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Free Trade Live: Insights from the Switzerland-Japan Free Trade and Economic Partnership Agreement

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FREE TRADE LIVE: INSIGHTS FROM THE SWITZERLAND–JAPAN FREE TRADE AND ECONOMIC PARTNERSHIP AGREEMENT

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"It is not an exaggeration to say that policy-making in connection with free trade agreements (FTAs) should start and end with impact assessment. At the initial stages of creating an FTA, an assessment of the potential costs and benefits of the prospective FTA is a prerequisite for shaping the FTA's objectives, informing consultations with public and private stakeholders, and formulating effective negotiating strategies. After the FTA is implemented, an assessment of the FTA's actual versus projected impact is necessary for determining whether the FTA's objectives have been met and what adjustments are needed." (Plummer/Cheong/Hamanaka 2010: 1)

1 Introduction

On September 1st 2009 the Agreement on Free Trade and Economic Partnership (FTEPA) Switzerland – Japan came into force. This bilateral Agreement was the result of two years of intense negotiations which were paved by informal talks going back to the year 2000 (for a short history of the negotiations and the interests and actors involved see Ziltener 2010). For Japan, this was the tenth FTA/EPA, the first one beyond the Asia-Pacific region. For Switzerland, FTEPA was the economically most important FTA signed since the 1972 FTA with the EC, and the third with an East Asian country. The Agreement establishes a comprehensive economic partnership between Switzerland and Japan. It contains substantive provisions on trade in goods (liberalization of trade in industrial products as well as selected processed and basic agricultural products, rules of origin, custom procedures, trade facilitation and provisions relating to non-tariff barriers), trade in services, the movement of natural persons for business purposes, the establishment and protection of investments, the protection of intellectual property, the promotion and facilitation of electronic commerce, provisions in the field of competition and the promotion of a closer economic relationship. Swiss-Japanese economic exchange has dynamically developed for decades without any major frictions. Therefore, neither big trade or growth effects nor distortive or harmful impacts were to be expected from FTEPA (Joint Study Group 2007). This is the reason why the Agreement did not meet any political opposition in either of the two partner countries.

Evaluating the true versus expected economic impact of an FTA is an important part of the monitoring and surveying process that should follow the establishment of an FTA (Plummer/Cheong/Hamanaka 2010). *What kind of effects has the FTEPA had so far?* In this article we present evidence we gathered in the

course of our research 2010-13 and presented for discussion on several occasions in Switzerland and Japan. We would like to thank the Swiss-Japanese Chamber of Commerce (SJCC), Zurich, the Swiss Chamber of Commerce and Industry in Japan (SCCIJ), Tokyo, as well as JETRO and SECO for the sustained interest and the good cooperation in this endeavor.

To answer the question about the effects of FTEPA so far, we focus on the changing patterns of bilateral trade. More specifically, we analyze trade data at three levels:

1. A macro analysis comparing the development of relative volumes of trade: the flow of goods whose trade has been effectively liberalized by FTEPA and the flow of goods not affected by FTEPA
2. A meso analysis of customs data at industrial sectors' level computing the share of Japanese goods exported under FTEPA and its development over time
3. A meta analysis of the utilization rates comparing FTEPA utilization by Japanese exporters with the utilization of other FTAs by the exporters from other FTA partner countries of Switzerland.

2 Implementation and effects of the FTEPA

2.1 Macro Analysis of trade flows: weighted growth rates

A first glimpse at the annual trade statistics between Japan and Switzerland does not suffice to evidence a significantly positive effect of the FTEPA on bilateral trade since its entry-into-force in September 2009. On the contrary, both Swiss exports to Japan and Japanese exports to Switzerland in 2010 did not even reach the figures seen in 2008 as the last year prior to the FTEPA. However, it would be a premature conclusion to infer from this that the FTEPA did not have a positive effect on bilateral trade. This is because trade volumes do not exclusively depend on the degree of trade liberalization and the implied tariffs, but on numerous other factors such as fluctuations in the business cycle, in exchange rates, changing transport cost, and on potential external shocks. The potential distortions from external shocks have been recently demonstrated by the global financial crisis (Hilpert 2009) and by the 2011 Tōhoku

Earthquake and its aftermath (Waldenberger und Eilker 2011). Against that background, inquiring potential effects of free trade agreements requires separate analyses for liberalized goods (LG) and non-liberalized goods (NLG)[1]. A positive effect of the respective free trade agreement can be evidenced through an increasing share of LG relative to NLG. Such analysis implies the assumption that the effects on trade volume caused by factors other than the free trade agreement are the same for all categories of goods. While this might seem a daring assumption for a number of individual categories of goods, it can be considered valid for the categories of LG and NLG at large. This is particularly true for the case of bilateral trade between Japan and Switzerland as it highly diversified within both categories.

We base our macro analysis on Japanese trade data for calculating value-weighted growth rates realized for LG and NLG on an HS6 level with reference to different time periods. With data available for the time span between September 2007 and August 2010, we compute four scenarios each for Swiss exports to Japan and for Japanese exports into Switzerland. Instead of relying on average values for these growth rates, Figure 1 compares the endpoints of 90% one-sided confidence intervals (lower end for LG, and upper end for NLG). If the lower end for LG exceeds the upper end for NLG we can reject the null hypothesis of an ineffective FTEPA, i.e., of the effect of the FTEPA not being significantly different from zero. As can be inferred from Figure 1, we can do so for all four scenarios pertaining to Swiss exports to Japan. In contrast, we cannot reject the null hypothesis for the scenarios pertaining to Japanese exports to Switzerland as the endpoints of the respective confidence intervals are intersecting.

Our macro analysis thus allows evidencing a statistically significant positive effect on Swiss exports to Japan already during the first year after becoming effective: goods newly liberalized by the FTEPA show significantly higher weighted growth rates than goods for which customs duty have remained

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[1] NLG do not only comprise close to all agricultural goods, but also a significant number of other goods that had already been liberalized prior to the FTEPA on grounds of other multi-lateral agreements, particularly in the pharmaceutical and IT industries. Accordingly ‚"NLG" refers to goods not liberalized by the FTEPA.

unchanged through the FTEPA. In contrast, we cannot draw a corresponding conclusion for Japanese exports to Switzerland.

		Swiss exports to Japan		Japanese exports to Switzerland	
		VWGR 09.2009– 08.2010	VWGR 09.2008– 08.2009	VWGR 09.2009– 08.2010	VWGR 09.2008– 08.2009
Reference period 09.2008–08.2009	LG (lower endpoint)	16.84%	26.73%	50.65%	18.10%
	NLG (upper endpoint)	−6.14%	−8.59%	110.55%	23.44%
Reference period 09.2007–08.2009	LG (lower endpoint)	4.49%	14.51%	91.66%	23.86%
	NLG (upper endpoint)	0.94%	1.13%	144.95%	34.12%

Note: Upper and lower endpoints of one-sided 90% confidence intervals. For methodological details, compare footnote[2].

Source: Own calculations based on Japanese trade data.

2.2 Meso analysis: Utilization of FTEPA by different industries

Our meso analysis offered a more minute picture by inquiring separately the degree to which different industries are making use of the FTEPA. Employing monthly data, it also allows inferring how utilization rates have developed since entry-into-force of the agreement. In that context, it is important to understand that exporters and importers do not benefit automatically from reduced or eliminated tariffs. As with most other free trade agreements, exporters and importers have to prove that their goods originate from within Switzerland and Japan respectively in order to benefit from tariff reductions. Compliance

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[2] Our analysis comprises about 80% of total trade on a HS4 level. For these we computed average growth rates weighted by the log of corresponding trade values. Our doing so was guided by the obvious assumption that value by HS4 approximately follows a logarithmic normal distribution.

For determining *pro rata* sample sizes needed for the subsequent calculation of confidence intervals, we fixed n=1 as the expected trade value for the lowest disaggregation level available (HS8; 150 million Yen for Japanese imports and 65 million Yen for Japanese exports). This approach can be considered conservative for two reasons. Firstly, even at the HS8 level many values represent aggregates from sub-categories. Secondly, most values result from many (n>>1) individual transactions. Dividing the trade volume comprised in the analysis thus yield a *pro rata* sample size of N ≈ 3000 with minor differences depending on the respective base year.

Figure 1: Upper and lower endpoints of confidence intervals calculated for value-weighted growth rates (VWGR) of goods liberalized by the FTEPA (LG) and of goods excluded from the agreement (NLG).

with rules of origin implies significant work to some participants in bilateral trade as the respective procedure have to be repeated for each and every transaction.

In calculating utilization rates we distinguish a general utilization rate (GUR) from adjusted utilization rate (AUR). GUR is more easy to calculate and is accordingly the most frequently used measure in *ex post* FTA evaluations. Defined as the share of total trade that enjoys reduced or eliminated tariffs on grounds of the respective agreement. However, GUR does not reflect the fact that some categories of goods had already been enjoying reduced or eliminated tariffs prior to entry into force of the agreement, while others still remain excluded. As a consequence, GUR is subject to a systematic measurement error that underestimates the true extent of utilization. For compensating this shortcoming, the AUR puts the value of goods benefitting from reduced or eliminated tariffs thanks to the FTEPA in relation to value of trade in those goods only to which the agreement actually extends.

Unfortunately, only data from the Swiss Federal Customs Office were available for an analysis of utilization rates. As a consequence, calculation of GUR and AUR was only possible for Japanese exports into Switzerland but not vice versa.

As a start we look into the relative importance of Japanese exporting industries in their trade with Switzerland during the 16 months after entry-into-force of the FTEPA. Figure 2 lists the eight most important industries by their share of total Japanese exports to Switzerland during the investigation period. With their cumulative share at 99% of total Japanese exports, the top four industries alone account for as much as 88%.

Industry	Trade value in million CHF	Share of total exports
Automotive	1.382	28.4 %
Precious metals, gems, jewels, pearls, etc.	1.373	28.2 %
Chemicals & Allied industries (Pharma)	885	18.2 %
Machinery and electrical appliances	647	13.3 %
Watches and optical/photographic instruments	334	6.9 %
Plastics/rubber	107	2.2 %
Metals (Steel, etc.)	68	1.4 %
Textiles	26	0.5 %
TOTAL	**4.862**	**100.0 %**

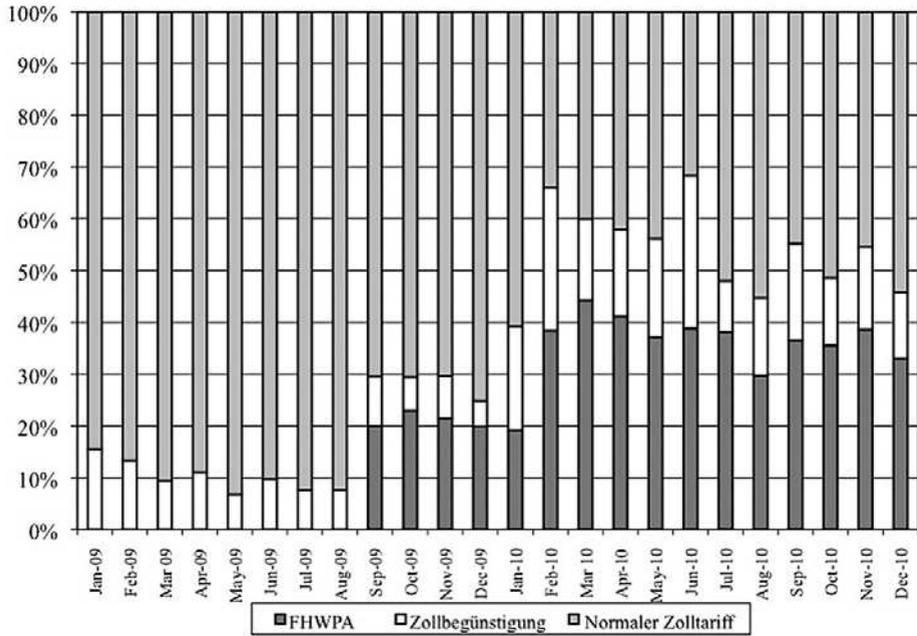Source: Own calculations based on data provided by the Swiss Federal Customs Office.

General (GUR) and adjusted (AUR) utilization rates for these industries are indicated on Figure 3. The GUR of 24.1% indicated for the total of Japanese exports into Switzerland during the first 16 months since entry-into-force of the FTEPA shows that about one quarter of total exports benefitted from reduced or eliminated tariffs. While in Figure 3 further notes a total average AUR of 31.9%, values for individual industries vary strongly.

Industry	GUR	AUR
Automotive	72.6 %	73.0 %
Precious metals, gems, jewels, pearls, etc.	0.2 %	0.2 %
Chemicals & Allied industries (Pharma)	3.3 %	17.2 %
Machinery and electrical appliances	6.6 %	11.6 %
Watches and optical/photographic instruments	1.1 %	1.7 %
Plastics/rubber	43.2 %	43.6 %
Metals (Steel, etc.)	45.4 %	46.8 %
Textiles	39.5 %	47.0 %
TOTAL	**24.1 %**	**31.9 %**

Source: Own calculations based on data provided by the Swiss Federal Customs Office.

Figure 2: Japanese exports to Switzerland by industry, 09/2009–12/2010

Figure 3: General utilization rate (GUR) and adjusted utilization rate (AUR) by industry, 09/2009–12/2010

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Jan-09 Feb-09 Mar-09 Apr-09 May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Apr-10 May-10 Jun-10 Jul-10 Aug-10 Sep-10 Oct-10 Nov-10 Dec-10

■ FHWPA   □ Zollbegünstigung   □ Normaler Zolltariff

Source: Own calculations based on data provided by the Swiss Federal Customs Office.

Next, we analyze the development of AURs over time. Figure 4 illustrates the monthly evolution of the shares of Japanese exports into Switzerland by tariff regime from January 2009 through December 2010: (1) goods under normal tariffs, (2) goods subjected to preferential treatment on grounds of their intended use, and (3) goods enjoying reduced or eliminated tariffs by subjection to the FTEPA. For the first five months upon entry-into-force of the FTEPA overall AUR was about 20%. From February 2010, however, there was a marked increase in utilization of the agreement with AUR values ranging between 30 and 45%. Within a few months into force, use of the agreement by Japanese exporters has increased significantly.

A similar development can also be found when analyzing industries separately. A linear regression of AURs on the time elapsed since entry-into-force of the agreement confirms this observation. As can be seen from the results listed in Figure 5, regressions for all industries except textiles load with significant parameter estimates, i.e., confirm a significant increase in utilization of the FTEPA over time.

Figure 4: Monthly evolution of FTEPA utilization by Japanese exporters

Industry	R^2	Standard deviation	Slope	t-value
Automotive	0.637	8.789	2.361	4.953***
Precious metals, gems, jewels, pearls, etc.	0.213	0.258	0.027	1.949*
Chemicals & Allied industries (Pharma)	0.683	4.959	1.476	5.487***
Machinery and electrical appliances	0.266	6.904	0.844	2.255**
Watches and optical/photographic instruments	0.601	0.877	0.218	4.589***
Plastics/rubber	0.581	7.839	1.872	4.404***
Metals (Steel, etc.)	0.767	8.923	3.281	6.779***
Textiles	0.171	15.672	1.446	1.701
TOTAL	**0.377**	**7.052**	**1.113**	**2.909****

Significance levels: *** 1%; ** 5%; * 10%.

Source: Own calculations based on data provided by the Swiss Federal Customs Office.

2.3 Meta-Analysis: The FTEPA compared to other Swiss free trade agreements

In contrast to the general utilization rate that neither accounts for exception from agreements, nor for previously liberated classes of goods, the concept of AUR allows for comparing the efficiency of FTA use by exporters from different countries. Figure 6 illustrates the evolution of adjusted utilization rates for seven FTA partner countries including Japan during the twelve-year time span from 2000 to 2011.

As becomes evident from the graph representing Mexico, utilization may be subject to significant seasonal variation. AURs for all FTAs also show significant increases during the first two to three years upon entry-into-force as exporters get familiar with the FTA (except for Turkey for which entry-into-force is not included in the time frame of the chart).

Figure 5: Influence of time span since entry-into-force of FTEPA on AUR by industry, 09/2009–12/2010
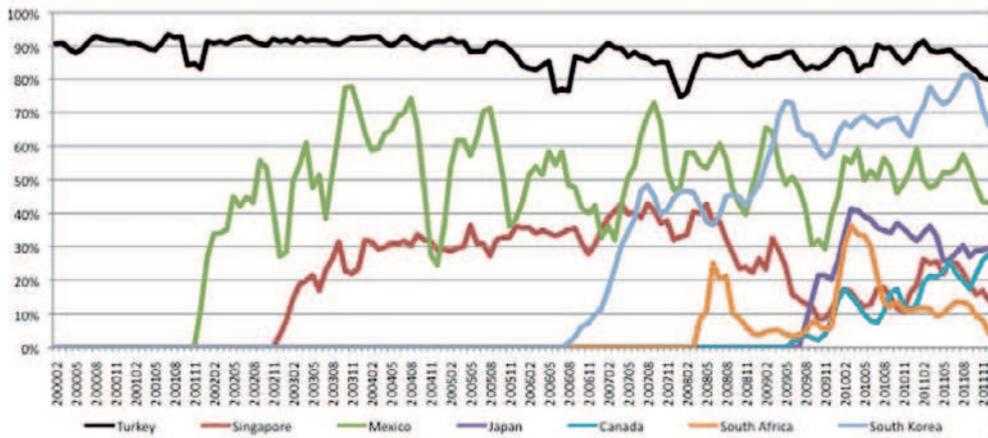
Source: Own calculations based on data provided by the Swiss Federal Customs Office.

Any direct comparison between utilization rates of the FTEPA with those of other agreements is subject to two substantial limitations. Firstly, exporters need to evaluate cost and benefits linked to using an FTA. As a highly industrialized country, not only are costs related to FTA use relatively high (mostly personnel expenses). What is more, a large share of Japanese exports to Switzerland had already been enjoying comparatively low tariffs prior to entry-into-force of the agreement, particularly through the large share of industrial goods. With relatively high cost and rather small margins to gain, it becomes evident that a direct comparison with Mexico or Turkey cannot be considered valid where not only cost is lower, but where margin gains for higher-levied goods such as textiles are more important.

Secondly, rules of origin are oftentimes difficult to meet where industrial goods increasingly depend on supplies from international value chains. For instance, while many Japanese exporters continue to generate a high proportion of their value added using national inputs, Canadian and South Korea exports already contained 30 to 40% of imported components back in 2000 (De Backer and Yamano 2008:52). Against this background, we may draw two conclusions from comparing the use of the FTEPA by Japanese exporters into Switzerland with the Canadian and South Korean experiences. Firstly, upon entry-into-force use of the FTEPA has picked up momentum relatively quickly. Secondly, given its relatively low import content in exported goods, the current utilization level of around 40% leaves room for future increases potentially even outgrowing the figures currently attained by South Korean exporters.

Figure 6: Adjusted Utilization Rates (AUR): Imports from seven FTA partner countries (3-months moving averages)

3 Conclusions and Outlook

Overall, we found several significant effects of FTEPA, already one year after enforcement. Our macro analysis shows that, in Swiss exports to Japan, the trade volume of goods liberalized by FTEPA has increased more than the volume of goods not liberalized. Our meso analysis indicates that also on the Japanese side, FTEPA is increasingly utilized, in certain sectors more than in others, but without having a significant impact on the volume of goods exported to Switzerland (yet). Our meta analysis shows the utilization of FTEPA has been swift and sustained, compared to the utilization of other FTAs of Switzerland such as the one with Canada. We conclude that *FTEPA is a success story,* 15 months after enforcement already, but not without mentioning for the record that our analysis had a rather narrow perspective on short-term trade effects. It is necessary to recall that both sides had, from the beginning of negotiations, the firm conviction that the true benefits of FTAs do materialize *in the long run*, increasing the competitiveness of locations and companies in both countries. These effects, however, depend on the successful utilization of FTAs in daily business operations. Research unanimously points to the fact that mainly large companies utilize FTAs, which should be of a concern to policy makers. As a consequence, we agree with Schaub that "the entry into force of an FTA is only a first step towards trade liberalization. In order to make companies utilize the negotiated benefits, policy makers will have to ensure that these are able to take the hurdle of initial fixed costs and can get access to the world of FTAs" (Schaub 2013: III). Finally, it is important to stress that FTEPA is a comprehensive Economic Partnership Agreement forming the basis for the development of cooperation in many areas affecting daily business operations, including but not limited to trade stimulation through the elimination of tariffs.

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