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Effects of a Deeper Central European Free Trade Agreement

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Effects of a Deeper CEFTA[†]

Alen Mulabdic and Michele Ruta*

Abstract

This paper studies the economic effects of “deepening” the Central European Free Trade Agreement (CEFTA). It combines new information on the content of trade agreements with gravity model estimates of the impact of deep trade agreements—agreements that go beyond the elimination of tariffs and other border restrictions. The analysis suggests that CEFTA is a relatively shallow trade agreement as it covers mostly policy areas under the current WTO mandate. The estimated trade impacts of CEFTA on member countries are relatively modest, varying between 0.02 and 7.4 percent. CEFTA’s members would gain from simultaneously deepening their integration reciprocally and *vis-à-vis* the EU. In particular, a trade agreement with the EU similar to the EU-Norway agreement could increase total exports by CEFTA members between 4 and 27 percent.

Keywords: Deep Trade Agreements, CEFTA, Western Balkans

JEL Codes: F13, F15, F17

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1. Introduction

Trade agreements boost trade among trading partners. Deep trade agreements – comprehensive agreements that go beyond tariff reductions to cover areas such as competition, investment and standards – boost trade even more. Deep provisions create trade directly, as services commitments that offer higher market access to foreign firms, or indirectly by facilitating foreign investment and making it easier to operate production activities that span multiple borders. A large economic literature shows the positive effect that trade agreements have on trade flows (Limao, 2016). Recent work at the World Bank finds evidence of the additional trade impact of deep agreements (Mattoo, Mulabdic and Ruta, 2022).

The Western Balkans countries are currently working towards enhancing regional integration among themselves and with the European Union. In July 2017, the six countries recently adopted a Multi-annual Action Plan for a Regional Economic Area in the Western Balkans (MAP) to promote further trade integration and regional investment and to facilitate labor mobility. The MAP consists of measures that would deepen the Central European Free Trade Agreement (CEFTA) they have among themselves, along with Moldova.¹ The countries have committed to deepen the CEFTA by entering into force the additional protocols on trade facilitation (by 2018) and services liberalization (by 2019) and negotiating and adopting an additional protocol on dispute settlement by 2019-2020.

This note provides an assessment of the Central European Free Trade Agreement (CEFTA). In particular, it identifies the content of the 2006 agreement, evaluates its impact on member states and calculate the benefits for members of “deepening” CEFTA under different scenarios.

2. The changing landscape of trade agreements

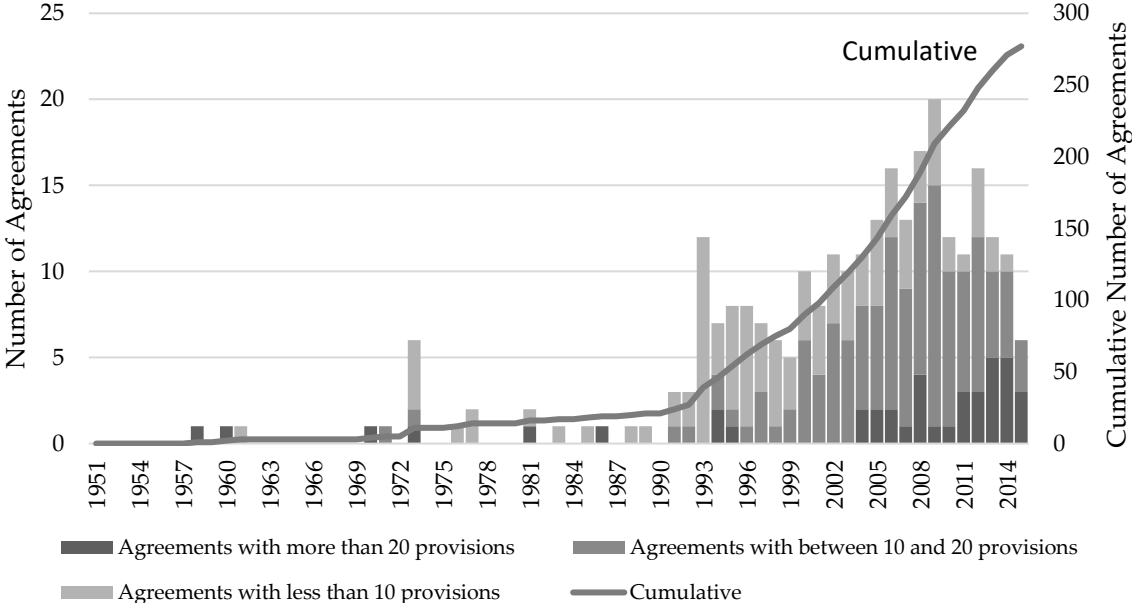
The number of trade agreements and their content have changed dramatically since the early 1990s (Figure 1).² The number of agreements in force increased slowly in the 1970s and 1980s and then remained constant until the beginning of the 1990s, after which a large number of agreements entered into force. Between 1990 and 2015, the number of trade agreements increased from around 20 to close

¹ The full list of measures in the MAP can be obtained from this website: <https://www.rcc.int/docs/383/multi-annual-action-plan-for-a-regional-economic-area-in-the-western-balkans-six>

² The data on the “Content of Deep Trade Agreements” are available at: <http://data.worldbank.org/data-catalog/deep-trade-agreements>.

to 300. Along with the number, the content of trade agreements has changed as well. While older agreements focused on few policy areas (“shallower” trade agreements covering less than 10 policy areas dominated up to the late 1990s), an increasing share of recent agreements cover a larger number of policy areas suggesting a deepening of trade agreements.

Figure 1: Number of legally enforceable provisions in PTAs notified and in force, December 2015



Source: Mattoo, Mulabdic and Ruta (2022).

Table A1 in Appendix A shows that there is an ordering in terms of which provisions are included in trade agreements with different values of depth. Specifically, we divide the agreements into three categories based on the number of legally enforceable provisions (No. Provisions) and calculate the share of agreements that include each policy area. We find that policy areas included in shallower agreements (“Less than 10”), with the exception of a statistics chapter, tend to be at least as frequent in deeper agreements. The majority of these agreements tend to cover tariffs and other border measures such as export taxes and customs. Competition policy is the only policy area outside the mandate of the WTO appearing in a majority of shallower trade agreements. As agreements become deeper (“Between 10-20”), they increasingly extend their reach to areas such as state aid, anti-dumping and countervailing measures. Finally, deeper agreements (“More than 10”) tend to cover areas related to intellectual property rights, movement of capital, standards in addition to the areas covered by shallower agreements.

3. The content of CEFTA

CEFTA was established in December 1992 between Czech Republic, Hungary, Poland and Slovakia. Subsequently, the agreement was expanded to include Bulgaria, Croatia, Romania and Slovenia. These countries left CEFTA as they became EU members. In 2006, a new CEFTA agreement was established that currently includes the non-EU Western Balkans countries in addition to Moldova.

As of 2017, CEFTA members are Albania, Bosnia and Herzegovina, FYR Macedonia, Moldova, Montenegro, Serbia and Kosovo.³ CEFTA members are currently involved in 24 Preferential Trade Agreements (PTAs) in addition to CEFTA itself (Table 1). The number of covered and legally enforceable areas in these agreements varies between 5, for the Armenia–Moldova Free Trade Agreement (FTA), and 18 for the agreement between Albania and the EU. The main text of the 2006 CEFTA agreement covers 16 policy areas (listed in Table 2), which is a relatively large number given that on average CEFTA countries cover 10 areas in their agreements (CEFTA excluded). As a comparison, the EU and the North American Free Trade Agreement (NAFTA) included 43 and 20 legally enforceable provisions respectively. CEFTA has been very effective in eliminating tariffs for all industrial goods within a short phase-out period and in reducing substantially tariff rates for a large number of agricultural goods.⁴

³ Due to trade data limitations we are unable to analyze the impact of CEFTA on Kosovo.

⁴ See Annex 10 to the CEFTA agreement.

Table 1: List of trade agreements signed by CEFTA countries, EU, EU-Norway and EFTA

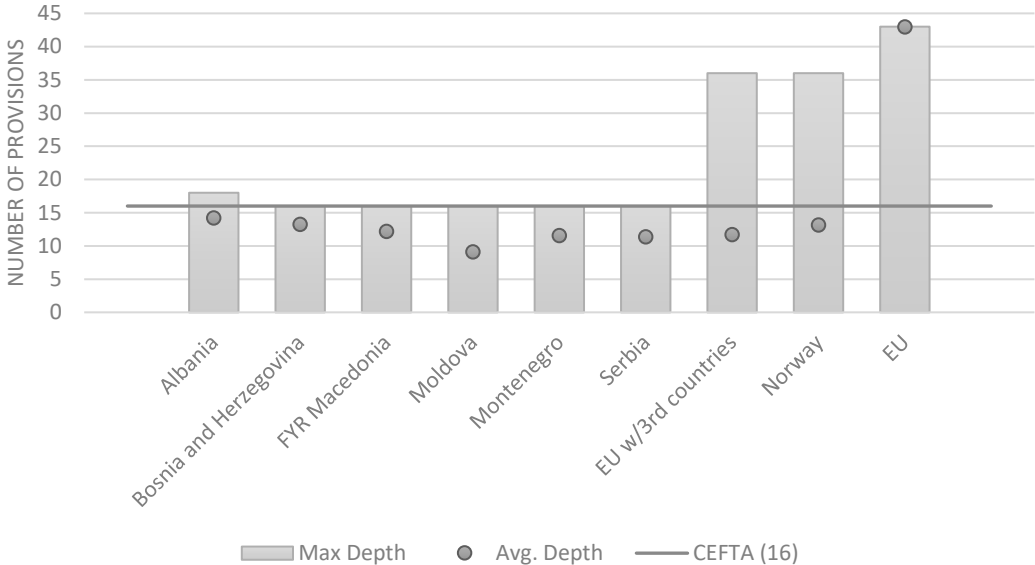
	Year of entry into force	Depth
CEFTA	2007	16
EU - Albania	2006	18
EU - Bosnia Herzegovina	2008	9
EU - FYR Macedonia	2001	16
EU -Moldova	2014	15
EU - Montenegro	2008	10
EU - Serbia	2010	11
EFTA - Albania	2010	11
EFTA - Bosnia and Herzegovina	2015	16
EFTA - FYR Macedonia	2002	11
EFTA - Montenegro	2012	12
EFTA - Serbia	2010	12
Turkey - Albania	2008	12
Turkey - Bosnia and Herzegovina	2003	12
Turkey - FYR Macedonia	2000	9
Turkey - Montenegro	2010	12
Turkey - Serbia	2010	10
Ukraine - FYR Macedonia	2001	9
Ukraine - Moldova	2005	8
Ukraine - Montenegro	2013	8
Commonwealth of Independent States (CIS) FTA	2012	8
Russian Federation - Republic of Moldova	1993	6
Russian Federation - Serbia	2006	8
Armenia - Moldova	1995	5
Kyrgyz Republic - Moldova	1996	6
EU	1958	43
EU-Norway	1994	36
European Free Trade Association (EFTA)	1960	20

Note: "depth" is the simple count of legally enforceable provisions included in an agreement.

Figure 2 shows that CEFTA is the deepest agreement that its members ever signed (except for Albania). It is a "deep" agreement as it includes provisions dealing with policy areas beyond tariff reforms, but its depth is quite limited compared to other agreements in the region (Table 2). Specifically, when comparing CEFTA to other agreements in the region such as EFTA, EU-Norway or the EU, it emerges that CEFTA has good coverage of areas under the WTO mandate (i.e. traditional trade policy areas such as tariffs, export taxes and trade remedies). However, legal enforceability of CEFTA provisions is an issue. Except for tariffs

on agricultural and manufacturing goods, all other policy areas covered by CEFTA have a consensus requirement to reach dispute settlement decisions. In light of this, it could be argued that all these policy areas are *not* strictly legally enforceable.

Figure 2: Maximum and Average Depth by Country



An important caveat is that the information on the content of CEFTA in the World Bank database refers to the text of the 2006 agreement as submitted to the World Trade Organization. It is likely that currently CEFTA covers more areas due to additional protocols negotiated subsequently that are not captured by the World Bank database.⁵ For instance, Additional Protocol 5 on trade facilitation was negotiated in 2015 following the structure of the WTO trade facilitation agreement. Similarly, while the original CEFTA agreement does not include a trade in services section, Additional Protocol 6 focuses on services liberalization and is currently being negotiated with an aim to be adopted by 2018. This additional protocol includes the usual articles of the General Agreement on Trade in Services (GATS) of the WTO and additional commitments for each country.

⁵ The measure of “depth” in this note captures the scope of the agreement in terms of areas covered, rather than in terms of the liberalizing content of commitments or the stringency or the rules against protection.

Table 2: Provisions in CEFTA, EU, EU-Norway and EFTA and share of CEFTA member's PTAs with third countries including each provision

Provision	CEFTA	EU	EU-Norway	EFTA	Share of CEFTA member's PTAs with 3rd countries including each provision
	Legally enforceable				Share
Tariffs on agricultural goods	Yes	Yes	Yes	Yes	100
Tariffs on manufacturing goods	Yes	Yes	Yes	Yes	100
Export taxes	Yes	Yes	Yes	Yes	96
State aid	Yes	Yes	Yes	Yes	83
Customs	Yes	Yes	Yes	Yes	75
TRIPS	Yes	Yes	Yes	Yes	71
STE	Yes	Yes	Yes	Yes	67
Anti-dumping	Yes	Yes	Yes	Yes	54
Public procurement	Yes	Yes	Yes	Yes	50
Countervailing measures	Yes	Yes	Yes	Yes	42
TBT	Yes	Yes	Yes	Yes	38
SPS	Yes	Yes	Yes	Yes	25
GATS	Yes	Yes	Yes	Yes	8
TRIMS	No	Yes	No	No	0
Competition policy	Yes	Yes	Yes	Yes	83
IPR	Yes	Yes	Yes	Yes	54
Movement of capital	No	Yes	Yes	Yes	38
Agriculture	No	Yes	No	No	13
Illegal immigration	No	Yes	Yes	No	8
Labor market regulations	No	Yes	No	No	8
Statistics	No	Yes	Yes	No	8
Social matters	No	Yes	Yes	Yes	8
Investment	Yes	Yes	Yes	Yes	8
Environmental laws	No	Yes	Yes	No	8
Energy	No	Yes	Yes	No	4
Approximation of legislation	No	Yes	Yes	No	4
Data protection	No	Yes	Yes	No	4
Political dialogue	No	No	Yes	No	0
Consumer protection	No	Yes	Yes	No	0
Human rights	No	No	Yes	No	0
Health	No	No	No	No	0
Terrorism	No	Yes	No	No	0
Economic policy dialogue	No	Yes	No	No	0
Taxation	No	Yes	No	No	0
Innovation policies	No	No	No	No	0
Illicit drugs	No	No	Yes	No	0
Money laundering	No	No	No	No	0
Nuclear safety	No	Yes	Yes	No	0
Public administration	No	No	No	No	0
Civil protection	No	No	No	No	0
Industrial cooperation	No	Yes	Yes	No	0
Cultural cooperation	No	Yes	No	No	0
Financial assistance	No	Yes	Yes	No	0
Research and technology	No	Yes	Yes	No	0
Information society	No	No	Yes	No	0
Anticorruption	No	Yes	Yes	No	0
Education and training	No	Yes	No	Yes	0
Regional cooperation	No	Yes	Yes	No	0
Mining	No	Yes	No	Yes	0
Visa and asylum	No	Yes	No	No	0
SME	No	Yes	No	No	0
Audiovisual	No	Yes	Yes	No	0

4. The trade impact of deepening CEFTA

To better understand the trade impact of deepening CEFTA countries' PTAs, this paper uses estimates from a gravity equation on the effect of depth on trade flows to calculate changes in bilateral trade flows under different scenarios.⁶

The estimated trade impacts of CEFTA on member countries' trade are relatively modest – they vary between 0.02 for Moldova and 7.4 percent for Montenegro (Table 3).⁷ To calculate the implied welfare benefits of CEFTA, we rely on estimates of the elasticity of income to trade obtained by Feyrer (2009). We report here results based on an elasticity of 0.5, which is the lower level of the elasticity capturing the lower bound of the welfare impacts. Based on this elasticity, the calculated welfare impact of CEFTA is between 0 and 3.7 percent. Table 3 shows for all CEFTA members, except for Montenegro, trade agreements with non-CEFTA members (e.g. EU and EFTA countries) increased total trade and welfare more than CEFTA itself. The impacts are particularly large for countries that trade more intensively with the EU: Albania, Macedonia and Moldova.

Table 3: Trade and welfare change (current agreements)

Scenario	Country	Total Trade (% Change)		Welfare (% Change, Real GDP)	
		(1)	(2)	(1)	(2)
CEFTA	Albania	1.15	3.29	0.58	1.64
	Bosnia and Herzegovina	0.97	2.77	0.48	1.38
	Macedonia, FYR	0.89	2.55	0.45	1.28
	Moldova	0.02	0.06	0.01	0.03
	Montenegro	2.60	7.43	1.30	3.72
	Serbia	1.34	3.84	0.67	1.92
Other PTAs	Albania	6.23	17.92	3.12	8.96
	Bosnia and Herzegovina	3.27	9.10	1.63	4.55
	Macedonia, FYR	5.63	16.08	2.82	8.04
	Moldova	5.08	14.39	2.54	7.20
	Montenegro	2.02	5.65	1.01	2.82
	Serbia	3.55	9.95	1.78	4.97

Note: (1) Beta=.19, gravity w/out internal flows; (2) Beta=.52 w/internal flows.

Source: Based on Mulabdic, Osnago and Ruta (2017) and Mattoo, Mulabdic and Ruta (2022).

⁶ See Appendix B for the methodology based on Mulabdic, Osnago and Ruta (2017) and Mattoo, Mulabdic and Ruta (2022).

⁷ This impact is calculated under the assumption that all the 16 provisions included in CEFTA are legally enforceable while it could be argued that due to the consensus requirement most areas are not strictly legally enforceable.

In terms of future arrangements, we consider different scenarios: (i) CEFTA improves the legal enforceability of its provisions (i.e. the number of strictly legally enforceable provisions increases from 2 to 16); (ii) CEFTA countries deepen their commitments among themselves to the level of the European Free Trade Association (EFTA);⁸ (iii) CEFTA countries deepen their commitments among themselves to the level of the Norway-EU arrangement; (iv) CEFTA countries deepen their commitments among themselves to the level of the EU agreement; (v) CEFTA countries expand and uniform the coverage of their commitments with the EU to the level of the arrangement between the EU and Norway.

The first two scenarios are relatively simpler to implement. Scenario (i) would require a switch from a consensus regime to a majority system in terms of dispute settlement mechanisms, while scenario (ii), increasing the depth of CEFTA to the level of EFTA, would require the addition of four provisions: movement of capital, consumer protection, labor market regulation, and environmental laws. The impact of these arrangements is estimated to be large especially if the current number of legally enforceable provisions is equal to 2 (see Table 4). The estimated long-term impact is an increase in trade and welfare by around 2 percent for (i) and 2.5 percent for the case of CEFTA's depth equal to EFTA.⁹

The next two scenarios require much more effort and time to be implemented. However, the expected welfare gains are large, up to 6.7 percent, especially for countries that trade intensively with other CEFTA members such as Montenegro, Serbia and Albania. This type of arrangements would require the addition of a large number of provisions that mainly cover WTO extra areas which are potentially sensitive and not directly related to trade flows such as labor market regulations, environmental laws, illegal migration, and consumer protection to name a few (see Table 2 and Table A2 in Appendix A for details).

Finally, a more ambitious plan of integration with EU could lead to large welfare gains. Reaching the level of EU-Norway integration, which covers 36 policy areas, would require the depth of bilateral agreements between each CEFTA country and EU to increase by a factor of 2 or 3 (see Table 1). Results in Table 4 suggest that countries that currently are involved in shallow agreements and trade intensively with the EU such as Bosnia and Herzegovina (depth equal to 9) and Serbia (depth equal to 11) would benefit disproportionately more. The increase in total trade varies between 4.3 percent for Montenegro to 27 percent for Bosnia and Herzegovina, reflecting both their current level integration with and exposure to

⁸ The European Free Trade Association (EFTA) member states are Iceland, Liechtenstein, Norway, and Switzerland.

⁹ The trade and welfare impact in (ii) when assuming initial level of depth of 2 is approximately equal the sum of scenario (i) and (ii).

the EU. Welfare of CEFTA members would increase by up to 13 percent, with welfare change in many cases larger than those delivered by all PTAs currently in force.

Table 4: Trade and welfare change (future agreements)

Scenario	Country	Total Trade (% Change)		Welfare (% Change)	
		(1)	(2)	(1)	(2)
(i) CEFTA from 2 to 16	Albania	1	2.84	0.5	1.42
	Bosnia and Herzegovina	0.84	2.39	0.42	1.2
	Macedonia, FYR	0.78	2.21	0.39	1.1
	Moldova	0.02	0.05	0.01	0.03
	Montenegro	2.27	6.43	1.13	3.21
	Serbia	1.17	3.32	0.59	1.66
(ii) CEFTA depth = EFTA	Albania	0.28	0.77	0.14	0.38
	Bosnia and Herzegovina	0.24	0.64	0.12	0.32
	Macedonia, FYR	0.22	0.59	0.11	0.30
	Moldova	0.01	0.01	0.00	0.01
	Montenegro	0.63	1.73	0.32	0.87
	Serbia	0.33	0.89	0.16	0.45
(iii) CEFTA = Norway-EU	Albania	1.45	4.21	0.73	2.10
	Bosnia and Herzegovina	1.22	3.54	0.61	1.77
	Macedonia, FYR	1.13	3.27	0.56	1.63
	Moldova	0.03	0.08	0.01	0.04
	Montenegro	3.28	9.52	1.64	4.76
	Serbia	1.70	4.92	0.85	2.46
(iv) CEFTA = EU	Albania	1.99	5.93	1.00	2.96
	Bosnia and Herzegovina	1.67	4.99	0.84	2.49
	Macedonia, FYR	1.54	4.60	0.77	2.30
	Moldova	0.04	0.11	0.02	0.06
	Montenegro	4.50	13.40	2.25	6.70
	Serbia	2.32	6.93	1.16	3.46
(v) CEFTA-EU = Norway-EU	Albania	6.09	17.53	3.05	8.77
	Bosnia and Herzegovina	9.14	27.22	4.57	13.61
	Macedonia, FYR	6.95	20.16	3.48	10.08
	Moldova	5.99	17.43	2.99	8.72
	Montenegro	4.28	12.70	2.14	6.35
	Serbia	7.57	22.38	3.78	11.19

Note: (1) Beta=.19, gravity w/out internal flows; (2) Beta=.52 w/internal flows.

Source: Based on Mulabdic, Osnago and Ruta (2017) and Mattoo, Mulabdic and Ruta (2022).

5. The way forward for CEFTA: Lessons from other trade agreements

Deepening CEFTA involves at least three dimensions. A first dimension concerns the legal enforceability of the provisions under the trade agreement. As discussed, the consensus requirement to reach dispute settlement decisions under CEFTA may limit the legal enforceability of current provisions. Working to strengthen this element would increase legal certainty and may provide a boost to regional trade and investment as the analysis in the previous section indicates.

A second dimension of deepening CEFTA concerns the scope of a future agreement. While the political economy realities of the region will largely constrain the set of available options for policy makers, the experience of other trade agreements may provide an indication of the way forward. Table 5 shows the policy areas that are most frequently embedded in deeper trade agreements. Based on this evidence, future integration efforts could focus on areas not currently covered by CEFTA but frequently included in deep agreements. These are areas mainly outside the WTO mandate and address the regulation of capital movement, restrictions on foreign direct investment, and labor market and environmental laws.

Finally, the third dimension of the depth consists of the liberalizing content of commitments and the stringency of the rules embedded in a trade agreement. This is a difficult question as in trade agreements the devil is often in the details.

Table 5: Provisions included in more than 60% of agreements in each group

	Shallow	Deep	Very Deep
Tariffs on manufacturing goods	✓	✓	✓
Tariffs on agricultural goods	✓	✓	✓
Export taxes	✓	✓	✓
Customs	✓	✓	✓
Competition policy	✗	✓	✓
State aid	✗	✓	✓
Anti-dumping	✗	✓	✓
Countervailing measures	✗	✓	✓
TRIPS	✗	✓	✓
STE	✗	✓	✓
TBT	✗	✓	✓
GATS	✗	✓	✓
SPS	✗	✓	✓
Movement of capital	✗	✓	✓
Public procurement	✗	✗	✓
IPR	✗	✗	✓
Investment	✗	✗	✓
Environmental laws	✗	✗	✓
Labor market regulations	✗	✗	✓
TRIMS	✗	✗	✓

Note: “shallow” agreements are defined as those that include less than 10 legally enforceable provisions; “deep” agreements include between 10 and 20 legally enforceable provisions; and “very deep” agreements include more than 20 legally enforceable provisions.

6. Concluding remarks

As stated by the CEFTA Secretariat, the various parties joined the agreement because of their “*belief in the importance of [...] the EU accession agenda in the region.*”¹⁰ Currently all CEFTA members have a trade agreement in force with EU. Of the 7 CEFTA members 4 are official EU candidates, Bosnia and Herzegovina and Kosovo are potential candidates, and Moldova signed the association agreement with EU that has been in effect since July 2016.¹¹ The Western Balkans countries are also committed to further regional integration set out in the MAP.

The current political and economic situation in the EU may slow down the integration process or even put on hold any enlargement plans envisioned in the mid-2000s. However, alternative arrangements such as a Norway / EFTA – EU type of integration could be viable in the current environment. To be successful, CEFTA countries would need to deepen their commitments among themselves and seek greater

¹⁰ <http://cefta.int/cefta-parties-2/>

¹¹ https://ec.europa.eu/neighbourhood-enlargement/countries/check-current-status_en#pc

integration with EU through bilateral or multilateral agreements. Harmonization of rules and reduction in non-tariff barriers among CEFTA countries could stimulate foreign direct investment in the free-trade area as investors would see a market of more than 20m people instead of seven small countries. While deeper commitments with the EU could facilitate flows of goods, services, people, capital, and ideas due to institutional convergence to the EU and lower policy uncertainty.

Appendix A: Additional statistics and description of policy areas covered in the Content of Deep Trade Agreements database

Table A1: Share of provisions over different levels of depth

No. Provisions	Less than 10	Between 10 and 20	More than 20
Tariffs on manufacturing goods	97%	100%	100%
Tariffs on agricultural goods	96%	100%	100%
Export taxes	73%	81%	95%
Customs	67%	95%	100%
Competition policy	58%	73%	88%
State aid	39%	69%	88%
Anti-dumping	35%	88%	98%
Countervailing measures	22%	77%	98%
Statistics	20%	0%	23%
TRIPS	18%	75%	98%
STE	18%	69%	68%
TBT	17%	73%	95%
Movement of capital	15%	68%	93%
GATS	14%	67%	98%
SPS	12%	72%	98%
Public procurement	12%	59%	80%
IPR	6%	56%	75%
Environmental laws	3%	14%	83%
Labor market regulations	3%	13%	75%
Investment	2%	58%	75%
TRIMS	2%	42%	73%
Visa and asylum	2%	37%	57%
Industrial cooperation	2%	5%	33%
Social matters	2%	5%	30%
Agriculture	1%	10%	45%
Energy	1%	8%	40%
Data protection	1%	5%	20%
Anticorruption	1%	5%	18%
SME	1%	4%	25%
Regional cooperation	1%	3%	15%
Taxation	1%	2%	30%
Approximation of legislation	1%	2%	25%
Political dialogue	1%	1%	8%
Research and technology	0%	6%	38%
Public administration	0%	6%	5%
Consumer protection	0%	5%	38%
Mining	0%	5%	13%
Education and training	0%	4%	33%
Information society	0%	4%	15%
Innovation policies	0%	4%	5%
Illegal immigration	0%	3%	23%
Illicit drugs	0%	3%	3%
Economic policy dialogue	0%	2%	43%
Cultural cooperation	0%	2%	38%
Financial assistance	0%	2%	25%
Audiovisual	0%	2%	18%
Terrorism	0%	2%	8%
Money laundering	0%	2%	3%
Health	0%	1%	38%
Human rights	0%	1%	3%
Nuclear safety	0%	0%	15%
Civil protection	0%	0%	5%

Source: Mattoo, Mulabdic and Ruta (2022).

Table A2: Description of policy areas covered in the Content of Deep Trade Agreements database

<i>WTO-plus areas</i>	
Tariffs on manufacturing goods	Tariff liberalization on industrial goods; elimination of non-tariff measures
Tariffs on agricultural goods	Tariff liberalization on agriculture goods; elimination of non-tariff measures
Customs	Provision of information; publication on the Internet of new laws and regulations; training
Export Taxes	Elimination of export taxes
SPS	Affirmation of rights and obligations under the WTO Agreement on SPS; harmonization of SPS measures
TBT	Affirmation of rights and obligations under WTO Agreement on TBT; provision of information; harmonization of regulations; mutual recognition agreements
STE	Establishment or maintenance of an independent competition authority; nondiscrimination regarding production and marketing condition; provision of information; affirmation of Art XVII GATT provision
AD	Retention of Antidumping rights and obligations under the WTO Agreement (Art. VI GATT).
CVM	Retention of Countervailing measures rights and obligations under the WTO Agreement (Art VI GATT)
State Aid	Assessment of anticompetitive behaviour; annual reporting on the value and distribution of state aid given; provision of information
Public Procurement	Progressive liberalisation; national treatment and/or non-discrimination principle; publication of laws and regulations on the Internet; specification of public procurement regime
TRIMs	Provisions concerning requirements for local content and export performance of FDI
GATS	Liberalisation of trade in services
TRIPs	Harmonisation of standards; enforcement; national treatment, most-favoured nation treatment
<i>WTO-X areas</i>	
Anti-Corruption	Regulations concerning criminal offence measures in matters affecting international trade and investment
Competition Policy	Maintenance of measures to proscribe anticompetitive business conduct; harmonisation of competition laws; establishment or maintenance of an independent competition authority
Environmental Laws	Development of environmental standards; enforcement of national environmental laws; establishment of sanctions for violation of environmental laws; publications of laws and regulation
IPR	Accession to international treaties not referenced in the TRIPs Agreement
Investment	Information exchange; Development of legal frameworks; Harmonisation and simplification of procedures; National treatment; establishment of mechanism for the settlement of disputes
Labour Market Regulation	Regulation of the national labour market; affirmation of International Labour Organization (ILO) commitments; enforcement
Movement of Capital	Liberalisation of capital movement; prohibition of new restrictions
Consumer Protection	Harmonisation of consumer protection laws; exchange of information and experts; training
Data Protection	Exchange of information and experts; joint projects
Agriculture	Technical assistance to conduct modernisation projects; exchange of information
Approximation of Legislation	Application of EC legislation in national legislation
Audio Visual	Promotion of the industry; encouragement of co-production
Civil Protection	Implementation of harmonised rules

Innovation Policies	Participation in framework programmes; promotion of technology transfers
Cultural Cooperation	Promotion of joint initiatives and local culture
Economic Policy Dialogue	Exchange of ideas and opinions; joint studies
Education and Training	Measures to improve the general level of education
Energy	Exchange of information; technology transfer; joint studies
Financial Assistance	Set of rules guiding the granting and administration of financial assistance
Health	Monitoring of diseases; development of health information systems; exchange of information
Human Rights	Respect for human rights
Illegal Immigration	Conclusion of re-admission agreements; prevention and control of illegal immigration
Illicit Drugs	Treatment and rehabilitation of drug addicts; joint projects on prevention of consumption; reduction of drug supply; information exchange
Industrial Cooperation	Assistance in conducting modernisation projects; facilitation and access to credit to finance
Information Society	Exchange of information; dissemination of new technologies; training
Mining	Exchange of information and experience; development of joint initiatives
Money Laundering	Harmonisation of standards; technical and administrative assistance
Nuclear Safety	Development of laws and regulations; supervision of the transportation of radioactive materials
Political Dialogue	Convergence of the parties' positions on international issues
Public Administration	Technical assistance; exchange of information; joint projects; Training
Regional Cooperation	Promotion of regional cooperation; technical assistance programmes
Research and Technology	Joint research projects; exchange of researchers; development of public-private partnership
SME	Technical assistance; facilitation of the access to finance
Social Matters	Coordination of social security systems; non-discrimination regarding working conditions
Statistics	Harmonisation and/or development of statistical methods; training
Taxation	Assistance in conducting fiscal system reforms
Terrorism	Exchange of information and experience; joint research and studies
Visa and Asylum	Exchange of information; drafting legislation; training

Source: Hofmann, Osnago, and Ruta (2017).

Appendix B: Empirical strategy

This annex presents the data and empirical strategy used by Mulabdic, Osnago and Ruta (2017) and Mattoo, Mulabdic and Ruta (2022) to identify the elasticity of trade to depth which is used to compute changes in bilateral trade flows. Both studies rely on a standard gravity model that explicitly accounts for the depth of trade agreements instead of a dummy variable to capture the presence of a trade agreement (see Head and Mayer, 2014; Limão, 2016).

The empirical specification is based on the following equation:

$$X_{ijt} = \exp\{\beta_1 \text{Depth}_{ijt} + \mu_{ij} + \delta_{it} + \rho_{jt}\} + \varepsilon_{ijt} \quad (1)$$

where X_{ijt} is bilateral exports from country i to country j in year t , Depth_{ijt} is the number of legally enforceable provisions in the trade agreement between i and j (normalized between 0 and 1), ρ_{jt} and δ_{it} are importer-time and exporter-time fixed effects that account for country-time specific shocks and the multilateral resistance terms (Anderson and van Wincoop, 2003, 2004). Finally, μ_{ij} is a set of *undirected* country-pair fixed effects that captures all the time-invariant determinants of trade costs and addresses the endogeneity in PTAs formation (Baier and Bergstrand, 2007). To account for the presence of zeroes in trade flows, they estimate equation (1) using the Poisson pseudo maximum-likelihood (PPML) estimator proposed by Santos Silva and Tenreyro (2006).

Mulabdic et al. (2017) use data from the World Input Output Database (WIOD), which include information on intra-national flows, on goods, services and value added trade for 40 countries to estimate a gravity equation augmented with a measure of depth for the period 1995-2011. Similarly, Mattoo, Mulabdic and Ruta (2022) estimate equation (1) using data from UNComtrade on goods trade for a sample of 96 countries for the 2002-2014 period.

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