261	8.8	539	56
CR	469	3.4	672	43
HR	466	2.2	688	46
HU	445	5.0	720	60
PO	480	3.6	878	53
RO	410	11.5	796	51

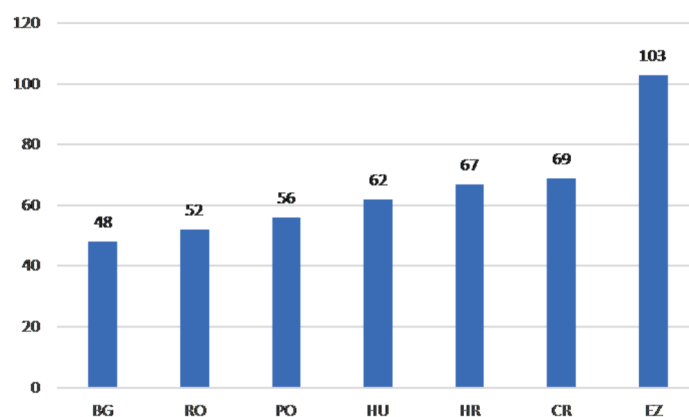
Source: Eurostat

Table A2.2 Romania - Inflation Criterion Fulfilment between 2008-2018

Year	2008	2010	2012	2013	2014	2016	2018*
Inflation Criterion, %	3.2	1.0	3.1	2.7	1.7	0.7	1.9
Romania, average inflation rate, %	7.9	6.1	3.4	3.2	1.4	-1.1	4.2

Source: EU Convergence Report (2018) \* - Forecast.

Figure A2.3 Price level index for household final consumption expenditure, 2017, EU-28=100



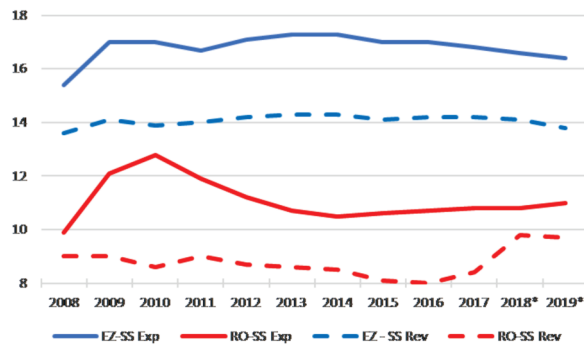
Source: Eurostat

Table A2.3 Select Fiscal Related Issues, Romania (RO) vs Eurozone 19 (EZ).  
All variables are expressed in percentages of GDP.

	Total Government Revenues		Total Government Expenditure		Tax Receipts		Social Security Contributions		Public Sector Employees Compensation		Public Sector Gross Capital Formation	
	RO	EZ	RO	EZ	RO	EZ	RO	EZ	RO	EZ	RO	EZ
2008	32.4	44.4	37.8	46.6	18.3	25.0	9.9	14.7	10.1	10.1	6.5	3.3
2012	33.6	46.1	37.2	49.7	19.0	25.5	8.7	15.3	7.8	10.4	4.9	2.9
2016	31.9	46.0	34.9	47.5	17.9	26.0	8.1	15.2	8.2	10.0	3.6	2.6
2017	30.7	46.1	33.6	47.0	16.0	n/a	8.5	n/a	9.0*	n/a	3.4*	n/a

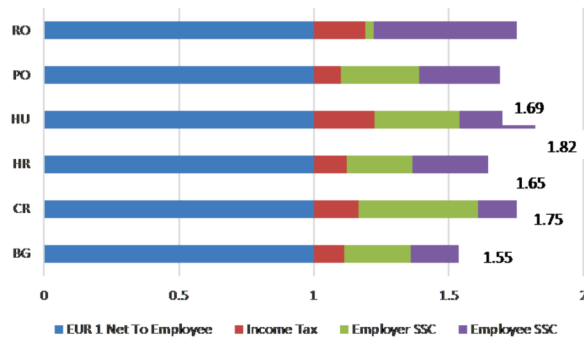
Source: Eurostat and Romania Ministry of Finance; \* -estimate.

Figure A2.4 Social Security Revenue and Spending, % of GDP



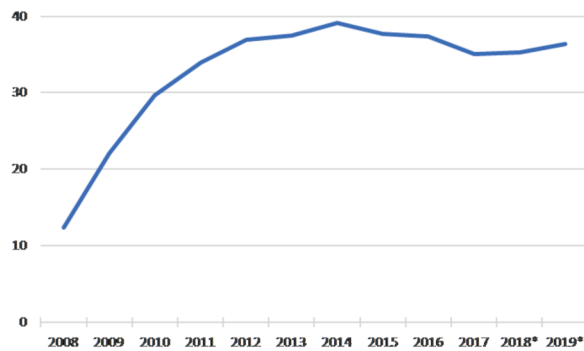
Source: AMECO. \* - Forecast

Figure A2.5 Employer's Cost for A EUR 1 Net Employee Pay, NMS



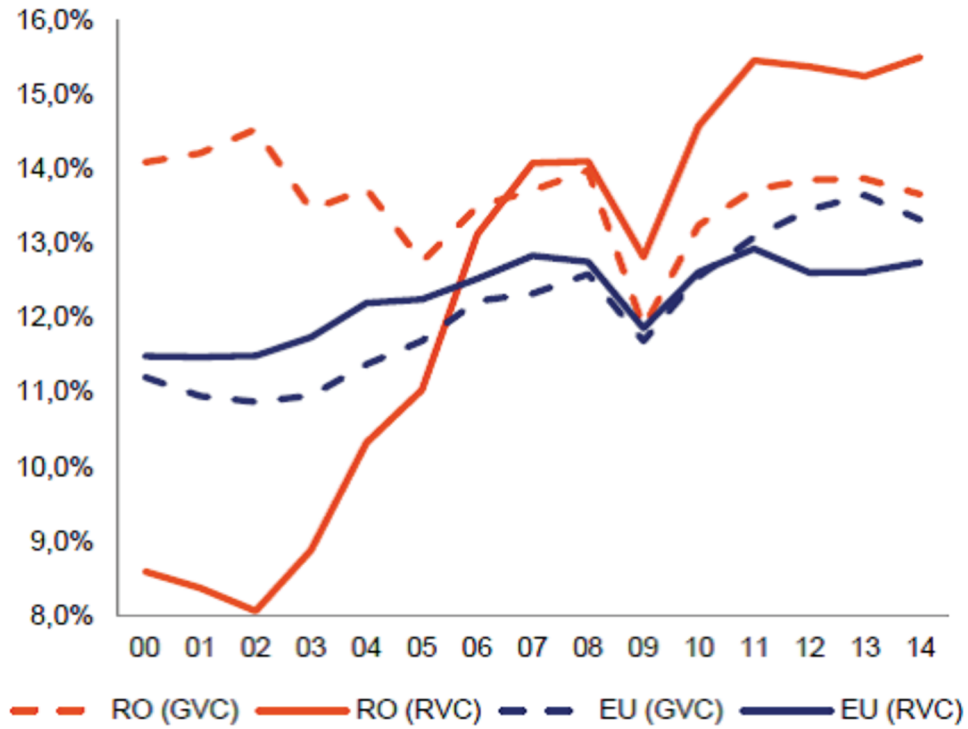
Source: James Rogers and Cécile Philippe (2018).

Figure A2.6 Public Debt as % of GDP



Source: AMECO

Figure A2.7 Changes in Regional and Global Value Chain Trade



Source: Stehner et al. (2017). RVC (GVC) indicates the share of regional (global) value chains trade, as a percentage of total value-added trade in the economy. It is based on World Input Output Tables, 2014.

## Endnotes

- <sup>I</sup> Or at the request of a member state which is not yet a member of the Eurozone.
- <sup>II</sup> The six countries are Bulgaria (BG), Czechia (CR), Croatia (HR), Hungary (HU), Poland (PO) and Romania (RO).
- <sup>III</sup> Well documented economic analyses on the impact of Euro adoption in Romania have been lacking. To our knowledge, the first comprehensive study on this topic is that of by Daianu et al. (2017).
- <sup>IV</sup> Here NMS is used for the six countries which are EU members, but not to the EZ yet, and have a derogation for joining the euro area, i.e. BG, CR, HR, HU, PO and RO.
- <sup>V</sup> There is also a strand of literature that argues that internal devaluation might not be always effective because lower competitiveness in some countries in the Eurozone (i.e. Italy, Greece, Spain, etc.) is related to the types of products they export and not to the fact that their labor is expensive.
- <sup>VI</sup> Such an analysis would need to take into account various aspects of real, nominal, and institutional convergence, including long-term welfare analysis.
- <sup>VII</sup> PPS is an artificial, common currency of the EU-28. One PPS can buy the same amounts of goods and services in each member country. Thus, variables expressed in PPS allow for direct comparisons among EU member states.
- <sup>VIII</sup> Such as automatic stabilisers, for instance
- <sup>IX</sup> At the current rate, total population is projected to shrink from the current 19.6 million people to around 17 million people by 2040.
- <sup>X</sup> As different economies recovered from the global financial crisis, some relaxed labor regulations, creating more precarious part-time jobs to drive down the headline unemployment rate. This has increased the underemployment rate.
- <sup>XI</sup> In 2018 social contributions were shifted almost entirely onto employees, thus altering the wage structure and transforming the financing of social protection.
- <sup>XII</sup> The ratio of public sector to average economy wages reached a high of 180 before the crisis and then fell to 120 in 2011, driven by a 25% cut in public sector wages coupled with wage growth freezes.
- <sup>XIII</sup> Low productivity sectors in high unemployment regions have already been affected as the increase in labour costs rendered some of these uncompetitive. Regional income disparities remain large in Romania and living costs vary across regions.
- <sup>XIV</sup> More than a quarter of Romanian physicians were estimated to be working abroad in 2013 (see WB 2018).
- <sup>XV</sup> UN survey available at <http://www.un.org/en/development/desa/population/migration/data/estimates2/estimates17.shtml> (Accessed October 2018)
- <sup>XVI</sup> Romania's total population at the end of 2017 is estimated at 19.6 million.
- <sup>XVII</sup> Remittances appeared to have a positive impact on poverty and income inequality reduction (UNCAD 2011)
- <sup>XVIII</sup> Administered prices have a slightly larger weight in the Romanian HICP basket than in the EZ, 14.1% vs 13.4% in 2017.
- <sup>XIX</sup> Taxation in particular strongly influenced Romanian inflation. In 2016 for instance, harmonized inflation consumer price index (HICP) measured at constant taxes was 2.1%, more than 3 percentage points higher than the headline HICP rate, after VAT rate was cut from 24% to 20%.
- <sup>XX</sup> Price dispersion is also common across EZ members.
- <sup>XXI</sup> See the publication "Comparative price levels of consumer goods and services" by Eurostat, available at [https://ec.europa.eu/eurostat/statistics-explained/index.php/Comparative\\_price\\_levels\\_of\\_consumer\\_goods\\_and\\_services](https://ec.europa.eu/eurostat/statistics-explained/index.php/Comparative_price_levels_of_consumer_goods_and_services). Accessed 04 November 2018.
- <sup>XXII</sup> In the standard Mundell-Fleming model, which provides a framework for the monetary and fiscal policy analysis of a small open economy, fiscal policy is likely to have a stronger effect on the economy than monetary policy in a fixed exchange rate regime.
- <sup>XXIII</sup> In practice however, the authorities might be able to maintain the deficit below the Maastricht limit by reducing public sector investments. This policy has been applied over the last years, in effect public sector investment becoming the budget's residual value set in such a way as to meet the Maastricht criteria.
- <sup>XXIV</sup> At the end of 2017, the total revenue/GDP ratios in the NMS were: BG 36.2%, CR 40.5%, HR 45.8%, HU 44.7%, PO 39.7% (Eurostat).

<sup>xxv</sup> Using the OECD methodology, the Romanian National Institute Office estimated the size of Romania's informal economy to be 22% in 2014. There is a large share of self-employment. Data from AMECO puts this figure to 34% of the total employed workforce in 2017 (vs 18% in the EU).

<sup>xxvi</sup> Tax compliance remains low across most of the tax revenue categories. The VAT gap in Romania in particular (i.e. the difference between the so-called theoretical VAT revenue and the VAT that is actually collected) at 36% is the highest in the EU (see also CASE et al 2017).

<sup>xxvii</sup> Public sector wages together with social security spending amount to two thirds of total government expenditure.

<sup>xxviii</sup> In its last issue of Convergence Report (EU 2018a) the EC simulations show that, in the no-policy change scenario, the debt to GDP ratio could go above the 60% reference by 2028.

<sup>xxix</sup> See for instance Blanchard, O., and F. Giavazzi (2002) or Rose (2000).

### **About the author**

**Laurian Lungu** holds a Phd from Cardiff University. Previously, he worked in academia, teaching courses in Macroeconomics and Mathematical Methods for both undergraduate and post-graduate degrees at Cardiff University's Economics department. His areas of expertise are in the fields of macroeconomic forecasting, policy modelling, international finance and energy. He has been an economic adviser for more than 10 years. He is the co-founder of the Consilium Policy Advisers Group (CPAG) think-tank.

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