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Quantification of the EU-Japan Economic Partnership Agreement

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INTRODUCTION

As of February 2019, the new economic partnership agreement (EPA) between the EU and Japan has entered into force. It is the largest free trade agreement (FTA) that the EU and Japan have concluded so far. In times of growing protectionism, its conclusion is of strategic importance for both the EU and Japan, and it will most likely be of systemic relevance. What are the economic implications of this new trade deal, and how will it affect both regions? This report summarizes a recently published paper by Felbermayr et al. (2019), which quantifies the welfare, trade, and sectoral value-added effects of the EU-Japan EPA for the EU, Japan, and third countries (i.e., China).

The EU-Japan EPA is the culmination of a long history of cooperation between Japan and the EU. Measured at current market prices, the Japanese and EU economies combined account for USD 22.15 trillion of GDP and 640 million consumers. In 2017, the EU's GNI per capita was USD 32,778 and Japan's was UDS 38,550 (measured in current USD).

Both economies have experienced a decline in their relative importance since the early 1990s. The EPA potentially provides new opportunities for both to get better access to each other's markets. For example, the EU is interesting and relevant for Japan because of its sheer market size. Before the implementation of the EPA, tariffs in the EU and Japan were protective and non-tariff barriers, such as bureaucratic hurdles in trade, existed.

QUANTIFICATION OF THE EPA – BRIEFLY EXPLAINED

Felbermayr et al. (2019) provide a quantitative analysis of the trade and welfare effects of the EU-Japan EPA, taking a generalized version of the Eaton-Kortum (2002) model featuring multiple sectors, input-output linkages, services trade, and non-tariff barriers (NTBs) as the theoretical framework. Such an ex ante quantification of the Economic Partnership Agreement should depict the reality as precisely as possible. This calls for indicators for possible trade cost changes arising under the new EPA. Trade cost changes can arise due to a reduction of tariff lines and due to a lowering of non-tariff barriers (i.e., bureaucracy, standardization). The reduction of tariff lines is observable in the text of the EPA. The EU and Japan agreed to gradually phase out all tariffs over time and to increase certain quotas in agriculture. According to the EPA text, Japan will eliminate 97 percent of tariffs within the next 15 years and the EU will liberalize 99 percent of its tariff lines for Japanese goods by the end of the phasing-in period. It is therefore plausible to assume complete tariff elimination between the two trading regions for the conducted counterfactual scenarios. Compared to the change in tariff lines, the change in non-tariff barriers is more difficult to approximate. The EU-Japan EPA is not yet observable in the data. Therefore, a sector-level gravity model is used to estimate ex post the trade cost changes of a similar free trade agreement, which is observable in the data. This estimation strategy circumvents the need to make educated guesses about the extent and distribution of non-tariff trade cost changes across and within EU member states and Japan. The EU-South Korea FTA was implemented in 2011, so it is already observable in the data and can therefore serve as a fitting proxy to estimate non-tariff trade cost changes. For example, we can assume that the FTA between the EU and South Korea leads to a reduction of bureaucratic hurdles for trading products and hence to fewer trade barriers. The authors take these derived trade cost reductions as a proxy for the decrease in NTBs between Japan and the EU. According to a study by Chowdhry et al. (2018), the EU-Japan EPA can be categorized into the group of next-generation free trade agreements because it covers additional policy areas (i.e., trade related investment measures, barriers in services trade, technical barriers, public procurement, or intellectual property). Dreyer (2018) states that there are important parallels between the EU-Japan agreement and the FTA that the EU has negotiated with South Korea and has been in force since 2011. The EU-Japan and the EU-South Korea agreements share a common structure, and their provisions are often similar; sometimes, the wording is even identical.

Together with the tariff changes between the EU and Japan, these estimated non-tariff trade cost changes are then reduced between the two regions and imputed into the general equilibrium model to quantify the EU-Japan EPA, which provides a data-driven ex ante analysis of the potential effects of the EU-Japan EPA. Felbermayr et al. (2019) describe the theoretical framework in more detail.

THE COUNTERFACTUAL EU-JAPAN EPA SCENARIOS

As explained before, the authors eliminate tariffs and the non-tariff barriers are reduced in similar fashion as for South Korea and the EU. The estimated trade cost changes can be found in Felbermayr et al. (2019). The study conducts three counterfactual scenarios, which are explained below:

- *Scenario 1*: The first counterfactual scenario replicates an economic partnership agreement with complete tariff elimination in all sectors between the EU and Japan. Non-tariff measures, modeled on the example of the EU-South Korea agreement of 2011, are reduced to the respective amount for the EU-Japan EPA trade partners. In contrast, NTBs are not directly reduced for third countries but will affect them via spillover effects. The baseline of this counterfactual scenario assumes a world as of 1 January 2018. Rising protectionist measures, such as Brexit or ongoing trade war measures (e.g., tariff increases between the United States and China) are not considered.
- *Scenario 2*: Additionally, the study includes a scenario that accounts for the exit of the UK from the EU. The baseline anticipates a hard Brexit (i.e., the EU and the UK reintroduce tariff barriers and non-tariff barriers reemerge to the level observed with other WTO members). Brexit implies that the EU-Japan EPA does not apply to the UK. The actual counterfactual scenario then introduces the EU-Japan EPA between the EU27 and Japan with the baseline reflecting Brexit. Tariffs are eliminated in all sectors, just as applied in scenario 1. The change in non-tariff barriers stems from the ex post trade cost estimation of the EU-South Korea FTA of 2011. They are reduced to the respective amount for the EU27 and Japan.
- *Scenario 3*: In the baseline of the third scenario, the Transpacific Partnership (TPP) agreement of Japan with ten other Pacific nations (TPP-11) is already in place. On such a modified baseline, a counterfactual scenario similar to scenario 1 is applied.

QUANTIFICATION OF THE EU-JAPAN EPA – A SYMMETRICAL GAIN FOR EVERYBODY?

Change in Real Income: Quantification of the EU-Japan EPA shows the trade and welfare effects for the EU member states and Japan across different agricultural, manufacturing, and service sectors. Table 1 shows how the EU-Japan EPA affects real income: it increases for both trading partners across all scenarios. The welfare effects are quite balanced in absolute size (between USD 15.2 billion and USD 18.2 billion), but three times larger in relative terms in Japan (0.31 percent) than in the EU (0.10 percent). The gains for Japan are larger if the UK's membership in the EU remains unchanged (scenarios 1 and 3). Japan will have access to a European market with fewer consumers and potential buyers of Japanese products if the UK is no longer an EU member (scenario 2). All EU countries can expect benefits because Japan is one of Europe's most important trading partners. For Germany, the fourth largest economy in the world (measured at current market prices), the effect of the EPA is the largest under Brexit because Germany will be able to substitute large parts of the UK's initial trade with Japan. Third countries lose out slightly. The conclusion of the TPP-11 agreement has little importance for the effects of the EU-Japan EPA (scenario 3). The UK's exit from the EU, in contrast, slightly reduces gains for Japan. In general, third-country welfare effects are small as input-output linkages contribute towards a diffusion of the gains from trade; some ASEAN countries benefit, while the US, Canada, and Africa have small negative effects.

Change in Sectoral Value Added: Table 2 demonstrates the changes of sectoral value added in the EU and in Japan of the first counterfactual scenario. The results for the EU and Japan are quite complementary in the manufacturing and agri-food sectors. Japanese sectors that can generate gains in terms of value added lose out in the EU and vice versa. The EU has high value-added gains in the electronic equipment sector, which shrink in Japan. In contrast, Japan gains in automotive and chemicals sectors. Both the EU and Japan experience value-added gains in services and machinery. The services sectors can generate positive value-added effects in both regions (except in the EU finance sector). The value added

Table 1

Change in Real Income (%)

	Real income changes in %				Real income changes in %		
	S1	S2	S3		S1	S2	S3
Japan	0.31	0.27	0.31	Europe, n.e.c.	0	0	0
UK	0.11	0.01	0.11	India	0	0	0
Rest of EU	0.1	0.1	0.1	Middle East	0	0	0
Germany	0.08	0.08	0.07	Africa	0	0	0
France	0.07	0.07	0.07	Latin America	0	0	0
Italy	0.06	0.06	0.07	ASEAN, n.e.c.	0	0	– 0.01
Vietnam	0.01	0.01	0	Malaysia	– 0.01	– 0.01	– 0.01
Rest of world	0.01	0.01	0.01	China	– 0.01	– 0.01	– 0.01
Oceania	0.01	0	0	Singapore	– 0.01	0	– 0.01
Philippines	0	0	0	South Korea	– 0.01	– 0.01	– 0.01
USA and Canada	0	0.01	0	Thailand	– 0.02	– 0.02	– 0.02
Indonesia	0	0	0	Taiwan	– 0.03	– 0.02	– 0.03
World	0.05	0.04	0.05				

Source: Felbermayr et al. (2019).

Table 2

Change of Sectoral Value Added (%)

	EU28		Japan	
	Sectoral value added		Sectoral value added	
	Initial Billion USD	Change %	Initial Billion USD	Change %
Agri-food	848	0.82	206	– 1.5
Automotive	289	– 1.59	93	6.55
Chemicals	602	– 0.54	134	3.73
Electronic equipment	143	1.07	98	– 0.22
Energy	82	– 1.41	0	– 2.07
Financial and business services	3,148	0.03	925	0.2
Machinery and equipment	808	0.41	193	0.1
Metals	463	– 0.22	146	1.64
Other manufacturing	133	0.05	29	0.4
Other services	6,817	0.11	2,478	0.26
Raw materials	856	0.17	191	0.76
Textiles and apparel	230	0.37	21	0.51
Trade and transportation	1,751	0.29	1,139	0.08
Total	16,172	0.11	5,654	0.38

Source: Felbermayr et al. (2019).

Table 3

Change in Japanese Trade with the EU and in Total (Billion USD)

	Change of Japanese imports from		Change of Japanese exports to	
	EU28	Total	EU28	Total
	Billion USD		Billion USD	
Agri-food	11,51	-5,45	0,39	0,41
Automotive	2,83	3,13	20,76	21,29
Chemicals	3,91	4,16	14,93	15
Electronic equipment	4,41	3,77	0,71	0,91
Energy	0	2,71	0	0
Financial and business services	7,29	7,56	7,11	6,96
Machinery and equipment	14,62	11,22	9,18	10,66
Metals	1,15	1,62	5,48	5,39
Other manufacturing	0,18	0,13	0,11	0,11
Other services	7,19	7,38	2,29	2,18
Raw materials	10,46	9,99	10,61	10,53
Textiles and apparel	2,2	-2,62	0,94	0,98
Trade and transportation	17,36	14,91	6,71	6,66
Total per region	83,1	76,63	79,21	81,09

Source: Felbermayr et al. (2019).

in the service industries increases by a total of USD 13.5 billion in the EU and by USD 9.2 billion in Japan.

Change in Trade: Table 3 shows the change in Japan's exports and imports to and from the EU and all countries ('Total') in relative and absolutes changes (in USD millions). Felbermayr et al. (2019) provide more details about the bilateral trade flow changes between Japan, the EU, and the trading partners (i.e., China, ASEAN, Rest of the world, and USA/Canada). Japan increases its exports to all countries. The EPA provides a basis not only for trade creation between the EU and Japan, but also for increases in trade with third countries such as China. The bilateral trade relationships that are directly affected by the EPA see the strongest increases. Japanese exports to the EU increase by USD 79 billion (64 percent), while Japanese imports from the EU increase by USD 83 billion (74 percent). The simulation exercise reveals that Japan's imports from third parties are substituted by European products and services. Japanese exports in the automotive sector to EU member states increase by USD 20.8 billion. An increase of USD 14 billion can be expected in the chemical sector. Products of the machinery and equipment, raw materials, and metal industries worth a total of USD 25.3 billion are exported to the EU. Implicitly, the new trade agreement balances former asymmetries across the different service sectors. Japan and the EU can increase bilateral trade in the service sectors by eliminating non-tariff barriers and market access regulations, which are the only trade-restricting measures in services compared to the primary and secondary industries.

CONCLUSION

On 17 July 2018 the EU-Japan Economic Partnership Agreement was formally signed. It constitutes the largest FTA that both the EU and Japan have concluded so far, and the results of this study show that it is likely to be of systemic relevance. Especially in times of growing protectionism and unilateralism, the EU-Japan Economic Partnership Agreement is of strategic importance for the EU and Japan.

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