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Integration Maturity of Georgia, Moldova, and Ukraine:

Has DCFTA Helped Prepare Them for the EU Accession Process?

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The aim of this article is to research the economic preparedness for EU integration—or "integration maturity"—of Georgia, Moldova, and Ukraine, the three countries that have signed Association Agreements with the European Union. A major part of these is the Deep and Comprehensive Free Trade Agreements, which offer significant access to the EU single market and provide a pathway to deeper economic integration. The article analyzes the three countries' economic integration maturity through five key components: macroeconomic stability, functioning market economy, competitiveness, access to foreign finance, and, lastly, convergence with the European Union. The analysis shows that although all three countries have made significant progress since signing the agreements, they have still not progressed to the point where they will be competitive and capable of maximizing the economic benefits from deeper integration. However, the current framework provides a beneficial platform from which to conduct further reform, and is therefore a good interim solution for the short to medium term. This finding is particularly relevant in the context of Russia's war on Ukraine, the significant rebuilding efforts that await at the end of the war, and the expressed desire of all three countries for full EU membership.

Keywords: *integration maturity; Eastern Partnership; DCFTA; EU; accession process*

Introduction

This article assesses the economic integration maturity of Georgia, Moldova, and Ukraine, and the extent to which their adoption and implementation of the Deep and Comprehensive Free Trade Agreements (DCFTAs) under the Association Agreements with the European Union have prepared them for membership negotiations. Until 2022, the three countries were covered by the Eastern Partnership (EaP), a framework

that allowed for closer relations, but stopped well short of the membership perspective offered to the Western Balkan states. However, following Russia's full-scale invasion of Ukraine on 24 February 2022, Ukraine formally applied for membership, soon followed by the other two.[1] Following a speedy review, the Commission issued a positive opinion on Moldova and Ukraine, while being more hesitant on Georgia.[2] On 23 June 2022, the European Council granted candidate status to the former two, while postponing a decision on Georgia pending further reforms.[3]

In this fast-changing context, this article seeks to answer a pertinent question: Have the DCFTAs helped prepare the countries' economies for the accession process? The European Union's traditional approach has been to assume that countries can enter upon fulfillment of the Copenhagen Criteria—democracy and the rule of law, functioning market economy, and administrative and institutional capability—and successful adoption of the full *acquis communautaire*. Yet, the question of *when* a country is actually ready is worth asking. We assess the three countries' readiness by analyzing their economic "integration maturity," a conceptual framework developed by Tibor Palánkai who defined it as "a country's ability to exploit the benefits of the given form of integration to the maximum, while the costs and drawbacks can be minimized."[4] What this article will examine in depth is the economic effect the DCFTAs have had on the three countries, and whether it has helped them move toward a higher degree of integration maturity, and thus helped prepare them for the accession process. In essence, has DCFTA helped bring about structural convergence?[5]

The concept of integration maturity was first developed during the transition and Europeanization process of the Central and Eastern European (CEE) countries during the 1990s. Integration maturity may be analyzed on four main dimensions: economic, political, institutional, and social.[6] While the framework was originally developed for the CEE countries, it also offers a useful approach to analyzing candidates and potential candidates today, especially those sharing a similar socialist past as the CEE countries.

Economic integration maturity, according to Palánkai, can be measured through the following components: (1) macroeconomic stability, (2) access to foreign finance, (3) functioning market economy, (4) competitiveness, and (5) convergence with the European Union. Together these would give a solid indication whether a country is able to withstand the competitive pressures in the EU single market. As has been since from past enlargements, some entrants have performed markedly better than others once part of the Union. Although the original work on integration maturity noted both politics and institutions as important factors, these aspects of the framework were somewhat underdeveloped at the time. More recent work has coupled the original framework with institutional economics, highlighting the role that institutions play in bringing about integration maturity.[7]

Of the five major dimensions of integration maturity, the first two will be the ones where the least direct impact is expected. Free trade, after all, does not guarantee a healthy macroeconomic policy, although it can be helpful. As for access to foreign

finance, all three countries joined the major international financial organizations (IFOs) long before signing Association Agreements with the European Union. On the other three dimensions, however, one may expect a significant impact of the DCFTAs on the three countries' performance.

In this analysis, we test the following research hypothesis: the DCFTA helped the countries analyzed move toward the starting line for an accession process. In Palánkai's words, "a country is mature for integration if it is able to turn its membership into a positive-sum game, that is, integration is advantageous for it."[8] Thus, in our approach, we do not assess as much whether the countries are yet able to exploit the benefits of full integration, due to the early stage, but rather their readiness for deepening integration further through the accession process.

The article is organized as follows: the following section provides a brief historical background on the three countries' political and economic foreign relations. Methodology and Sources outlines the methodology for analyzing integration maturity, followed by the empirical analysis in the Integration Maturity Analysis section. Covid and the Russian War on Ukraine provides a brief discussion of the impact of the Covid pandemic and the 2022 full-scale Russian invasion of Ukraine, while the final section concludes the article.

Historical Background

Since emerging from the Soviet Union, Georgia, Moldova, and Ukraine have struggled with the challenges of democratization and economic transformation. All three have gone through periods of political instability, and periodic backsliding. Having initially all favored presidential systems of government, by 2023, Georgia and Moldova had switched to parliamentary systems, while Ukraine had opted for semi-presidentialism. On the Freedom House rankings for 2021, all three are rated as "partly free," with Moldova ranked at 104th, Georgia 106th, and Ukraine 109th.[9] The Economist Intelligence Unit's Democracy Index for 2022 ranks Moldova in sixty-ninth place as a "flawed democracy," while Ukraine (eighty-seventh) and Georgia (ninetieth) are rated as "hybrid regimes."[10] Moldova and Ukraine's index was higher in the period prior to signing the DCFTAs than in 2019, when it reached the lowest value. While the situation improved in Moldova, the index value in Ukraine in 2014 and 2022 was identical. On the other hand, Georgia's index was the lowest in 2010, and the value was increasing up until 2017. In both Moldova and Georgia, the Democracy Index value in 2022 was lower than that in 2014.

Economic reforms took a long time to get underway, and political instability made reform processes harder to sustain in all three countries. Georgia joined the World Trade Organization (WTO) in 2000, but the reform process did not get underway until after the 2003 Rose Revolution, but then proceeded at break-neck speed during the next few years.[11] Similarly, in Ukraine, the 1990s was a decade of

mismanagement, which formed part of the backdrop to the Orange Revolution.[12] For Ukraine, WTO membership did not come until 2008. In Moldova, which had joined the WTO in 2001, the change came by way of the 2009 election, which finally displaced the Communist Party. However, the reform agenda needed for Moldova to strengthen ties with the European Union does remain daunting.[13] The election in 2021 of Maia Sandu, a former World Bank economist, as president and the subsequent election of a pro-European Union and reformist parliamentary majority suggest a continued commitment to reform.

Relations with Russia have been tense for all three countries, in the case of Moldova and Georgia not least because of frozen conflicts, which have in turn contributed to political instability. In Moldova, Russia has maintained a presence in the Transnistria region ever since 1991, maintaining the breakaway region's existence. In Georgia, the Abkhazia and South Ossetia regions broke away following a war in the early 1990s and remained separate with Russian support. Following the Rose Revolution, relations grew tenser, and Russia imposed partial economic blockades on Georgia. In August 2008, tensions escalated into full-scale war, as Russia invaded Georgia and then recognized the breakaway provinces as sovereign states.[14] Diplomatic relations between the two countries have not been completely normalized yet, although many restrictive measures have been eased.

As for Ukraine, relations with Russia never completely recovered after the Orange Revolution of 2004–2005, where Russia's favored candidate was forced to concede after massive street protests over election rigging.[15] Even after an ostensibly pro-Russian candidate won the presidency in 2010, Russia continued acting coercively towards Ukraine. In particular, Russia exerted no small amount of energy seeking to draw Ukraine into the Eurasian Customs Union, a framework that would restrict Ukraine's trade policy far more than the DCFTA with the European Union. Already in the summer of 2013, Russia had imposed various economic sanctions on Ukraine to force its hand.[16]

Reformers in all three countries have consistently advocated for their countries' eventual EU membership; however, none of the three got onto the membership track in the 1990s. The European Union developed first the European Neighbourhood Policy in 2004 and the EaP since 2009 as a special framework aimed at deepening and strengthening relations,[17] although, crucially, without offering any membership perspective. Combining both political and economic aspects, the EaP was a way for the European Union to show some degree of commitment to their eastern neighbors, even as membership was off the table.[18]

Although the EaP was open also to Azerbaijan, Armenia, and Belarus, it has only been the three countries under consideration here, which have fully embraced it. In 2014, all three signed Association Agreements with the European Union, a major part of which is the DCFTA. The agreements entered into full force in 2016 for Georgia and Moldova, and 2017 for Ukraine. Through these agreements, the three countries gain a high degree of access to the European Union's single market (the main exception being free movement of labor), while still allowing some differentiations in terms

of market access, thus allowing the DCFTA countries to temporarily protect certain key industries. One of the key provisions—which both promises deep access to EU markets and creates problems of implementation—is the transition to European standards of product quality and hence thorough modernization of production, which requires significant financial expenses.[19] In time, European economic integration will lead to the modernization of domestic enterprises, foreign direct investment (FDI) inflow and advanced technologies, increased competitiveness, new financial resources for economic development, and improvement of its citizens' living standards.[20]

The European Union's offer of DCFTAs as part of the Association Agreements has been analyzed by scholars in various ways. Some considered it from the perspective of norm transfer and exporting of legal standards, and how this would impact the future integration of the countries to which it applies.[21] Others focused on the economic aspects, discussing the relative merits of the DCFTA versus Russia's proposed customs union.[22] The expectations shared in economic assessments were that while many costs would appear pretty quickly, the benefits would show over the longer term, hence the need for careful sequencing of reforms.[23] Others again questioned the very efficacy of DCFTAs to promote positive change.[24] From the political perspective, some focused on the political economy of the DCFTA, and how the agreements might alter the geoeconomic orientation of the participating countries.[25] In a similar vein, others argued that the DCFTA was best seen as an example of the EU's pursuit of self-interest, albeit in such a way as to seriously misjudge the reactions it might produce from Russia.[26]

Specifically, in the case of Ukraine, Russia had, prior to 2014, sought to promote its Eurasian Customs Union as an alternative to the DCFTA, even as Ukraine had finalized negotiations with the European Union. When the Ukrainian president announced, in November 2013, that he would follow Russia's wishes, and abandon the Association Agreement with the European Union, it led to massive popular protests, known as the Euromaidan. At the end of February 2014, the president fled the country, and a new pro-EU government took office. This, however, spurred Russia to first invade and then illegally annex Crimea, and subsequently to foment rebellion in the eastern Ukrainian Donbas region. By the end of 2015, this war had cost the lives of some 13,000 people and had had profound economic impacts on Ukraine, before gradually settling into a frozen conflict.[27] On 24 February 2022, Russia opted for all-out war, as it launched a full-scale invasion of Ukraine, killing tens of thousands, driving millions more to flee the country, and devastating Ukraine's economy and infrastructure even further.

Methodology and Sources

Macroeconomic stability is a precondition for successful integration because it helps avoid or lessen asymmetric shocks.[28] While assessing what makes a stable economy, we use the following indicators to analyze favorable macroeconomic

performances of a country: economic growth rates, inflation rates, unemployment rates, government debt, and the budget deficit.[29]

To develop a stable, competitive, functioning market economy and converge, states need access to foreign finance to build institutions and develop infrastructure. The access to foreign finance is analyzed through the structure of external debt, that is, are countries members of IFOs and do they have access to multilateral and bilateral loans?

To assess whether the DCFTA countries are functioning market economies, we use European Bank for Reconstruction and Development (EBRD) transition indicators and Heritage Foundation data to analyze price and trade liberalization, privatization, property rights protection, and corruption. We also analyze economic openness and trade patterns.

If a less competitive country joins integration, a large number of producers would not be able to adapt and newly increased competition could cause them to lose their markets, which would have negative consequences for domestic employment, the budget, and economic growth.[30] The indicators used for the competitiveness analysis are the Global Competitiveness Index, the Business Freedom Index, KOF Globalization Index, labor costs, labor productivity, the Human Capital Index, and FDI.

Convergence is a tendency of poorer economies to grow faster than richer economies and is a necessary condition of efficient and successful integration.[31] Barro and Sala-i-Martin pioneered the σ- and β-convergence analysis, which is based on the Solow neoclassical growth model.[32] Σ-convergence measures the dispersion of per capita gross domestic product (GDP) in the analyzed group of countries using the coefficient of variation. If the coefficient is decreasing, it indicates a decrease in dispersion, that is, convergence, while an increase indicates divergence.

β-convergence occurs if there is a negative relationship between the initial level of per capita GDP and the per capita GDP growth rate. If countries have similar structures, convergence is absolute. If they differ, convergence is conditional. We estimate the absolute convergence model (Equation 1) using ordinary least squares linear-log regression. The dependent variable is per capita GDP growth rate and the independent variable is the initial per capita GDP, computed in a natural logarithm. The β-coefficient indicates the speed of convergence and it must be negative. A positive β-coefficient indicates divergence.

$$\Upsilon_{i.0,\mathrm{T}} = \alpha_i + \beta \log\left(\mathrm{Y}_{i,0}\right) + \varepsilon_i, \qquad (1)$$

where β is the convergence coefficient; $\Upsilon_{i.0,\mathrm{T}}$ is the average annual growth rate of per capita GDP for country *i* between initial period (0) and the end of the interval (T); $\mathrm{Y}_{i,0}$ is the per capita GDP at purchasing power parity for country *i* at the beginning of the analyzed period 0; α_i is a constant; and ε_i is the stochastic error of the equation.

The conditional convergence model (Equation 2) is an augmented absolute convergence model that includes more independent variables. In this research, we include the following independent variables: economic openness, the inflation rate, gross fixed capital formation (investment), the Government Integrity Index, and the population growth rate.[33] The included variables represent the areas countries should focus on during their transition and we test their impact on per capita growth. Population growth is taken from the Solow growth model.[34] Theoretically, economic openness, investment, and government integrity have a positive impact on per capita growth, while inflation and the population growth rate have a negative impact.

$$\Upsilon_{i.0,\mathrm{T}} = \alpha_i + \beta_1 \log\left(\mathrm{Y}_{i,0}\right) + \beta_2 \mathrm{EO}_{i.0,\mathrm{T}} + \beta_3 \mathrm{Inf}_{i,0.\mathrm{T}} + \beta_4 \mathrm{GFCF}_{i,0.\mathrm{T}} + \beta_5 \mathrm{GI}_{i,0.\mathrm{T}} + \beta_6 \mathrm{Pop}_{i,0.\mathrm{T}} + \varepsilon_i, \quad (2)$$

where EO, Inf, GFCF, GI, and Pop denote the economic openness rate, inflation rate, gross fixed capital formation, Government Integrity Index, and population growth rate, respectively.

The World Bank, Eurostat, EBRD, the Heritage Foundation database, the International Labor Organization, and agencies for statistics and ministries of finance are the main source of data for this research.

Integration Maturity Analysis

In its 2022 Opinions on the three countries' applications, the Commission considered all three as sufficiently meeting the economic accession criteria of having "a functioning market economy," able to "cope with competitive pressure and market forces."[35] In the Commission's assessment, all three had, through the Association Agreements and DCFTAs, already adopted and implemented significant portions of the *acquis communautaire*.[36] The systematic integration maturity analysis does, however, both nuance and muddy the picture somewhat.

Macroeconomic Stability

Macroeconomic stability and successful integration are mutually dependent on each other: stability may be a prerequisite to integration, on the one hand, and an indicator of its success, on the other.[37] We analyze the macroeconomic stability through the following indicators presented in Table 1: growth of real GDP, the inflation rate, the unemployment rates, general government debt, and the budget deficit.

The DCFTA countries have higher growth rates than the EU member states, which is as expected because poorer countries should grow faster than the rich ones (further analysis in the Convergence section). All countries fell into a recession in 2009

Table 1
Macroeconomic Indicators of the DCFTA Countries

Indicator	Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Real GDP growth (%)	Georgia	−3.7	6.3	7.4	6.4	3.6	4.4	3.0	2.9	4.8	4.9	5.1
	Moldova	−6.0	7.1	5.8	−0.6	9.0	5.0	−0.3	4.4	4.7	4.3	3.5
	Ukraine	−14.8	3.8	5.5	0.2	−0.03	−6.6	−9.8	2.2	2.5	3.4	3.2
	European Union	−4.3	2.2	1.8	−0.4	0.3	1.8	2.3	2.0	2.6	1.9	1.8
Inflation rate (%)	Georgia	1.7	7.1	8.5	−0.9	−0.5	3.1	4.0	2.1	6.0	2.6	4.9
	Moldova	0.01	7.4	7.7	4.6	4.6	5.1	9.6	6.4	6.6	3.1	4.9
	Ukraine	15.9	9.4	8.0	0.6	−0.3	12.1	48.7	13.9	14.4	11.0	7.9
	European Union	1.3	2.1	3.1	2.6	1.5	0.6	0.1	0.2	1.7	1.9	1.5
Unemployment rate (%)	Georgia	18.3	17.4	17.3	17.2	16.9	14.6	14.1	14.0	13.9	12.7	11.6
	Moldova	6.4	7.4	6.7	5.6	5.1	3.9	5.0	4.2	4.1	3.0	3.0
	Ukraine	8.8	8.1	7.9	7.5	7.2	9.3	9.1	9.5	9.7	9.0	8.5
	European Union	9.1	9.8	9.8	10.8	11.3	10.9	10.3	9.1	8.1	7.3	6.7
General government debt (% of GDP)	Georgia	33.6	31.9	28.4	28.8	29.5	30.9	36.7	40.3	38.6	37.5	40.4
	Moldova	32.6	25.5	24.2	31.2	29.8	35.0	42.4	39.2	34.3	31.6	28.3
	Ukraine	35.4	40.6	36.9	37.5	40.5	70.3	79.5	81.2	71.6	60.3	48.8
	European Union	55.0	60.6	65.5	68.8	72.3	73.3	71.5	70.6	68.1	66.3	64.2
Budget deficit/ surplus (% of GDP)	Georgia	−6.4	−4.5	−0.8	−0.7	−1.3	−1.8	−1.2	−1.5	−0.5	−0.8	−1.8
	Moldova	−6.4	−2.2	−2.1	−1.9	−1.6	−1.6	−1.9	−1.6	−0.6	−0.8	−1.4
	Ukraine	−6.3	−5.8	−2.8	−4.3	−4.8	−4.5	−1.2	−2.2	−2.2	−2.2	−2.0
	European Union	−6.0	−6.0	−4.1	−3.6	−2.9	−2.4	−1.9	−1.4	−0.8	−0.4	−0.5

Source: World Bank, European Commission, and World Economic Outlook databases.
Note: DCFTA = Deep and Comprehensive Free Trade Agreement; GDP = gross domestic product.

following the international financial crisis, although in Georgia, the 2008 war with Russia was certainly also a factor. The biggest contraction was recorded in Ukraine, where GDP fell by almost 15 percent. The countries started to recover in 2010, although haltingly for Moldova, which recorded small falls of GDP in 2012 and 2015. For Ukraine, the war with Russia and the loss of Crimea and parts of the Donbas region led to a crunching recession through 2014 and 2015, where GDP fell by 6.6 percent and 9.8 percent, respectively. The havoc the war wreaked on Ukraine's economy can hardly be understated, and only underscores the achievement in returning to positive growth rates in later years.

The DCFTA countries still struggle with high inflation rates. The average inflation rate in the countries in 2019 was 6 percent. In Ukraine, war and capital flight caused prices to soar by 48.7 percent in 2015, partly also as a result of a sharp

depreciation in the value of the Ukrainian hryvnia.[38] Between 2009 and 2019, the highest inflation rate was in Ukraine (12.1%) and the lowest was in Georgia (3.5%).

Among the analyzed countries, the highest average unemployment rate is recorded in Georgia (15.3%) and the lowest in Moldova (4.9%). However, Moldova has the lowest labor force participation rate in Europe (42%, compared to 56% in Ukraine, 63% in Georgia, and 57% in the European Union),[39] due to skills mismatches, large outmigration flows, high inactivity, and a great incidence of youth neither in employment nor in education or training.[40] One of the challenges for the labor market has been the outward migration of the labor force, especially to the European Union.

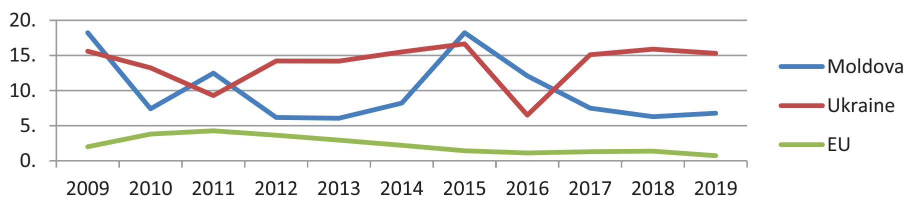
The analyzed countries have lower debt rates than the EU average (66.9%).[41] The DCFTA countries recorded an increase in general government debt in the period 2014–2016, which started to stabilize in the recent years. The highest debt rate is in Ukraine (54.8%), which is as expected considering the political situation in the country and the fact that it was in a deep recession in 2014 and 2015. The lowest rate is in Moldova (32%).

Between 2009 and 2019, none of the countries analyzed have recorded a budget surplus. During the crisis period, the budget deficit increased. In Georgia and Moldova, the deficit started decreasing in 2011 and in Ukraine in 2015. Considering the economic history of the countries analyzed, the political situation, and instability in the region, the DCFTA countries have made progress in the area of macroeconomic stability. The biggest problems are still unstable currencies, which is one of the factors that discourage foreign investors, and high unemployment rates.

Access to Foreign Finance

The three countries analyzed have been members of the main IFOs, the International Monetary Fund, the World Bank, and the EBRD since 1992. In addition, as part of EaP, the countries have benefited from EU investment in the region. Since 2014, the European Union has provided Ukraine with €3.8 billion in macro-financial assistance loans, Georgia with €150 million, and Moldova with €60 million. Financial support from the European Union therefore does exist, but under strict conditionality and monitoring due to the countries' struggles with corruption.[42] In 2020, the countries' largest creditors were IFOs. Moldova and Ukraine's external debt and Georgia's public debt consisted mostly of multilateral loans (68.1% in Georgia, 90.2% in Moldova, and 33% in Ukraine). The share of bilateral loans in Georgia's debt was 20.7 percent, 9.8 percent in Moldova's debt, and 10.5 percent in Ukraine's debt. The three countries issue government bonds to finance themselves. The data for Moldova and Ukraine show that the countries recorded interest rates (10% and 13.8%, respectively) much higher than in the European Union (2.3%; see Figure 1). The countries' currencies devalued relative to the euro, reflecting their high inflation rates during this period.[43] Part of the Georgian government's debt to the National Bank was re-arranged into bonds in the period 2006–2030.[44]

Figure 1
Interest rates on long-term government bonds, 2009–2019



Source: European Commission.
Note: EU = European Union.

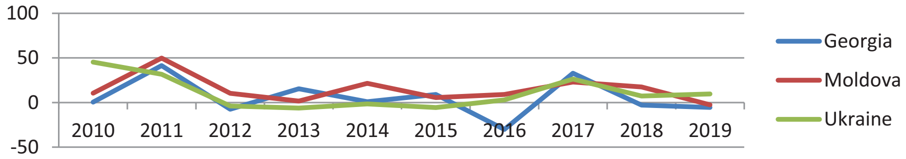
On 8 March 2022, two weeks after Russia invaded Ukraine, the National Bank of Ukraine (NBU) Board decided to buy UAH 20 billion of government-issued war bonds to ensure that Ukraine can effectively repel Russia's aggression and that the government can meet its critical expenses. On 12 April, the Board decided to purchase another UAH 20 billion of war bonds. However, the NBU will provide only limited financing, in a transparent manner.[45] The bonds range from short term to long term, and the interest rate is 10–11 percent.[46]

Functioning Market Economy

The existence of a functioning market economy requires that all prices, as well as trade, should be liberalized and that an enforceable legal system, including property rights, is in place.[47] The primary impact of the DCFTA is the elimination of customs duties, fees, and other charges on imports and exports.[48] According to EBRD indicators, the DCFTA countries have made most progress in the area of price and trade liberalization. They are all open economies, have removed quantitative and administrative import and export restrictions, and are all members of the WTO. However, the Bertelsmann Transformation Index economic transformation indicator shows that economic transformation in all three countries has been limited.[49] In 2019, the lowest economic openness rate was in Moldova, 85.7 percent (decreased from 110.4% in 2009), and the highest was in Georgia, 116.9 percent (increased from 78.1% in 2009). The Ukrainian rate increased from 87.4 percent to 94.5 percent between 2009 and 2019.

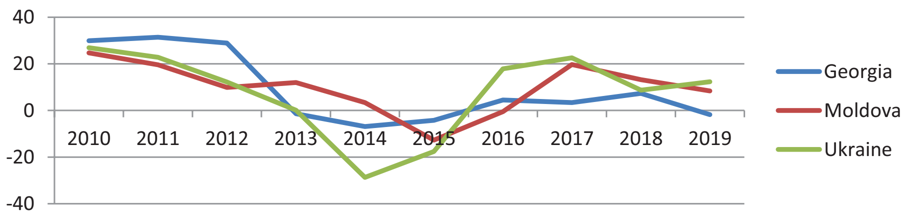
Ukraine's trade with the world increased by 61.4 percent between 2009 and 2019, Moldova's by 134.6 percent, and Georgia's by 183.7 percent. Ukraine's lower number is surely due to the sharp drop in trade with Russia since 2014 (see below). The countries' main trade partner in the years covered is the European Union, the second being Russia. The largest volumes of exports to the EU countries are still provided by low value-added products.[50] Ukraine exports mostly to Poland (6.6% of total

Figure 2
Exports of DCFTA countries to the European Union (% growth)



Source: European Commission.
Note: DCFTA = Deep and Comprehensive Free Trade Agreement.

Figure 3
Imports of DCFTA countries from the European Union (% growth)



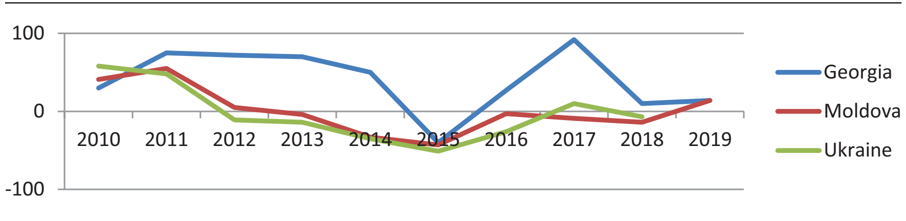
Source: European Commission.
Note: DCFTA = Deep and Comprehensive Free Trade Agreement.

exports), Moldova to Romania (27.5%), and Georgia to Bulgaria (7.5%). Ukraine and Georgia import mostly from Germany (9.9% and 5.3% of total imports, respectively). In the period 2009–2019, trade between the European Union and Moldova, Ukraine, and Georgia has increased by 177.7 percent, 105 percent, and 95.7 percent, respectively. However, year-on-year growth rates of exports and imports between the countries and the European Union have been volatile (Figures 2 and 3).[51]

The EU–Georgia DCFTA is the best mechanism available to Georgia to promote exports, attract FDIs, and achieve high economic growth rates. In recent years, Georgia's trade performance has been promising.[52] The country's exports to the European Union have grown, leading to deepening of the relationship with the European Union, production of competitive products in the country, and allowing the creation of a trading system compatible with the EU market.[53]

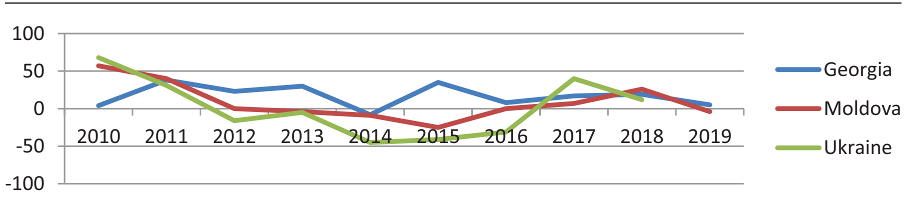
The DCFTA also has a separate focus for the agriculture sector, the core of the Moldovan economy, which is foreseen to benefit from higher production standards, modern technologies, European funds and investments, and improved labor conditions.[54] The relations between the Republic of Moldova and the European Union

Figure 4
Exports to Russia (% growth)[59]



Source: Authors' calculations based on World Bank data.

Figure 5
Imports from Russia (% growth)



Source: Authors' calculations based on World Bank data.

have evolved, but Moldova needs to work hard on its reform agenda and solve the major problems that it faces.[55] Moldova should continue the harmonization of regulations with the European Union in the context of the DCFTA, since this implies improving the access of Moldovan companies to the large and reliable EU market.[56]

In the period 2009–2019, trade between Russia and Ukraine and Moldova, respectively, decreased, but increased between Russia and Georgia because in 2013 Russia lifted the trade restrictions implemented in 2006 (Figures 4 and 5).[57] Trade decreased due to Russian import duties and import bans on some products after the country signed the Association Agreement with the European Union.[58]

Moldova's imports from Russia were stable, but exports decreased by almost 20 percentage points between 2011 and 2019. Russia's (at the time) undeclared war on Ukraine predictably led to a decrease in trade, from 35.3 percent of imports and 29 percent of exports in 2011 to 11.2 percent and 6.5 percent in 2019.

The DCFTA was one factor helping Ukraine survive the difficult period at the start of the war, as it began to integrate with the EU market and at the same time became increasingly independent of the Russian market.[60] The annexation of Crimea led to severe economic losses for Ukraine, probably disproportional to Crimea's economic size. The annexation caused not only economic slowdown, falling commodity prices,

and high inflation, but it also negatively affected Ukrainian exporters' ambitions and innovation development due to the worsening investment climate in the country.[61]

The economies of the DCFTA countries are weakly diversified. More than 60 percent of their GDP are composed of services, followed by industry (between 20.3% and 28.6%) and agriculture (between 8.2% and 17.7%).[62] One of the reasons for a low degree of diversification is an inefficient privatization process. If privatization is conducted properly, it leads to higher employment, increased trade, improved technology, and higher GDP growth rates. However, in the former socialist countries, the privatization process created a class of oligarchs that bought companies for extremely small amounts of money but did not invest in or modernize them.[63] As a consequence, the largest volumes of exports to the EU countries are still provided by low value-added products.[64]

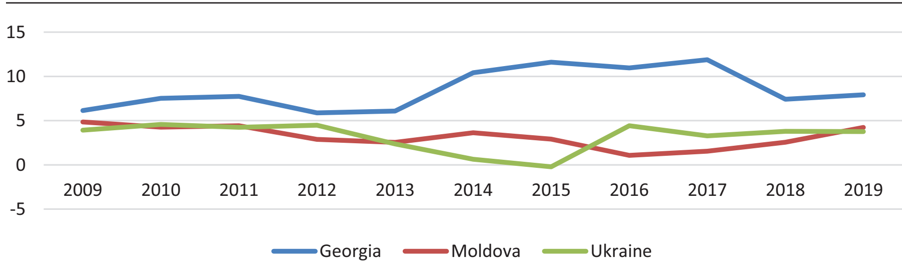
Institutional aspects inhibit the process, as in a functioning market economy, property rights must be protected. In 2019, the Property Rights Index, which measures the degree to which a country's laws protect private property rights and the degree to which its government enforces those laws, ranged between 43.9 in Ukraine and 65.9 in Georgia.[65] The countries have made progress in the past years since the index values ranged between 30 (Ukraine) and 40 (Moldova) in 2009. In 2015, Ukraine's index decreased to only 20, indicating high corruption and weakly protected property rights. Another major institutional aspect is the rule of law. For all three countries, the Commission demanded greater reforms to the judicial sectors prior to actual talks, or, in the case of Georgia, candidate status.[66] On the World Justice Project's Rule of Law Index for 2019, the three countries ranked forty-first (Georgia), eighty-third (Moldova), and seventy-seventh (Ukraine). By comparison, the lowest ranked EU members were Hungary (fifty-seventh) and Bulgaria (fifty-fourth).[67] The data for 2015 (older data are not available) show that the rule of law deteriorated the most in Georgia, as the country was ranked twenty-ninth, followed by Ukraine (ranked seventieth), while Moldova improved marginally (ranked sixty-ninth).[68]

Competitiveness

Competitiveness is the most challenging area in the transition process. It is defined as "the set of institutions, policies and factors that determine the level of productivity of a country."[69] In 2019, the countries were ranked seventy-fourth (Georgia), eighty-fifth (Ukraine), and eighty-sixth (Moldova) out of 141 countries on the Global Competitiveness Index list, which positions them among the least competitive countries in Europe.[70] Georgia and Moldova improved their ranking from ninetieth and ninety-fourth position in 2009 and 2010, while Ukraine was ranked eighty-second out of 139 countries in 2009.[71]

As noted above, the DCFTA countries have, due to institutional and rule of law challenges, not been particularly attractive for foreign investors and this explains

Figure 6
FDI inflow (% of GDP)



Source: World Bank.
Note: FDI = foreign direct investment; GDP = gross domestic product.

why restructuring stalls. This pattern can change only with marked improvements in the domestic regulatory environment and investment climate.[72] However, the economies must rely on attracting FDI to go through the transition process faster. Georgia is one of the most favorable countries to start a business in and the process is very simple (ranked seventh in the world for Ease of Doing Business), while Moldova and Ukraine are less favorable (ranked forty-eighth and sixty-fourth, respectively).[73] Georgia attracted most FDI in 2019 (7.9% of GDP), followed by Moldova (4.2%) and Ukraine (3.8%).[74] Compared to 2009, FDI inflow increased in Georgia by 1.8 percentage points, while it decreased by 0.1 percentage points in Ukraine and 0.7 percentage points in Moldova (Figure 6).

Georgia had the highest FDI inflow among the countries analyzed in the period 2009–2019 and the rate reached 11 percent between 2014 and 2017. The annexation of Crimea had a negative impact on FDI inflow in Ukraine, as the ratio of FDI-to-GDP was negative in 2015. However, the situation improved in 2016 and remained constant in the following period. Moldova and Ukraine had similar ratios of FDI-to-GDP in the period analyzed. While Georgia attracted slightly more FDI in 2019 compared to 2009, in the other two countries the rates were marginally lower, even though the rates were not constant throughout the analyzed period. The main investors in all three countries are EU member states, most commonly the Netherlands, Austria, and Germany. Other investors come from Switzerland, the United Kingdom, the United States, Turkey, and Russia.[75]

The DCFTA countries have low labor costs, which is one of the advantages for FDI. In 2018, the lowest average wage was in Moldova ($0.2),[76] followed by Georgia ($2.2) and Ukraine ($2.7), compared to $26.2 in the European Union.[77] More FDI inflow would make the countries more competitive; increase their labor productivity, which is only 25.7 percent of the EU average[78]; and increase the quality of their products.

The countries have a lot of potential, but the rate of FDI is insufficient due to several reasons, among them inadequately educated workforce in Georgia to corruption and political instability in Moldova and Ukraine.[79] Another problem is institutional inefficiency. According to Transparency International Corruption Perception Index, Georgia is the least corrupt among the analyzed countries (ranked 44th out of 180 countries), and Ukraine (126th) is the second-most corrupt country in Europe, after Russia, while Moldova is ranked 120th.[80] The Commission, in its 2022 Opinions, highlighted corruption as a major challenge for all three countries.[81] Georgia has maintained progress in eradicating petty corruption, while high-level elite corruption remains a serious issue.[82] Ukraine has made only slow progress due to a lack of political will to fight corruption and a low level of trust in Ukrainian judges and prosecutors.[83] Corruption in Moldova affects the quality of life for ordinary people, especially because the oligarchic elite's position in the state has fueled corruption in business, politics, and public administration.[84]

Another important aspect is political stability and the external environment that states face. The Political Stability Index measures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism.[85] It shows that Ukraine is the least stable country in Europe and one of the most unstable countries in the world, obviously in no small part due to Russian aggression. Among the countries analyzed, Moldova has the highest value of the index. All three countries have their challenges, whether through weak and rapidly changing government, political divisions, frozen conflicts on their territory, or actual wars still ongoing. Even so, the Association Agreements and DCFTA have provided an anchor, and have helped the countries expand their trade with the European Union, and thereby help them back into economic growth.

Although the DCFTA envisages the countries adapting their product standards to those of the European Union, they still do produce many low-quality products, which do not fulfill the EU criteria. Access to the EU market, which is more competitive, should increase the variety and quality of products and services, encourage specialization, lower costs, and generate innovation.[86]

A reason for a lack of competitiveness is obsolete industrial technology. The consequence is that the countries are not productive, their products are not of a high quality, and they are not competitive in foreign markets. The GDP composition shows that the countries focus on the production of services (more than 60% of GDP and most of them are non-tradable), while industry comprises only between one-fifth and one-third of GDP.[87] Some might ask why this is problematic considering that the share of services is even higher in the EU countries. The difference is that the EU countries modernized industry, produce products that can fulfill the needs of their citizens, and export them to the foreign markets. Transition economies rely on imports instead of exporting commodities. To become more competitive and grow

faster, the countries must complete the industrialization process. Only then can they focus on the production of services.

The DCFTAs have brought many benefits to the countries, but one of the main problems of its implementation is that producers will have to transition to European product standards and undergo complete modernization of production, which requires significant financial expenses.[88] While European economic integration will lead to the modernization of domestic enterprises, FDI inflow and advanced technologies, increased competitiveness, new financial resources for economic development, and improvement of its citizens' living standards, the DCFTA in itself does not guarantee the beginning of the full integration process.[89] DCFTA countries have not been particularly attractive for foreign investors, and this explains why restructuring in the region stalls. This pattern can change only with marked improvements in the domestic regulatory environment and investment climate.[90]

Therefore, DCFTAs can contribute to the countries becoming functioning, competitive market economies. FDI from the European Union helped the transformation of CEE countries, and their growth accelerated in the post-enlargement period.[91] However, it is not for the European Union to make this process happen; the three countries must create a favorable economic and political environment to attract foreign investors through building efficient institutions, as these have a positive impact on economic growth and a faster convergence process.[92]

Convergence

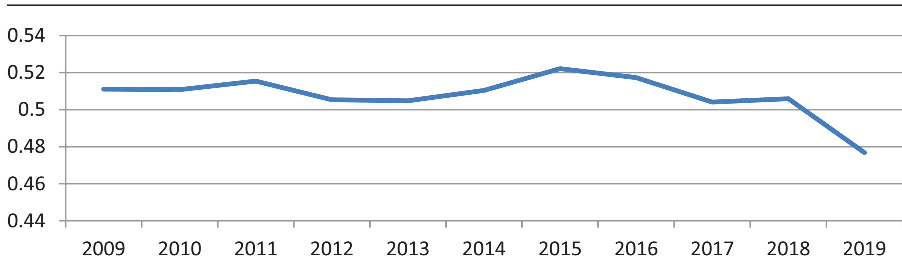
Convergence is, in a sense, a function of the previous factors: achieving macroeconomic stability; becoming a functioning, competitive market economy; and having access to foreign finance should lead to higher economic growth rates, that is, to a faster convergence process toward the European Union.

The analysis of σ-convergence shows that the DCFTA countries have been catching up with the European Union (Figure 7). There are only a few periods of divergence, 2011, 2014, 2015, and 2018. However, the coefficient of variation is lower in 2019 compared to 2004, indicating that the dispersion of the per capita GDP decreased in the analyzed period.

β-convergence is also present (see Table 2). The countries converge toward the same steady state at a rate of 1.4 percent per year, indicating absolute convergence. The rate should be higher, as the benchmark is 2 percent from the Barro and Sala-i-Martin findings.[93] The results are confirmed by several studies.[94] The average per capita GDP increased from 18 percent of the EU average in 2009 to 30.3 percent in 2019. The average per capita growth rate in the DCFTA group was 2.7 percent and in the European Union was 1.3 percent. The results are consistent with the σ-convergence analysis.

Figure 8 plots per capita GDP in 2009 (*x*-axis) against the average per capita GDP growth rates in the analyzed countries in the period 2009–2019. The figure supports

Figure 7
σ-convergence in the analyzed group of countries, 2009–2019



Source: Authors' calculations based on World Bank data.

the convergence hypothesis as the regression line slopes downward. Georgia and Moldova are positioned in the upper left corner, indicating that they achieved higher growth rates. A high degree of heterogeneity is present among the DCFTA countries and they do not form a cluster. Georgia and Moldova grew at rates of 4.4 percent and 4.1 percent, respectively, and Ukraine's economy contracted at a rate of 0.4 percent, although this has to take into account the massive drop in economic output in 2014 and 2015. The countries do not form a cluster with the European Union, but Ukraine's growth rate was similar to those of the worst performing EU countries. Dissimilarities in growth patterns are present in the European Union. The new member states do not converge as a club, while most of the old member states converge together.

Absolute convergence with the European Union has been very slow, as the countries have still only progressed to 18 percent of average EU GDP per capita. By comparison, the CEE countries that joined in 2004 were at 39 percent at the start of their accession process in the 1990s, and had significantly better growth rates. The DCFTA countries converge conditionally toward the European Union in the analyzed period at a rate of 3.3 percent per year. The conditional convergence process is faster compared to the absolute one, indicating that the countries differ in their structures.

All selected macroeconomic variables are determinants of growth, except the population growth rate. Economic openness, investment, and government integrity have a positive impact on per capita growth, which is confirmed by previous research.[95] The inflation rate has a negative impact, which is as expected and confirmed.[96]

Covid and the Russian War on Ukraine

Both the Covid-19 pandemic and the full-scale Russian invasion of Ukraine in 2022 had negative consequences on the DCFTA countries. When the pandemic started in 2020, the economies contracted 3.8 percent (Ukraine), 6.8 percent

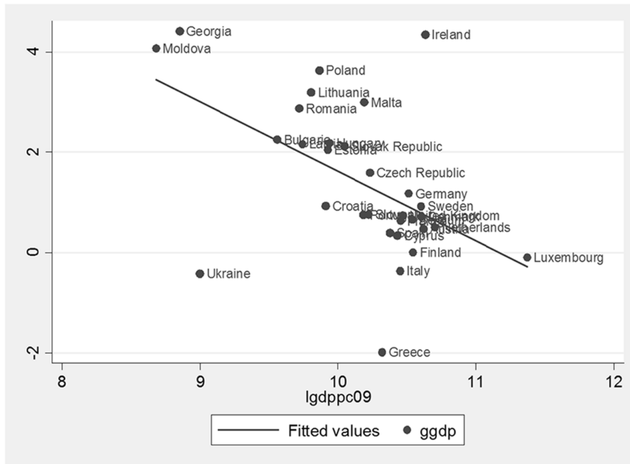
Table 2
Absolute and Conditional Convergence of the DCFTA Countries toward the European Union

Variables and diagnostics	Model 1 B (t)	Model 2 β (t)
Log of initial GDP per capita	−1.37***	−3.28***
	(−3.27)	(−5.34)
Economic openness (%)		0.01***
		(3.02)
Inflation rate (%)		−0.33***
		(−3.63)
Gross fixed capital formation (% of GDP)		0.13**
		(2.19)
Government integrity		0.03*
		(1.95)
Population growth		0.04
		(0.12)
F (1, 29)	10.69	
F (6, 24)		13.82
Prob > F	0.0028	0.0000
R^2	0.2693	0.7755
Breusch–Pagan test	0.2472	0.2473
The Ramsey RESET	0.8021	0.7422
VIF		3.07
Number of countries	31	31
Number of panel observations	341	341

Source: Authors' calculations based on World Bank and Heritage Foundation data.
Note: DCFTA = Deep and Comprehensive Free Trade Agreement; GDP = gross domestic product; RESET = Regression Equation Specification Error Test.
$^{*}p < .1$. $^{**}p < .05$. $^{***}p < .01$.

(Georgia), and 8.3 percent (Moldova). Only Ukraine performed better than the EU average (5.7% contraction). All three economies started recovering in 2021 and the economic growth rates reached 13.9 percent in Moldova and 10.5 percent in Georgia. The Ukrainian rate was 3.4 percent, the only one that did not exceed that of the European Union (5.5%).[97] Budget deficits and general government debt increased due to the pandemic. Ukraine (5.4%) and Moldova (5.1%) had lower budget deficits than the EU average (6.7%), decreasing to 3.3 percent and 0 percent, respectively, in 2021. Georgia's budget deficits in the same period decreased from 9.3 percent to 6.3 percent.[98] All three countries had general government debt rates close to or below the 60 percent of GDP threshold in 2020, with Moldova still

Figure 8
Convergence clubs in the DCFTA-EU countries, 2009–2019



Source: Authors' calculations based on World Bank data.
Note: DCFTA = Deep and Comprehensive Free Trade Agreement; EU = European Union.

having the lowest ratio (33.1%). The European Union's average was 89.8 percent. The ratio decreased again in all three countries in 2021.[99]

The other external shock in recent years, Russia's full-scale invasion of Ukraine in February 2022, has also had a significant impact. Although the full implications cannot be properly calculated yet, as insufficient reliable data exist, a few preliminary points can be made. The most devastating impact has obviously been on Ukraine. Its economy contracted by an estimated 29.1 percent in 2022.[100] Preliminary data also show its general government debt to GDP ratio increasing from 48.9 percent in 2021 to 81.7 percent in 2022,[101] while inflation, which in 2020 had been 2.8 percent, rose to more than 20 percent.[102]

Neither Moldova nor Georgia imposed major economic sanctions on Russia; the former only a few, the latter none at all. Moldova, however, as punishment for its general pro-Ukraine stance, was hit by Russian sanctions on its agricultural exports.[103] Moldova's GDP shrank by 5.9 percent in 2022, while Georgia's continued growing at 10.1 percent.[104] As Moldova's inflation rate reached 28.7 percent in 2022 (compared with 3.8% in 2020), the country was in danger of stagflation.[105]

Major war-related factors buffeting Moldova's economy were rising food and energy prices, and sheltering Ukrainian refugees. Moldova, with its population of 2.5 million people, has taken in more Ukrainian refugees per head than any other country.[106] Moldova furthermore experienced a severe energy crisis during the winter of 2022–2023 due to Russia's war on Ukraine, which will have further hurt the economy.

Already in November 2022, the European Union stepped up with a €250 million aid package,[107] and in June 2023, the European Union launched a major "solidarity package," worth more than €1 billion, to assist Moldova through the hard times and help its further reform toward EU standards.[108] Ukrainian trade with Russia naturally all but ceased after 24 February 2022, however that is the least of the country's economic woes. The destruction wreaked by Russian aggression will have devastating effects on Ukraine's economy for a long time to come. The damage to production capacity and infrastructure from the war is already estimated in the hundreds of billions of dollars.[109] Ukraine's Western allies will undoubtedly introduce a significant reconstruction package once the war ends, both for rebuilding infrastructure and, quite likely, reshaping and modernizing the economy. Much of that planning is already under way.[110] Full economic recovery will take several years, however, and Ukraine will have been set far back on all integration maturity indicators, save for access to foreign finance. Even so, the Association Agreements and the DCFTA will provide a useful framework for that rebuilding process, as Ukraine reestablishes normal governance and undertakes the additional reforms outlined by the Commission.

Conclusion

Having analyzed the three countries' level of integration maturity, the main research hypothesis is rejected. None of the three have been able to achieve any significant level of convergence with the European Union, nor have they developed sufficiently strong institutional frameworks to sustain functioning market economies, nor have they gained sufficient levels of competitiveness. That conclusion ought to be a warning sign not to rush the accession process.

There is, of course, no "economic convergence" criteria for EU membership; it is simply assumed that it will follow from *acquis* compliance. This article argues, in a sense, that there should be; the analysis shows just how far the countries are from being ready to benefit from membership. Given this, if these three joined the European Union before 2030 or even started opening up to fully free and fair competition on single market terms, they would not be competitive and would not benefit economically. Furthermore, if the DCFTA countries introduced, say, free movement of people overnight, outmigration would only increase, thus damaging growth prospects even further. Naturally, cynics may question whether pointing to a lack of integration maturity can serve as an excuse for the European Union to push future enlargement down the agenda. However, it is also a matter of the European Union's own future cohesion, and of not having newer member states falling behind economically after joining; economic integration ought to be beneficial for all sides.

On the positive side, the countries have achieved positive GDP growth rates and stabilized their government debts and budget deficits. Their foreign trade has oriented away from Russia, and trade with the European Union has largely filled the gap. Indeed, EU trade played a significant part in avoiding the complete collapse of

Ukraine's economy in the years after 2014. However, that does not necessarily mean preparedness for the full rigors of membership. All three countries need to do significantly more to create better business environments and attract more FDI, and thereby become more competitive. An increase in production will increase GDP growth rates, which will lead to faster convergence. These are the economic preconditions for a successful accession process.

Economics is not the only consideration. 24 February 2022 provided compelling political reasons for granting candidate status to Moldova and Ukraine. This was relatively uncontroversial and does not in itself signify an accelerated timetable toward full membership. The commitment it shows from the European Union, however, should not be underestimated. Past research has shown that EU candidate status has helped make a country more attractive for foreign investors.[111] Yet significant domestic reforms remain for both Georgia and Moldova before they can, respectively, move to candidate status or actual negotiations. In the case of Ukraine, the question is what kind of economy the country will have in the next few years.

The analysis presented here, however, suggests that the current framework actually offers much for the DCFTA countries for the near future. A crucial, but often ignored, difference between the EU accession process and the Association Agreements is that the European Union does not have to insist on full *acquis* compliance from associates in the short term. While outside the accession process, states have greater freedom to tailor their engagements with the European Union to their own needs and to stagger *acquis* implementation in the most favorable way—and the European Union is mostly understanding of this, as the aim, after all, is to help these economies grow.

The crucial variable, if economic integration maturity is to be achieved, is the political will to undertake the necessary reforms that address corruption, competitiveness, and export-led growth, and thereby attract more FDI. This will be the main determinant of whether the three countries will successfully move toward the starting line of the EU accession process. While they do so, however, the current setup provides an adaptable framework for ever-closer association that can accommodate the candidates' (hopefully) ever-increasing maturity for full integration.

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