

**SWISS MARKET ACCESS TO EUROPEAN UNION SINCE THE CRISIS:
A DATA-DRIVEN APPROACH**

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In 2017 trade tensions between Switzerland and the European Union will likely come to a head should the Swiss government implement restrictions on the free movement of labour called for by a 2014 referendum. Rather than examine legal and institutional solutions, this paper sets future negotiations in their appropriate bilateral trade policy context, providing direct and indirect evidence on the changes to Swiss market access to EU markets since the onset of the global economic crisis.

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1. Introduction.

Contemporary trade agreements—even the complex set of bilateral accords that govern Switzerland’s trading relationship with the European Union (EU)—are inevitably incomplete and afford discretion to parties to attempt to “manage trade,” should they wish. A consequence of this reality is that the value of any trade accord to a nation’s commercial interests depends critically on how each signatory implements policies that have cross-border consequences. This observation is particularly important as Switzerland considers its options in advance of the deadline of early 2017, by which the government in Bern is supposed to implement the immigration limits that a majority of the Swiss population voted for in 2014.²

Codifying immigration limits is thought to violate the principle of the free movement of labour enshrined in an existing Swiss-EU accord³ and has prompted a discussion of various potential solutions.⁴ However, the European Commission (EC), acting for the European Union, has refused to negotiate on this principle, resulting in a standoff. It has also been pointed out that the so-called guillotine in current Swiss-EU accords could result in many existing bilateral accords being nullified.

As a result, attempts have been made to quantify the value of those accords to Switzerland. BAKBASEL (2015) is one such study, commissioned by SECO, the Swiss Economics Ministry. Using a macroeconomic model that study found that the revocation of the Bilateral I accords would lower Swiss GDP by 7.1% by 2035, amounting to a loss of 3,400 CHF per capita. Nearly 40% of the estimated loss was due to restrictions in the free movement of persons. In contrast loss of access to EU research funds and worse technical barriers to trade accounted for around 6% of the

² Technically these limits are part of Article 121a of the Swiss Constitution.

³ This accord was agreed in 1999 and came into effect in 2002. At this time approximately 1.3 citizens from members of the European Union or European Economic Area reside in Switzerland.

⁴ For a recent official statement from the Swiss government see https://www.eda.admin.ch/dam/dea/en/documents/fs/FS-Entwicklung-Beziehungen-CH-EU_en.pdf

lost GDP. Withdrawal from the bilateral agricultural agreement would lower Swiss welfare by 2 billion CHF, less than a third of one percent of the estimated total losses.

No doubt such empirical studies have made a constructive contribution to the debate within Switzerland. However, the approach taken here differs. Any future trade tensions between Switzerland and the EU would take place against the backdrop of policy developments since the onset of the global economic crisis. To the extent that those developments have eroded Swiss access to EU markets, they may well have eroded the value of the existing set of bilateral accords. This, in turn, may well cast the cancellation of those accords in a different light.

Swiss firms operating in European markets may have seen their treatment in EU markets change in both an absolute and relative sense. For example, in absolute terms the trading costs faced by Swiss firms may have fallen in a given EU export market but those costs may have fallen by less than those faced by non-EU competitors for contracts in the same EU export markets (examples of those competitors being Canada, Japan, and the United States.) In this example, over time Swiss firms faced less absolute discrimination in EU markets, but were—when compared to rivals—relatively discriminated against. Put another way, the discretion available to the European Commission and governments of European Union member states may have been used to the relative disadvantage of Switzerland. Of course other logical possibilities are possible. Even so, the absolute and relative distinction is helpful.

In this paper data on policy changes by the European Commission and governments of the EU member states is examined as well on the implied trade costs between Switzerland and EU member states and between leading non-EU trading nations and the same EU member states. The overarching goal is to assess changes in Swiss market access to the European Union in the fraught crisis era.

There are no doubt other important contextual factors that will influence any future Swiss-EU negotiations over freedom of movement. The very recent vote by the United Kingdom to leave the European Union is likely to be relevant, not least because of the salience of immigration and related matters in the campaign before that vote. Like Switzerland, the United Kingdom has a sizeable trade deficit with the rest of the European Union and some have argued that Continental European exporters have more to lose from a rupture in trade relations than UK exporters. Similar arguments may apply in the Swiss case, however the UK economy and trade deficit are markedly larger. That our focus here is on market access considerations does not imply that this is the only relevant factor in future EU-Swiss negotiations on the free movement of persons and related matters.

The rest of this paper is organised as follows. Section two briefly summarises the Swiss trading relationship with the European Union and interprets cautiously some preliminary outcome-based indicators of market access. In the third section of this paper data from the Global Trade Alert on policy changes is combined with trade data from UN COMTRADE to assess what proportion of Swiss exports to EU member states have faced trade distortions or trade reforms implemented since November 2008, which I take to be the start of crisis era.

In the fourth section of this paper the theory-inspired trade costs literature is deployed to construct bilateral trade cost indices between Switzerland, Canada, Japan, and the United States and each EU member state since 2000. The cross-sectional and intertemporal variation in bilateral trade costs to the same export destination is used to infer whether Swiss exporters are facing more or less absolute and relative discrimination in EU markets. Section five of this paper includes a discussion of policy implications, caveats, and other concluding remarks.

2. A brief overview of Swiss trade with the European Union.

Since 2000 Swiss exports to the European Union have grown 141% in nominal terms to \$128.9 billion. Exports fell during the Great Recession but then continued their relentless upward climb. In more recent years, however, the Swiss Francs has appreciated and, as Figure 1 below shows, there is a marked deceleration in the rate of growth of Swiss exports to the EU. Of course, part of that deceleration could have been caused by slower economic growth in EU, in particular in the Eurozone countries that undertook austerity measures as part of international bailouts. A sizeable bilateral trade deficit in the EU's favour has opened up in recent years.

Figure 1: Swiss export growth to the EU slowed down after the crisis.

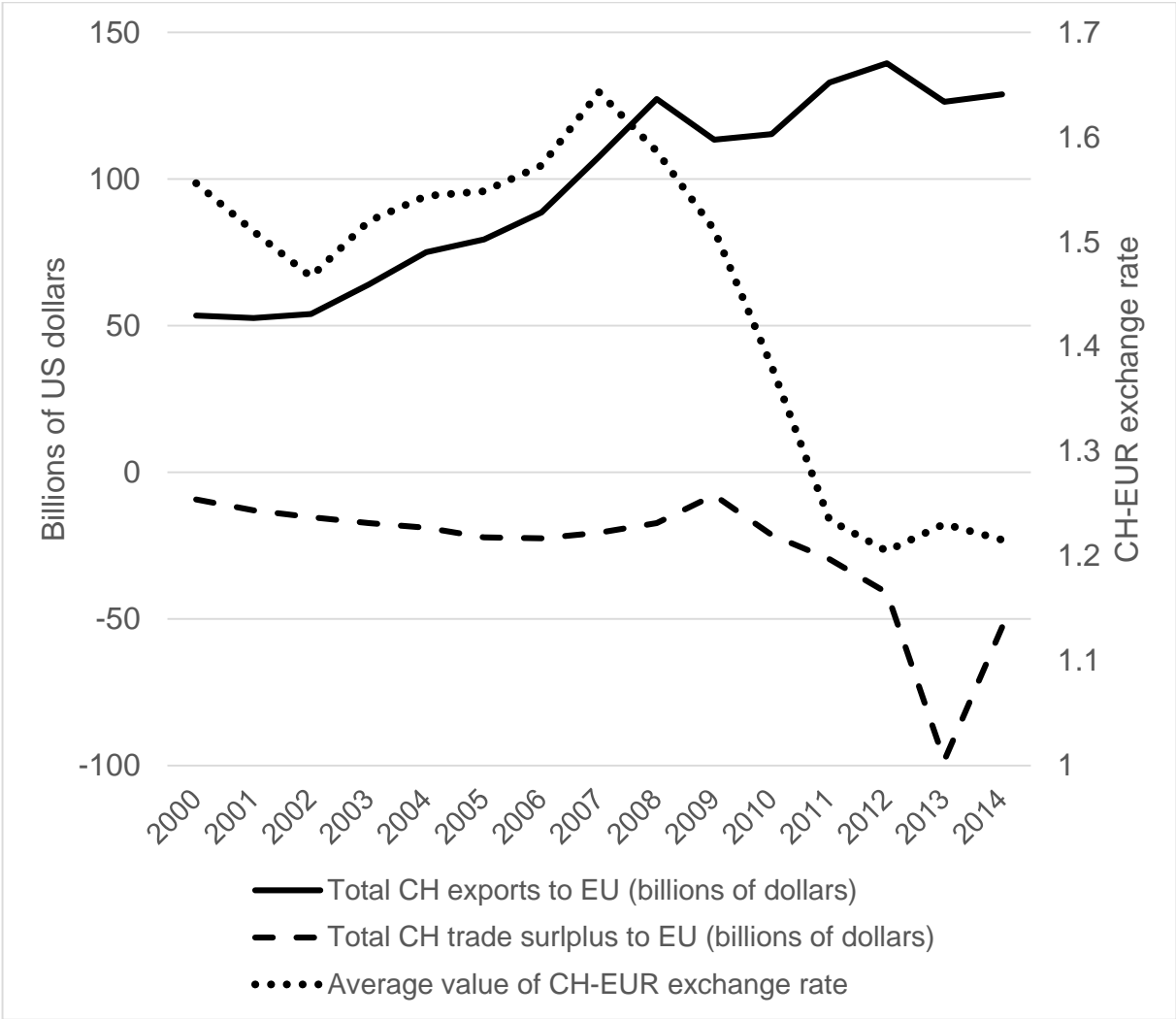
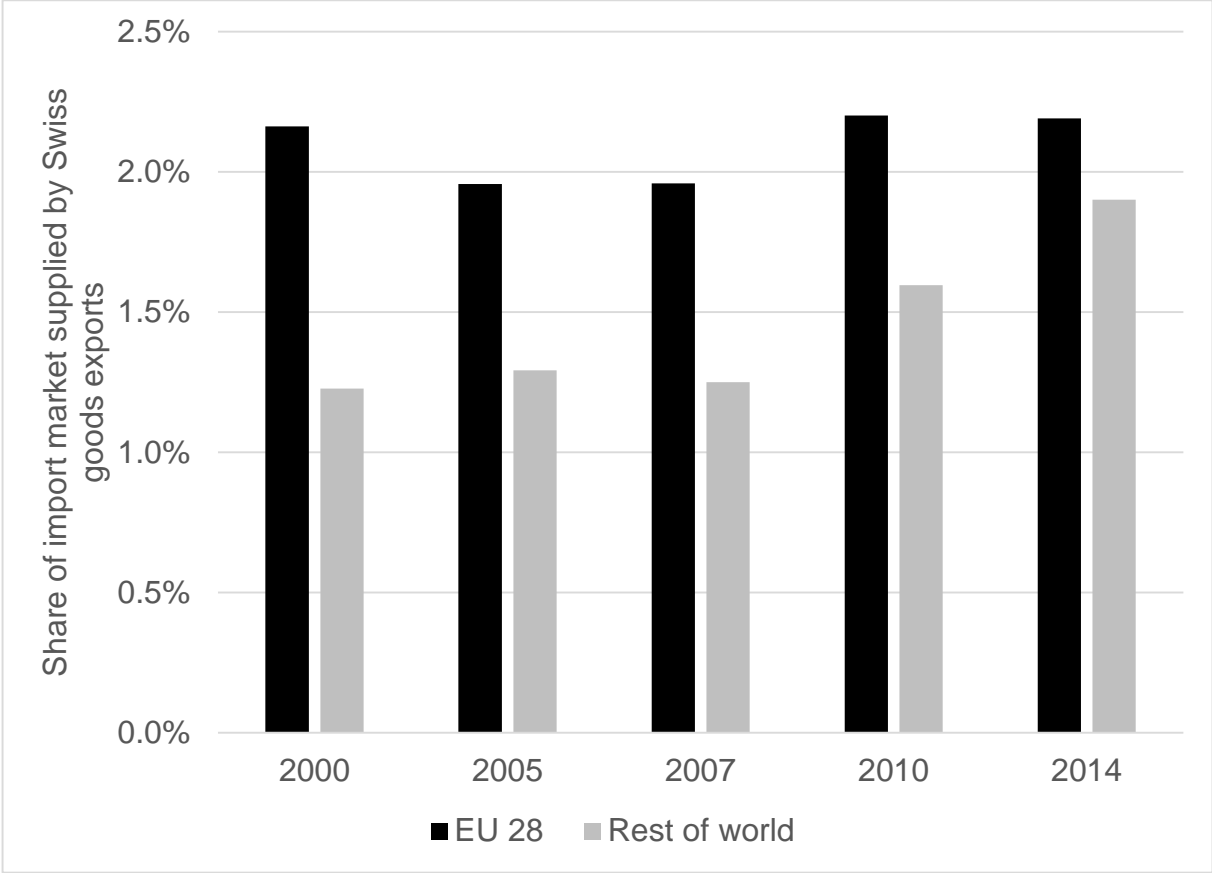
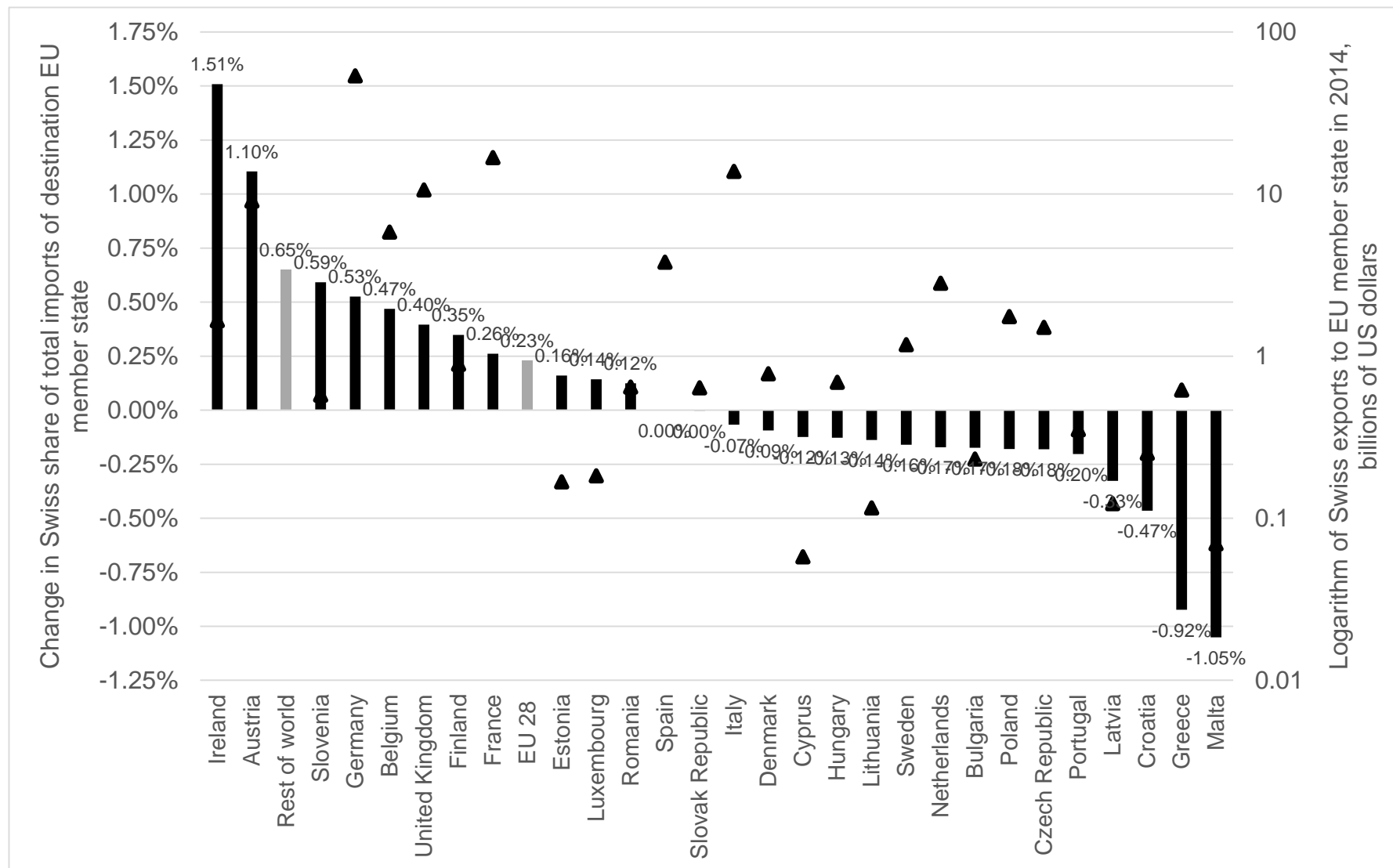


Figure 2: Swiss share of non-EU imports has grown since the onset of the crisis.



Given the relative growth performance of the EU and the rest of the world (which includes the fast growing emerging markets), it is not surprising that the share of Swiss exports to the latter grew. However, as Figure 2 shows, the share of EU 28 exports sourced from Switzerland fell in the run up to the crisis and then bounced back (ending up 0.23% higher in 2014 than in 2007). Meanwhile, the rest of the world's imported a growing share of goods from Switzerland, speaking to greater competitiveness of Swiss exports or, perhaps more likely, a better match between the products that Switzerland supplies and the demands of buyers. Still, it is impressive that Swiss shares of EU 28 imports grew so much between 2007 and 2010 as the value of the Swiss Franc appreciated. Another candidate explanation is that since the onset of the global economic crisis the rest of the world's treatment of Swiss exports became less discriminatory over time compared to that of the EU.

Figure 3: During the crisis era Swiss shares of total imports grew in member states where its exports were largest.



While the Common Commercial Policy of the European Union is executed by the European Commission, there are plenty of policies implemented at the EU member state level that can affect Swiss commercial interests. *Ceterius paribus*, if a EU member state has taken measures whose harm falls disproportionately on Swiss commercial interests, then one would expect to see the share of that member state's imports from Switzerland fall. Moreover, if the pressure to engage in such measures is greater since the onset of the global economic crisis, then that share should have fallen since 2007. Figure 3 shows how those shares have changed from 2007 to 2014 for each EU member state separately. The change in Swiss share of EU 28 imports and those of the Rest of the World have been added in as comparators as well.

There is considerable variation across the EU member states in the change in the import share of Switzerland—from rising 1.51 percentage points in Ireland to falling 1.05 percentage points in Malta. From the Swiss perspective, it is heartening to see that that all of the larger EU export destinations for Swiss products report rising or essentially unchanged shares (with a tiny fall in share recorded for Italy.) Indeed, the expansion in those shares of Austrian, German, Belgian, British, and French imports suggests that is not, on the face of it, consistent with rising trade restrictions facing Swiss products.

It is important not to jump to conclusions from such evidence, however, before examining the policies undertaken by those nations' governments and the relative performance of other non-EU countries that Switzerland competes with in these particular EU markets. The next section examines the policies—both liberalising and discriminatory--undertaken since the onset of the global economic crisis collectively (that is, via the European Commission) and individually.

3. Policy measures undertaken by the EU and its member states that affect Swiss commercial interests.

EU governments, like counterparts elsewhere, reacted vigorously to the onset of the global economic crisis, combining macroeconomic stimulus often with measures that targeted specific sectors or firms that were in trouble. While many of these measures were presented as “saving jobs” etc, some in fact tilted the commercial playing field towards domestic firms at the expense of foreign rivals including, where relevant, Swiss rivals. Some of the government interventions appeared competitively neutral, however, strings were often attached that discriminated against foreign firms. Plus, subsidies to loss-making firms frustrate market pressures for capacity reduction, keeping prices lower than otherwise and shifting the burden of adjustment to unsubsidised firms. In short, during a global economic crisis there are plenty of ways to beggar thy neighbour.

As commercial policy is the sole competence of EU institutions, member state governments were not allowed to alter traditional border barriers during the Great Recession, as some have termed it. Pressure to favour domestic firms shifted to other policies notably, as we will see, to subsidies. Indeed, early in the global economic crisis in response to pressure from the governments of the three largest economies in the EU, the European Commission’s state aid regime was watered down significantly. To its credit the European Commission has collected substantial amounts of data on the subsidies granted to EU business during the crisis and, when the opportunity arose, has tried to restore the extant state aid regime. The Commission has also kept an eye on overt violations of the Single Market regime, including biased government procurement processes. The purpose of this section is to document the resort to trade distortions and reforms by the European Commission

and by the member state governments (often acting on their own) that likely or almost certainly affect the commercial interests of Switzerland.

The Global Trade Alert (GTA) initiative, which I coordinate, collects data on government measures announced and implemented since the first crisis-era G-20 summit in November 2008. For over seven years, evidence has been systematically added to this database and now it is two-and-a-half times the size of the comparable database assembled by the World Trade Organization (WTO). Unlike the WTO which confines its monitoring of crisis-era policies to a small number of specified trade policy instruments, the GTA will include in its database in principle any government policy that alters the relative treatment of domestic commercial interests compared to their foreign rivals. The set of domestic commercial interests is broadly defined to include traders, foreign investors, owners of intellectual property (including electronic property), and those employed abroad.

Table 1: Crisis-era trade distortions and liberalising measures affecting Swiss commercial interests.

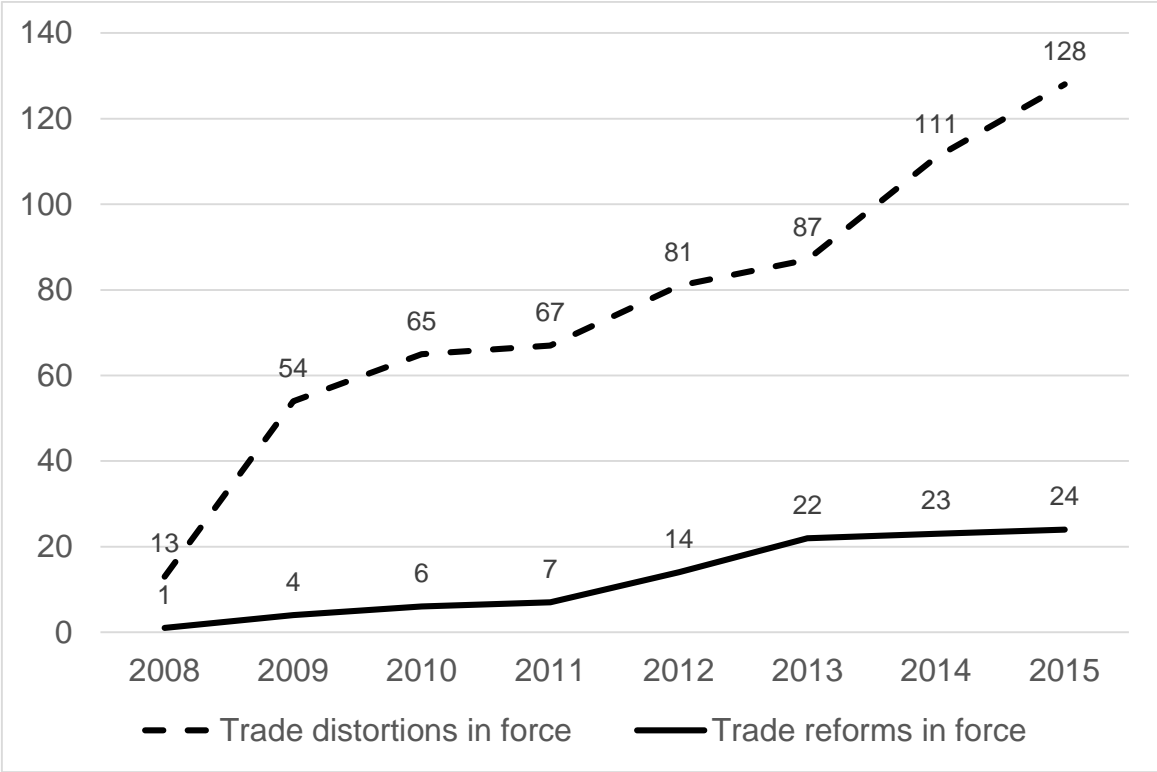
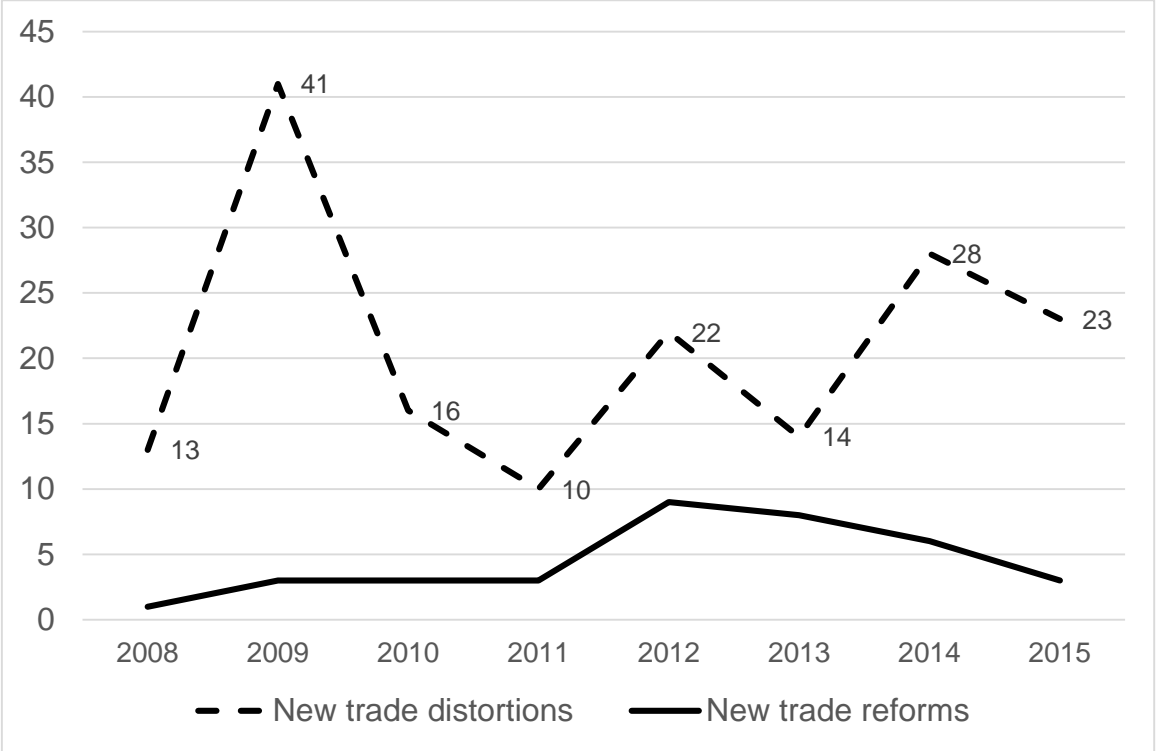
Policy	Implemented harmful measures		Implemented trade reforms	
	Total	Still in force	Total	Still in force
State aid	123	82	0	0
Import quota	5	2	7	2
Import tariff	5	3	9	5
Non tariff barrier (n.e.s.)	5	4	2	2
Public procurement nes	3	3	0	0
Localisation requirement	2	2	0	0
Public procurement preference	2	2	0	0
Migration measure	1	1	5	5
Tariff rate quota	1	1	1	1
Trade defence measure	1	1	0	0
Consumption subsidy	0	0	2	0
Import subsidy	0	0	1	0

The GTA has documented 977 foreign government measures that have harmed Swiss commercial interests since November 2008 and 601 measures that have benefited Swiss firms and the like. Of the harmful measures, 704 remain still in force, suggesting that there is a long way to go unwinding crisis-era protectionism. Our interest here, however, is in measures undertaken by individual EU member states and by the EU collectively that affect Swiss commercial interests. To that end, Figure 4 was assembled from the GTA database and differentiates between EU measures harming and benefiting Swiss interests.

In terms of measures harming Swiss interests, there is little resort to border measures. Instead, EU member states have resorted to bailout firms in financial trouble on numerous occasions. Using information on the identities of the bailed out firms and the types of products they produced, we found 123 cases where the EU bailed out a firm or firms that sells goods that compete directly with Swiss exporters. A large number of those subsidies are still in force, so there is little reason to believe that Swiss commercial interests were briefly affected by EU bailouts at the start of the crisis. The relaxation of the EU state aid regime may well have had first order effects on Swiss exporters, perhaps forcing them to lower prices, accept lower profit margins and returns on investment.

The total number of EU measures harming Swiss interests outnumbers the total number of trade reforms benefiting Switzerland year after year and cumulatively (see Figure 4). The number of harmful measures does spike in 2009 and then falls. However, consistent with worldwide trends, from 2011 there has been an increase in the number of times per year that Swiss commercial interests suffer at the hands of European Union governments. In contrast, the number of trade reforms implemented by the EU that benefit Switzerland has been falling since 2012.

Figure 4: Since the crisis began Swiss commercial interests are hit far more often with EU trade distortions than with trade reforms.



Using detailed data on trade in product categories (technically at the four-digit level of disaggregation devised by the UN), it was possible to estimate what percentage of Swiss exports compete in each EU member state's markets against local firms that benefit from a trade distortion (trade reform) implemented since the crisis began. These are not the only distortions to trade in EU markets that face Swiss exporters as third countries could directly or indirectly subsidised exports to those markets. Still, the focus here is on actions taken by the European Union and its member states and so the calculations in Tables 2 and 3, on trade distortions and trade reforms respectively, reflect that.⁵

Taking account of the fact that some EU measures have lapsed, I estimate that approximately 5.75% of Swiss exports to EU member states face some crisis-era trade distortion. This average belies considerable variation across the EU member states. For example, nearly 40% of Swiss exports to Poland compete against a bailed out Polish rival in that country's home market. In contrast, Swiss exports to 12 member states appear not to have faced any crisis-era trade distortion (although this finding may be a function of the conservative methodology employed by the Global Trade Alert team to ignore bilateral trade flows at the 4-digit product level below \$1 million.) Comparing across the columns in Table 2 it is clear that the principal threat to Swiss trading interests comes from EU state aid and not from border barriers.

When it comes to trade reforms, most of the relevant EU actions relate to border barriers. Apart from occasional changes in tariffs and quotas on fruits and vegetables, each year the EU tends to make adjustments to its "autonomous tariffs." In principle, the range of Swiss exports implicated by these changes is large (see

⁵ The calculations of the Swiss exports facing EU tariff increases and tariff reductions are being checked at the six-digit level of aggregation.

Table 3) and, again, there is considerable variation across EU member states (presumably reflecting purchases of different Swiss products).

Of course, estimates of trade coverage (or exposure of Swiss exports to trade policy changes) do not speak to the impact on Swiss exports of crisis-era policy change. Still, these estimates highlight the policy instruments and EU markets where the impact on Swiss exports is likely to be found, facilitating Swiss policy formation. For example, Swiss monitoring of EU policy choice should not overlook the state aid decisions of individual EU member states.

The approach taken in this section has been to focus on the crisis-era EU policy changes that have been documented. There may well be EU state measures affecting Swiss commercial interests that have not been documented by the Global Trade Alert team. In which case, an approach based on direct evidence of policy change should be complemented by an inferential approach to trade costs. To the latter, I know turn.

Table 2: Percentage of Swiss exports facing crisis-era trade distortions, by EU member state and type of trade distortion.

EU member state	State aid	Import tariff	Non tariff barrier (n.e.s.)	Public procurement nes	Public procurement preference	Trade defence measures	Total share affected (avoiding double counting)
Austria	2.80	0.00	0.05	0.00	0.00	0.04	2.88
Belgium	1.58	0.00	0.00	0.00	0.00	0.00	1.58
Bulgaria	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Croatia	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyprus	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Czech Republic	0.00	0.00	0.02	0.00	0.00	0.00	0.02
Denmark	0.75	0.00	0.00	0.00	0.00	0.00	0.75
Estonia	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Finland	20.35	0.00	0.00	0.00	0.00	0.00	20.35
France	0.57	0.01	0.00	0.94	0.00	0.00	2.16
Germany	7.47	0.00	0.06	0.00	0.00	0.00	7.47
Greece	0.14	0.00	0.00	0.00	0.00	0.00	0.14
Hungary	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ireland	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Italy	4.98	0.01	0.01	0.00	0.00	0.00	4.99
Latvia	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lithuania	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Luxembourg	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malta	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Netherlands	0.22	0.00	0.00	0.00	0.00	0.00	0.22
Poland	38.95	0.00	0.05	0.00	0.00	0.00	39.00
Portugal	2.81	0.00	0.00	0.00	0.00	0.00	2.81
Romania	0.31	0.00	0.00	0.00	0.00	0.00	0.31
Slovakia	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Slovenia	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spain	1.61	0.00	0.00	0.71	0.00	0.00	2.33
Sweden	0.23	0.00	0.00	0.00	0.00	0.00	0.24
UK	11.77	0.00	0.00	0.00	0.34	0.00	12.11
Total Swiss export share affected by all EU member states	5.43	0.04	0.09	0.03	0.17	0.00	5.75

Table 3: Percentage of Swiss exports benefits from trade reforms in the EU, by EU member state and type of reform.

EU member state	Import quota	Import tariff	Non tariff barrier (n.e.s.)	Total share affected (avoiding double counting)
Austria	8.00	30.86	1.07	31.70
Belgium	7.52	25.29	0.39	25.37
Bulgaria	2.94	18.86	0.72	18.86
Croatia	3.10	17.49	0.00	17.49
Cyprus	0.53	3.21	1.46	3.21
Czech Republic	11.75	42.16	0.39	42.26
Denmark	6.96	25.07	0.48	25.08
Estonia	2.24	31.95	0.88	31.95
Finland	6.72	42.90	0.95	42.90
France	11.03	31.95	1.05	32.31
Germany	10.79	47.05	0.79	47.61
Greece	6.52	10.22	0.16	10.22
Hungary	7.14	32.77	0.19	32.77
Ireland	33.61	55.49	0.42	55.49
Italy	7.33	23.44	0.28	23.60
Latvia	0.33	1.07	0.74	1.07
Lithuania	0.48	9.00	0.00	9.00
Luxembourg	0.47	55.08	0.00	55.09
Malta	0.00	10.04	0.00	10.04
Netherlands	9.51	32.07	1.91	32.52
Poland	10.14	41.88	0.93	42.00
Portugal	5.17	12.93	0.38	12.94
Romania	5.82	21.90	0.48	21.90
Slovakia	6.41	40.83	0.23	40.83
Slovenia	6.33	22.30	1.37	22.76
Spain	29.91	42.32	0.15	42.46
Sweden	8.52	42.16	0.50	42.16
UK	8.35	21.32	0.43	21.67
Total Swiss export share affected by all EU member states	10.57	35.78	0.70	36.16

4. Trade costs facing Swiss exporters.

Given that some policies that EU governments might have taken to discriminate against Swiss exporters may not be easily to spot or document, then it is appropriate to consider measures that infer the magnitude of trade costs from observed trade flows. There is now an established literature (Head and Ries 2001, Novy 2011) that demonstrates the theoretical underpinnings for these inferred trade cost measures, however, it must be stressed that the maintained assumption is that the underlying model of consumption and production specialisation (the mismatch of which generates cross-border trade) is correct.

Using the Anderson and van Wincoop (2003) approach to modelling gravity equations, which takes account of multilateral resistance terms, Novy (2011) derives a “micro-founded” expression for the symmetric bilateral trade cost T_{ij} for between two nations i and j which depends on observable trade flows and the σ is the elasticity of substitution between goods:

$$T_{ij} = \left(\frac{x_{ii} x_{jj}}{x_{ij} x_{ji}} \right)^{\frac{1}{2(\sigma-1)}} - 1$$

where x_{ii} (x_{jj}) is the value of trade within country i (j) and x_{ij} (x_{ji}) is the value of exports of i (j) to j (i). Rearranging this expression leads to:

$$\ln(1 + T_{ij}) = \frac{1}{2(\sigma - 1)} \ln \left(\frac{x_{ii} x_{jj}}{x_{ij} x_{ji}} \right)$$

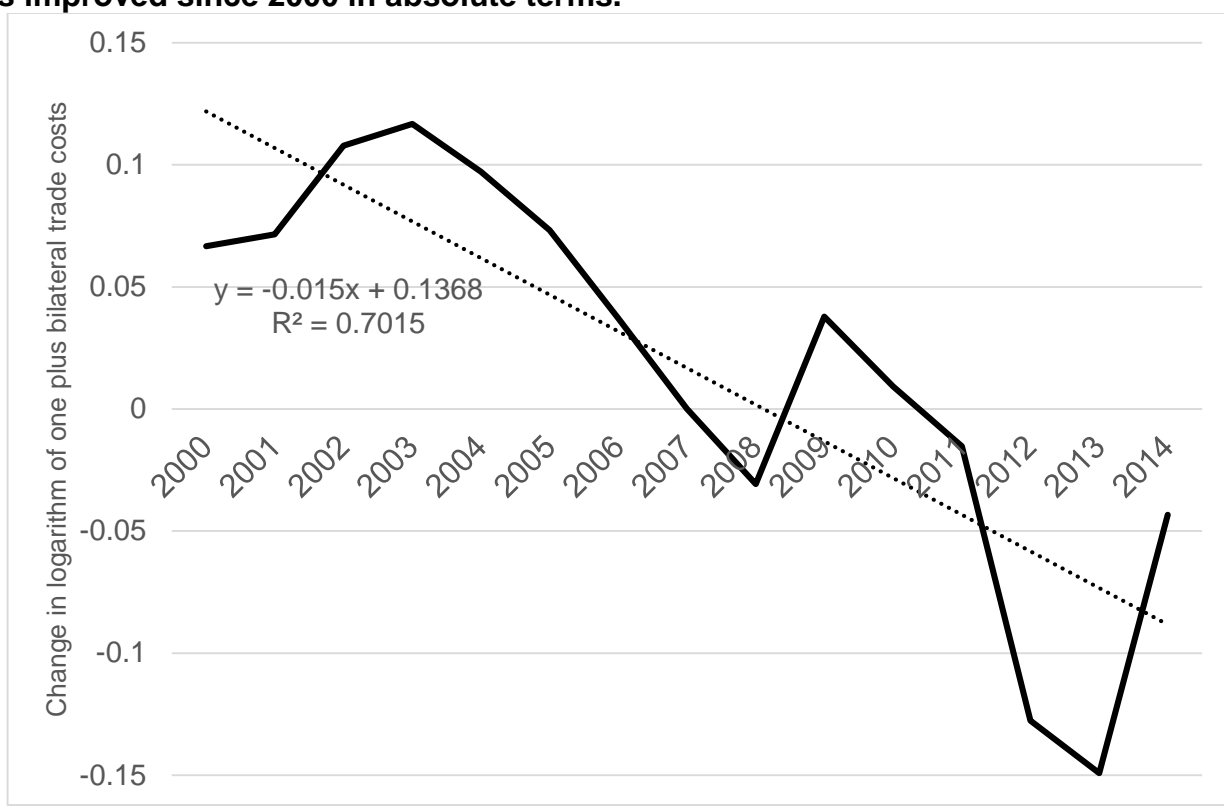
The logic behind this expression is as follows: Higher border barriers switch domestic expenditure from foreign produced goods (imports) to domestic produced goods. Mathematically, this reduces at least one term in the denominator of the right hand side of the above expression and increases the internal trade of the implementing nation, raising the numerator.

On the assumption that the elasticity of substitution does not vary over time, then intertemporal changes in bilateral trade costs $\ln(1 + T_{ij})$ can be inferred from

changes over time in observable $\ln\left(\frac{x_{ii}x_{jj}}{x_{ij}x_{ji}}\right)$.

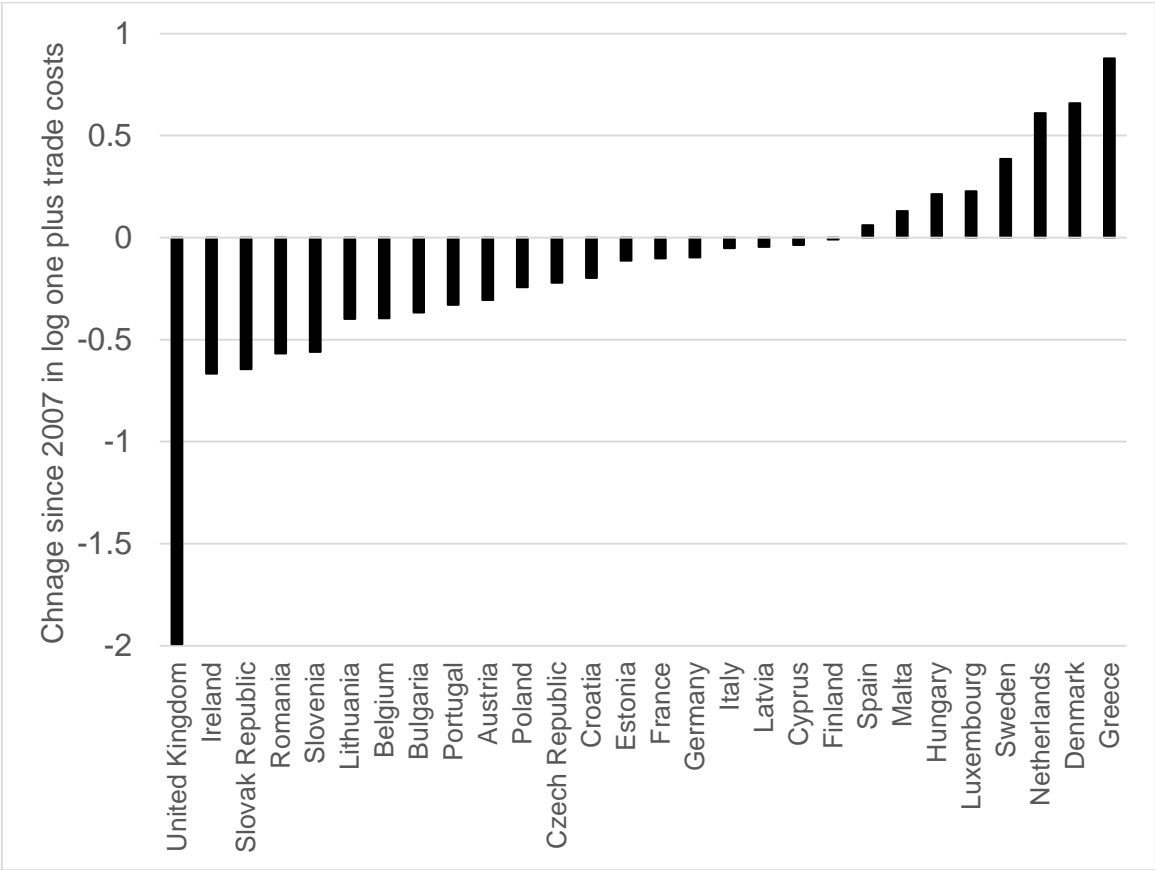
Data from the UN's COMTRADE database on trade in goods can be used to compute the bilateral trade costs for Swiss exports into each EU member state since the year 2000. Particular attention is given to the change in observed trade costs witnessed since 2007, taken to be the start of the global financial crisis. To provide useful benchmarks the bilateral trade costs between Canada, Japan, and the United States and each member state were computed as well. It will be interesting to see if these trade changes change as much, less, or more than the corresponding trade cost for Switzerland. Furthermore, an overall Swiss-EU 28 trade cost is calculated to give a sense of how trade costs to the entire European Union are evolving over time.

Figure 5: On this measure of trade costs Swiss access to EU goods markets has improved since 2000 in absolute terms.



With respect to the latter, Figure 4 shows that since 2000 there has been a downward trend in implied Swiss trade costs in shipping to the EU. For sure, there has been fluctuation around the trend, with trade costs falling faster in the boom years and appearing to rise in the immediate aftermath of the global economic crisis. Potentially worrying is the sharp implied rise in trade costs for the year 2014. Once data becomes available for 2015, it will be possible to obtain a better sense of whether this change is more apparent (that is, statistical noise) than real.

Figure 6: In absolute terms, Swiss market access to 8 EU member states has deteriorated since the onset of the crisis.



With respect to bilateral trade costs between Switzerland and individual EU member states, the changes in these trade costs since the onset of the global economic crisis varied considerably (see Figure 6). Here the bilateral trade costs

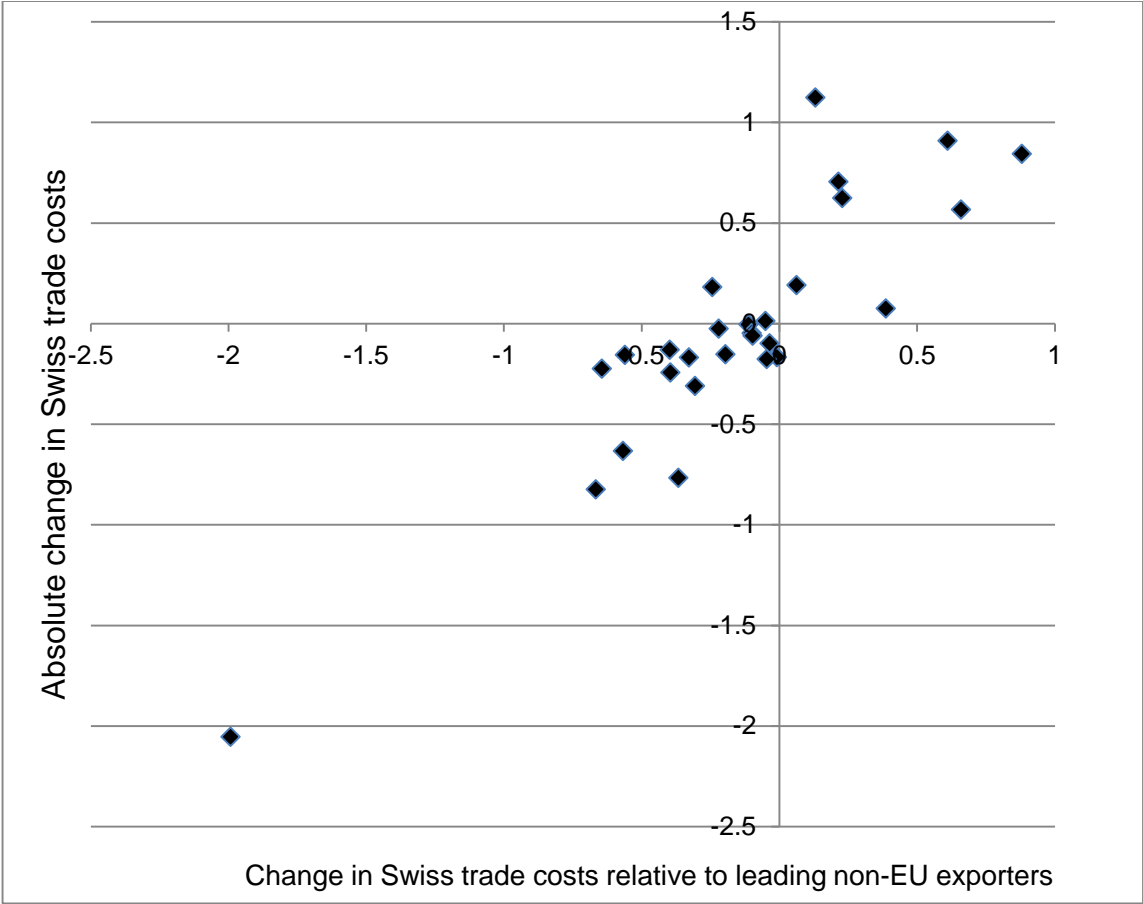
were computed for the years 2005-2007 and 2012-2014 (the latest three years for which UN COMTRADE data is available.) To limit the impact of any one year's noisy trade data, means were taken for each period. The differences in those means were taken to be our measure of the change in bilateral trade costs since the onset of the crisis.

In trade with eight EU member states bilateral trade costs actually rose—implying potential impairments to Swiss market access. Leaving aside measurement error concerns, such cross-country variation could be driven by policy changes at the member state level (which increase within-country trade at the expense of between-country trade), by EU-wide policy changes interacting with differences in the composition of trade between Switzerland and member states, or by Swiss policy favouring or disfavouring certain export destinations within the EU. In the absence of evidence concerning the latter, policy changes within the EU are the likely explanation.

Swiss export performance to each member state will also depend on how those member states treat imports from countries that potentially compete with Swiss rivals. Taking Canada, Japan, and the United States as benchmarks and computing their bilateral trade costs with each EU member state (again for the years 2005-2007 and 2012-2014), it was possible to compare how much Swiss trade costs changed with the most favourable trade cost change of these three export rivals. Data on the absolute Swiss trade cost change with an EU member state was plotted in Figure 7 against the relative change in Swiss trade costs compared to the non-EU rival that saw the greatest improvement in its bilateral trade costs with the same EU member state since the onset of the crisis. Points in the upper north-eastern quadrant represent cases where Swiss trade costs rose in absolute and relative terms and, therefore, represent particularly bad news for Swiss exporters. Points in the south-

western quadrant represent improvements in absolute and relative Swiss trade costs, and potentially good news for Swiss exporters. Points in the other two quadrants highlight mixed relative and absolute changes in Swiss trade costs.

Figure 7: Where Swiss market access improved in absolute terms it did so in relative terms as well, and visa versa.



In fact, since the onset of the global economic crisis, an interesting pattern has emerged. In trade with those EU member states, such as the UK, where Swiss trade costs have fallen in absolute terms, those trade costs have fallen faster than for leading non-EU exporters that Swiss firms might compete with in the UK. The opposite is also true—where Swiss trade costs have risen in absolute terms they have deteriorated in relative terms as well. If anything, this suggests that, not

necessarily by design, EU member states have fallen into two groups in crisis response.

The majority of EU member states have allowed market integration processes go forward and have done so in a way that favours intra-European trade. Meanwhile eight member states may have introduced trade frictions, in particular against their neighbours with whom they tend to trade more with. The latter group comprises of Denmark, Greece, Hungary, Luxembourg, Malta, Netherlands, Spain, and Sweden, and together accounted for 6.2% of Switzerland's exports worldwide in 2014. These findings are consistent with the view that the principal action is at the level of the EU member states, rather than EU-wide. Again, these results call for Swiss monitoring of policy change at the level of the individual member states as well as tracking proposals made by the European Commission.

5. Concluding remarks.

In this paper direct and indirect evidence on public policy changes have been used to infer the likely changes in Swiss access to European Union markets since the turn of the century. Strictly speaking, the approach taken here has focused on trade in goods rather than on services, the latter arguably being commercially significant as well. Particular attention was given to public policy changes undertaken by the European Commission and by individual member state governments since the onset of the global economic crisis.

On average, bilateral trade costs have fallen steadily, if not spectacularly, between Switzerland and the European Union since 2000. For sure, there has been variation around a longer term downward trend, but that trend implies that Swiss trade costs have been falling 0.15% per annum.⁶ Of course, some might contend that these falling trade costs reflect factors other than trade policy (such as better information by Swiss firms of foreign market opportunities). Still, from the perspective of Swiss exporters, the trend is in the right direction and is not inconsistent with claims that the bilateral arrangements between Switzerland and the European Union are having some positive effect.

This trend decline masks considerable variation over time in the bilateral trade costs between Switzerland and individual member states. Interestingly, the EU member states fall into two groups: a group of eight where Swiss trade costs have risen in both absolute and relative terms and the rest where the opposite is true. Moreover, when examining evidence on the exposure of Swiss exports to trade distortions implemented since the crisis began, there is marked variation across EU export destination, largely driven by the importing country government's resort to

⁶ On the assumption that the elasticity of substitution between goods is five, then the estimated slope coefficient reported in Figure 5 implies that this annual average fall in trade costs. How seriously one wants to take the estimate of that coefficient is another matter.

subsidies and bailouts. Such findings must cast doubt on the validity of empirical assessments of the value of the current EU-Swiss bilateral agreements that do not take account of the differences in policy intervention across EU member states.

These findings are an important reminder that no matter what deals are negotiated between Bern and Brussels, to some degree what matters for Swiss commercial interests is the translation—if at all—into policies implemented by the EU member states, especially when it comes to state aids and non-tariff measures. The differential evolution over time in bilateral trade costs between Switzerland and EU member states reported here, is consistent with the view that the governments of those member states retain considerable discretion even though, in principle, they have signed up to a Common Commercial Policy and the Single Market.⁷

That EU member states retain considerable discretion should be borne in mind if commercial relations between Switzerland and the European Union deteriorate in the coming year. Member state governments may differ in their reaction to any Swiss measures to limit immigration, with differential effects on Swiss access to national markets in the EU. This calls for enhanced Swiss monitoring of public policy changes at the member state level (not just those measures undertaken EU-wide) and, should circumstances justify it, greater resort to WTO Dispute Settlement and other steps to defend Swiss commercial interests.

⁷ Of course, the WTO obligations of the EU member states act as a legal constraint on the exercise of this discretion. Furthermore, I am not suggesting that the EU member states have complete discretion or can act without any constraint.

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Annex Table: Crisis-era incidence of harm and benefit to Swiss commercial interests, by EU member state and on behalf of the entire EU.

Implementing jurisdiction	Implemented harmful measures	Implemented trade reforms	Implemented harmful measures	Implemented trade reforms
	Total	Still in force	Total	Still in force
Austria	5	5	0	0
Belgium	5	2	0	0
Bulgaria	0	0	1	1
Croatia	3	3	3	3
Cyprus	2	2	0	0
Czech Republic	2	2	0	0
Denmark	1	1	0	0
Estonia	0	0	0	0
Finland	2	0	1	1
France	17	16	2	1
Germany	31	17	2	1
Greece	2	1	0	0
Hungary	1	0	0	0
Ireland	0	0	0	0
Italy	28	22	0	0
Latvia	2	2	0	0
Lithuania	0	0	0	0
Luxembourg	2	2	1	1
Malta	0	0	0	0
Netherlands	4	1	0	0
Poland	20	16	0	0
Portugal	7	5	0	0
Romania	1	1	0	0
Slovakia	0	0	0	0
Slovenia	0	0	0	0
Spain	5	4	0	0
Sweden	4	3	0	0
United Kingdom	13	12	1	1
EC on behalf of whole EU	54	43	24	13