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SWITZERLAND

Selected Issues

Prepared by Thierry Tressel (EUR), Atilla Arda (LEG)

Approved by European Department

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I. IMPACT OF EXCHANGE RATE MOVEMENTS ON EXPORT PERFORMANCE AND CONSUMER PRICES[1]

A. Introduction

1. **The effect of the nominal exchange rate on the trade balance depends on the degree of exchange rate pass-through and on trade elasticities.** In the presence of price rigidities, the short-run expenditure switching effect of a nominal exchange rate appreciation on the trade balance will depend on the exchange rate elasticity of imports and of exports. The domestic value of the trade balance will worsen as a result of a real exchange rate appreciation if the sum of the absolute values of the two elasticities exceeds one.[2] The exchange rate pass-through is an important parameter determining the response of domestic import demand to exchange rate fluctuations by allowing expenditure switching effects to operate. For example, with a high pass-through, the expenditure switching effect of a nominal appreciation is likely to be sizeable as an appreciation results in a decline in the domestic price of imports and therefore tends to increase the demand for imports.[3] In contrast, with a low pass-through, the domestic price of imports, and therefore the demand for import, are not significantly affected by the nominal exchange rate.

2. **The degree of exchange rate pass-through should also be factored in monetary policy decisions.** With a high exchange rate pass-through, the impact of monetary policy on domestic activity might be dampened. For example, an increase in interest rates, by appreciating the nominal exchange rate, would tend to lower domestic prices of imported goods, thus raising real disposable income. The resulting increase in disposable income would then result in higher domestic demand, partially offsetting the contractionary effect of the interest rate increase on domestic demand.[4]

3. **This paper first assesses the competitiveness of Swiss exporters, and shows that exports are somewhat sensitive to the exchange rate, although elasticities vary significantly across export markets.** The overall elasticity of exports to the nominal exchange rate (estimated between 0.9 and 1.3) is economically significant and broadly

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[1] Prepared by Thierry Tressel (EUR). We are very grateful to our colleagues from the Swiss National Bank for useful exchange of views and comments, including in particular Thomas Moser, Tommaso Mancini, and Caroline Schmidt.

[2] The Marshall-Lerner condition.

[3] The argument was put forward by Milton Friedman (1953): "A rise in the exchange rate ...makes foreign goods cheaper in terms of domestic currency, even though their prices are unchanged in terms of their own currency, and domestic goods more expensive in terms of foreign currency, even though their prices are unchanged in terms of domestic currency. This tends to increase imports [and] reduce exports".

[4] Monacelli (2005) develops a model of monetary policy in an open economy with low exchange rate pass-through.

consistent with the existing literature.[5] However, elasticities vary across export markets, perhaps reflecting different pricing strategies, different characteristics of demand or of goods exported. Exports to emerging markets are sensitive to the exchange rate, while exports to more mature markets respond mostly to domestic demand.[6] This suggests that Swiss exporters may have to adapt to a more a competitive environment in the fastest growing markets, while, in more mature markets, exports will be determined by the growth outlook.

4. **The paper also estimates the exchange rate pass-through, which is found to be low for consumer prices, but large for import prices.** These estimates are consistent with past work by the Swiss National Bank that found a relatively low pass-through for consumer price, and a large pass-through for an import price index (in local currency).[7] They are also consistent with the existing literature. Pass-through has been found to be low in low-inflation developed countries, both at disaggregated levels and at the level of aggregate price indices (Engel, 2002). However, estimates of import price pass-through are usually found to be much higher than CPI pass-through in OECD countries, suggesting that exchange rate movements do result in some relative price adjustments at the import price level (see in particular Campa and Goldberg, 2005). These findings are consistent with Burnstein et. al., (2007) who show the importance of non-tradable goods in the price of final goods.

5. **Various factors may explain the low pass-through to domestic CPI.** For instance, if nominal prices are set in advance in the currency of consumers (the "local currency pricing" model, henceforth LCP), nominal exchange rate fluctuations have no effects, in the short-run, on prices faced by consumers.[8] There are, however, alternative explanations for the low pass-through. Factors related to international trade (such as transportation and distribution costs) may segment national markets and limit the effect of international traded goods price on the CPI.[9] The cost of the good for consumers may also

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[5] The estimated export elasticities are somewhat smaller than estimates for other advanced economies (Hooper et. al., 1998).

[6] A study by the SNB in contrast finds significant exchange rate elasticity for exports to euro area countries, and in particular to Germany. The difference in the findings could be explained by the use of bilateral quarterly data and of trading partner's GDP growth as a proxy for foreign demand.

[7] Jonas Stulz, 2007, "Exchange rate pass-through in Switzerland: Evidence from vector auto regressions", Swiss National Bank Economic Studies No. 4 2007. The exchange rate pass-through to consumer price is found to be low (0.02) for the post-1993 period. Recent inflation figures, on the contrary, seem to imply a large pass-through, but this could reflect price movements of specific goods. Amstad and Fischer (2010) find a pass-through from import prices to CPI of 0.3.

[8] See Choudhri, Faruqee and Hakura (2005) for evidence that low pass-through may be attributable to sticky prices and LCP. Berman et al. (2009) present a theory of how pricing to market by exporters depend on distribution costs and on their productivity.

[9] In other words, there may not be one single international price for all goods, and price discrimination may be more likely when there is not a single "international price".

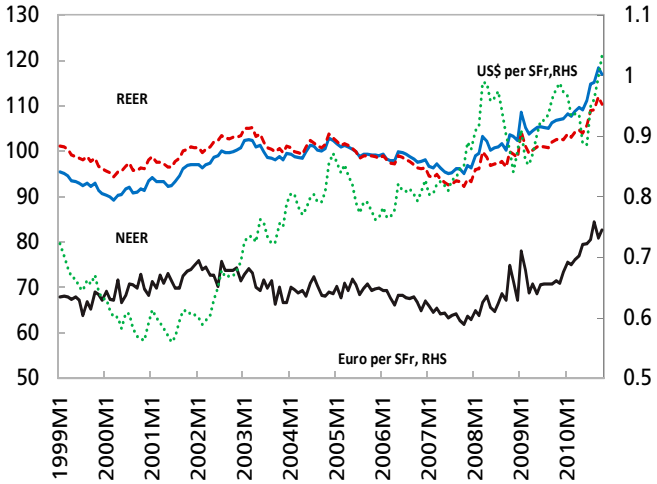
include large non-traded components—reflecting marketing, distribution and retailing—that partially insulate consumers from an increase in import prices.[10] Yet another possibility is that there is substitution between domestically and foreign produced goods in response to exchange rate fluctuations, and domestically produced import-competing goods substitute for more expensive imports in consumption baskets. A consequence is that, if this substitution effect affects intermediate products, expenditure switching effects remain significant even if the impact on CPI is low (Obstfeld, 2001).

6. **The paper is organized as follows.** Section 2 describes recent development of export performance and of domestic prices. Section 3 presents estimates of export elasticities. Section 4 focuses on estimates of exchange rate pass-through. Section 4 concludes.

B. Recent Developments in Export Performance and Inflation

Recent Exchange Rate Developments

7. **During 2009 and 2010, the nominal and real effective exchange rates appreciated significantly.** The real effective appreciation in 2009–10 has been of about 25 percent. The SFr/euro rate, after several years of relative stability, registered an 18 percent appreciation in 2009–10. The SFr/US$ rate also appreciated while exhibiting an appreciation trend over the last ten years (a cumulative 64 percent gain since 2000), but it has been more volatile than the SFr/euro rate. Between May and December of 2010 the appreciation vis-à-vis the US$ (respectively the euro) was about 22 percent (respectively 13 percent).



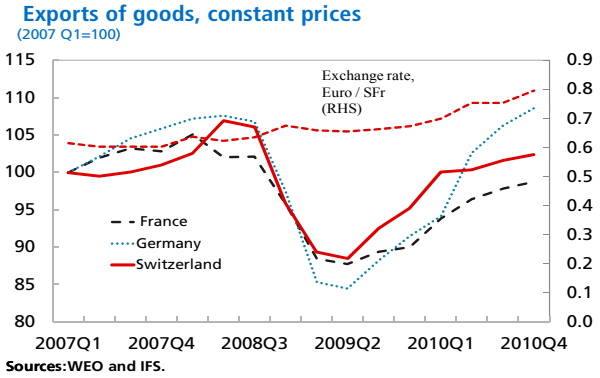
Sources: Information Notice System; and International Financial Statistics.

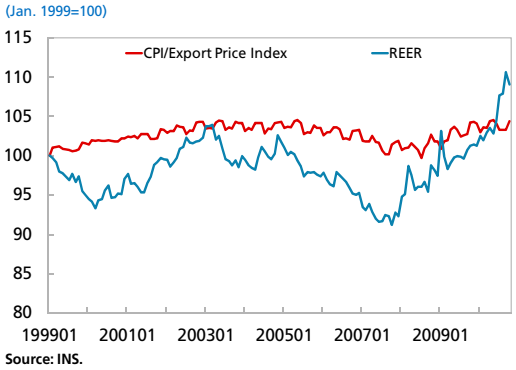
Indicators of Export Performance

8. **Simple indicators suggest that Swiss exports have weather the recent appreciation of the Swiss franc well.** Overall, the performance of exports of goods has been satisfactory during the recovery in spite of the appreciation of the Swiss franc. Moreover, the ratio of export prices (expressed in Swiss francs) to the CPI has remained relatively stable,

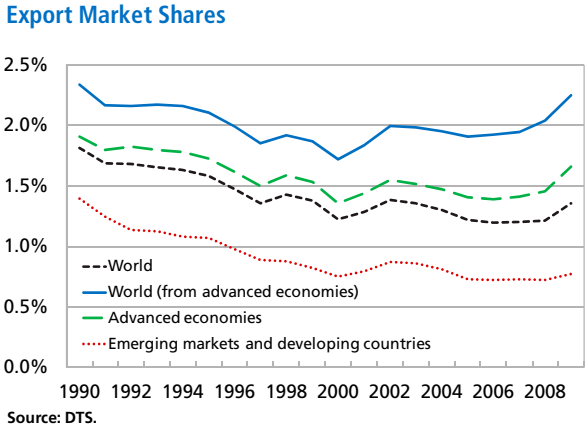
[10] The import price index also includes goods used as intermediate products in production.

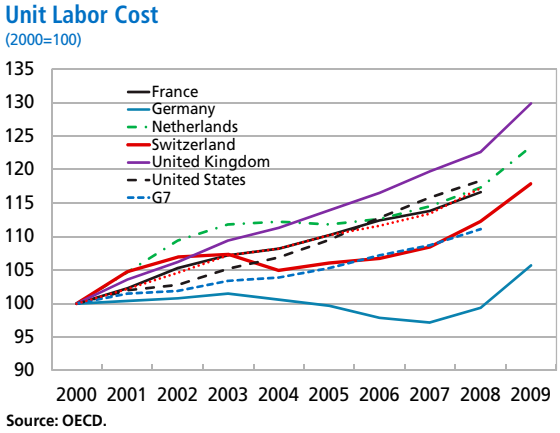
but domestic costs (proxied by the CPI index) have risen somewhat faster than export prices suggesting that exporters have reduced their profit margins and refrained from increasing their export prices to offset the effect of the exchange rate appreciation on profit margins.[11]





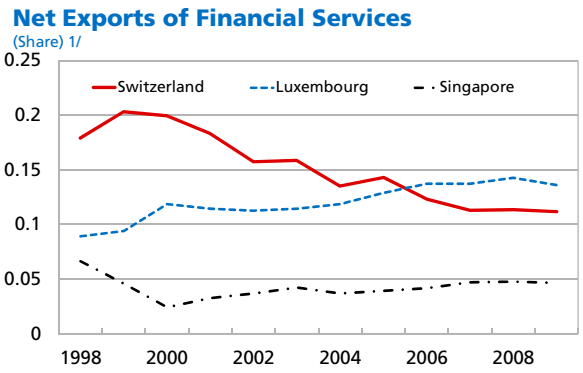
9. **Various indicators suggest that Swiss producers remain internationally competitive.** Growth of unit labor costs (ULC) in the last decade has remained in line with the G7 average, though it has not been as contained as in Germany. Switzerland has maintained its share of exports of goods to advanced economies, and its share of advanced economies' exports to the world has improved lately. Switzerland's exports have declined as a share of exports to emerging markets and developing countries, but this may be the consequence of the growing participation of emerging markets in world trade.





[11] A recent study by the Swiss mechanical and electrical engineering industries found that a significant share of surveyed firms have reduced their profit margins in response to the appreciation of the Swiss Franc. The January and February survey of the SNB also found that manufacturing firms suffered from the appreciated currency and adapted by reducing margins (Swiss National Bank Quarterly Bulletin, March 2011).

10. **Exports of services are doing relatively well, even if a downward adjustment of financial services is likely.** Tourism has remained a stable share of GDP for the past 10 years, even if tourism exports have somewhat weakened lately. Financial services exports have declined relative to GDP from the pre-crisis peak, which could be partly due to a cyclical or a more structural adjustment. But Switzerland's share of world financial services has also been on a medium-term downward trend since 2000.



Source: International Financial Statistics.
1/ share of total (Hong-Kong, Luxembourg, Singapore, Switzerland, United Kingdom, United States)

C. Impact of the Exchange Rate on Export Performance

Estimates of Aggregate Price Elasticity

11. **We estimate a standard error-correction model linking export volumes to foreign demand and relative prices.** Following the existing literature (see e.g., Bayoumi, 1998; Hooper, Johnson and Marquez, 1998), export volumes (X) are determined by the real effective exchange rate—split into the nominal effective exchange rate ($NEER$) and relative price level ($\mathrm{Re}lCPI$)—and foreign demand ($Demand^{*}$).[12] The error correction model is estimated at a quarterly frequency for exports of goods and exports of services, and at various lags, with all variables expressed in logs, according to the following error-correction specification, where the "long-run" elasticity is given by $-\frac{a_N}{\lambda_N}$:

$$\Delta X_t = \alpha + \left(+ \sum_{j=1}^{N-1} \lambda_{t-j} \cdot \Delta X_{t-j} + \sum_{j=0}^{N-1} a_j \cdot \Delta NEER_{t-j} + \sum_{j=0}^{N-1} b_j \cdot \Delta \mathrm{Re}\, lCPI_{t-j} + \sum_{j=0}^{N-1} c_j \cdot \Delta Demand^{*}_{t-j} \right)$$
$$+ \left(\lambda_N \cdot X_{t-N} + a_N \cdot NEER_{t-N} + b_N \cdot \mathrm{Re}\, alCPI_{t-N} + c_N \cdot Demand^{*}_{t-N} \right) + \varepsilon_t \qquad (1)$$

12. **Specification tests suggest that a co-integration approach is appropriate, implying the existence of a long-term relationship between the variables considered.** Dickey-Fuller tests do not reject the null hypothesis of unit roots in most cases, whether a trend is included or not. Johansen tests confirm the existence of a co-integrating vector (see appendix tables).

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[12] Export volumes are from the World Economic Outlook (October 2010), the REER, NEER and relative CPI from the INS, and trading partners' demand is proxied by advanced countries domestic demand from the GEE. A higher NEER/REER corresponds to an appreciation. The specification follows Campa and Goldberg (2005) in estimating different elasticities for the NEER and relative CPI, instead of a single REER elasticity. The relative CPI is a proxy for the production costs relative to trading partners.

Unit Root Tests

	No trend		With trend		Obs.
	Statistics	p value	Statistics	p value	
Real GDP	-0.04	0.96	-1.39	0.86	123
Exports of goods, constant prices	-0.27	0.93	-3.23	0.08	123
Exports of services, constant prices	0.56	0.99	-1.17	0.92	123
Consumer price index	-5.81	0.00	-1.85	0.68	123
Real domestic demand of trading partners [1/]	-2.14	0.23	1.18	1.00	123
Nominal Effective Exchange Rate	-1.14	0.70	-2.58	0.29	123
Real Effective Exchange Rate	-1.59	0.49	-2.18	0.50	123
Relative price index	-1.49	0.54	-1.78	0.71	123

Note: Augmented Dickey-Fuller unit-root test on log of X with and without a time trend (H0: unit root), Dickey-Fuller test statistic and MacKinnon approximate p-value are reported

[1/] Real domestic demand, weighted by trade exports to advanced economies (source: GEE)

Co-Integration Tests

	Number of cointegrating vectors [1/]	
	Model 1	Model 2
Exports of goods	1	2
Exports of services	0	1

Note: Johansen tests for cointegration with 2 lags; model 1 includes NEER, relative prices, real foreign demand; model 2 includes NEER, relative prices, real foreign demand and real GDP.

[1/] Cointegration rank based on 5 percent critical values.

13. **Long-run price elasticities of aggregate exports of goods are economically significant.** Estimated elasticities of exports of goods with respect to the NEER vary between -90 percent and -130 percent, while relative price level elasticities are even larger between -158 percent and -185 percent.[13] Hence a 10 percent appreciation of the nominal effective exchange rate will result in a 9 percent decline in export volume. By contrast, exports of services are not significantly correlated with fluctuations of the NEER.[14]

[13] In unreported regressions, we show that the elasticity to the REER is broadly of the same order of magnitude.

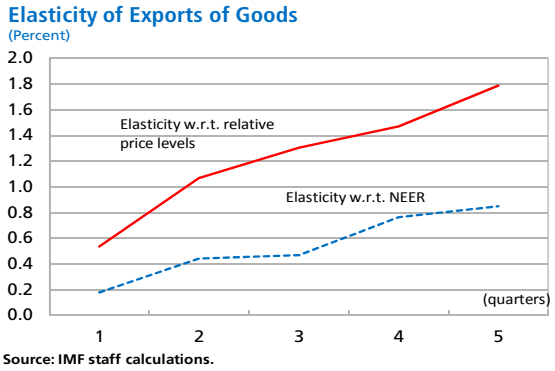
[14] This model tends to underestimate the export performance observed during the post crisis period.

Table 1. Long-Run Relationships at Various Lags

Dependent variable:	Log Exports of goods			Log Exports of services		
Number of lags	2	4	6	2	4	6
Log Dep variable (t-N) *(A)*	-0.266***	-0.272**	-0.158	0.0153	-0.103*	-0.0625
	(0.0892)	(0.132)	(0.167)	(0.0575)	(0.0592)	(0.0806)
Log NEER (t-N) *(B)*	-0.247***	-0.250**	-0.203	-0.0490	-0.0890	-0.109
	(0.0817)	(0.107)	(0.146)	(0.0763)	(0.0665)	(0.0733)
Log Foreign Demand (t-N)	0.452***	0.461**	0.303	0.0524	-0.0820	-0.0877
	(0.135)	(0.196)	(0.250)	(0.128)	(0.123)	(0.173)
Log Relative CPI (t-N) *(C)*	-0.491***	-0.488*	-0.249	0.0337	-0.206	-0.124
	(0.181)	(0.267)	(0.334)	(0.160)	(0.155)	(0.204)
Log Real GDP (t-N)				-0.0532	0.353	0.324
				(0.222)	(0.258)	(0.361)
LR exchange rate elasticity *(-B/A)*	**-93%**	**-92%**	**-128%**	-320%	-86%	-174%
p value	0.00	0.00	0.16	0.83	0.19	0.41
LR price level elasticity *(-C/A)*	**-185%**	**-179%**	**-158%**	-220%	-200%	-198%
p value	0	0	0.02	0.74	0.07	0.37
Observations	121	119	117	121	119	117

Newey-West Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

14. **The short-term dynamics suggests that the impact of relative prices on exports of goods materializes relatively fast.** After two quarters, about half of the long-run effect has affected export volumes.



Export Performance by Destination

15. **Advanced countries remain the main destination of Swiss exports, but large emerging markets are becoming important trading partners.** Switzerland's largest trading partner is the euro area, with links especially tight with Germany. But emerging markets, in particular the "BRICs" (Brazil, Russia, India and particularly China) are the fastest growing markets for Swiss exports. While Switzerland has a structural trade deficit with the euro area, it enjoys a growing trade surplus with other advanced economies and emerging markets, which bodes well for future trade balances.

Geographical Composition of Trade in Goods

	Exports			Imports		
	1990	2000	2009	1990	2000	2009
euro area	62%	58%	59%	75%	72%	77%
other AE	31%	31%	26%	22%	21%	14%
Emerging markets	6%	10%	15%	3%	7%	9%

Source: IMF Direction of Trade Statistics

Note: share of trade among 20 largest trading partners

Bilateral trade balances (in percent of GDP)

	1990	2000	2009
Euro area	-5.7	-6.0	-5.2
Other AE	1.3	2.3	3.4
Emerging Markets	0.6	0.6	1.7

Sources: DTS and WEO

Note: only top 20 trading partners

16. **Given the growing importance of new export markets, it is important to assess elasticities by destination of exports.** We estimate a long-run cointegration relationship based on equation (1), with exports of goods broken down by country of destination.[15] We consider the following specification, where $Export_{it}$ is total bilateral exports of Switzerland to trading partner i during year t, RER_{it} is the bilateral CPI-based real exchange rate between Switzerland and country i, and $DomDemand_{it}$ is total domestic demand of trading partner i, f_i is a set of country fixed effects, d_t is a set of year dummies and ε_{it} is a residual.[16]

$$\log(Export_{it}) = \alpha + \beta \cdot \log(RER_{it}) + \delta \cdot \log(DomDemand_{it}) + f_i + d_t + \varepsilon_{it} \qquad (2)$$

[15] The sample of countries includes all countries that were among the top 20 largest export destinations for any year during 1990–2009 (see appendix table for the list of countries). Nominal exports are from the Direction of Trade Statistics, and are deflated by the aggregated export deflator (WEO), the bilateral real exchange rate is constructed from IFS and WEO data, and total domestic demand in constant price is from the WEO. Bilateral exchange rates follow the convention that a higher real exchange rate corresponds to depreciation.

[16] Standard errors are clustered by country to correct for potential serial correlation of the error term.

17. **Swiss exports to non-euro area countries are sensitive to bilateral real exchange rates movements, but exports to individual euro area countries are not**.[17] The exchange rate elasticity of exports to non-euro area is estimated at 70 percent; in contrast, the point estimate of the RER elasticity of exports to individual euro area countries is very small (0.4 percent).[18] Exports to euro area countries—which account for about 60 percent of Swiss exports—are therefore only sensitive to the domestic demand of trading partners. The difference in price elasticities could reflect differences in the types of goods exported, in pricing behavior, or in the characteristics of demand in destination markets, but it could also be because the Swiss franc has remained somewhat stable against the euro during the period studied, making it difficult to assess how exports would be affected by large exchange rate movements.

Bilateral Export Regressions

Sample	All		euro area		non-euro area	
	(1)	(2)	(3)	(4)	(5)	(6)
log (RER)	0.0170		0.0048		0.7041***	
	(0.366)		(0.811)		(0.006)	
Log (NER)		0.0113		0.0021		0.6187***
		(0.530)		(0.926)		(0.008)
Log (relative CPI)		0.1064		0.1053		0.6653***
		(0.106)		(0.654)		(0.006)
Log (Domestic Demand)	1.2206***	1.1921***	1.2248***	1.1873***	1.1317***	1.1369***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	543	543	191	191	352	352
R-squared	0.98	0.98	0.99	0.99	0.96	0.96

Robust pval in parentheses
*** p<0.01, ** p<0.05, * p<0.1

18. **To further our understanding, we estimate elasticities specific to emerging markets and other advanced economies.** Results reported in the appendix table show that price elasticities of exports are the largest for exports to the BRICs, and exports to other emerging markets.[19] Price elasticities are sometimes significant for exports to the U.S., the U.K., Canada and Australia, but this finding lacks robustness.

19. **The composition of exports varies significantly across countries.** Exports to the euro area are very diversified, ranging from pharmaceutical products (classified in the "chemicals" category), various manufactured goods such as machinery and equipments, and watches and precision instruments (classified in "miscellaneous manufactured articles").

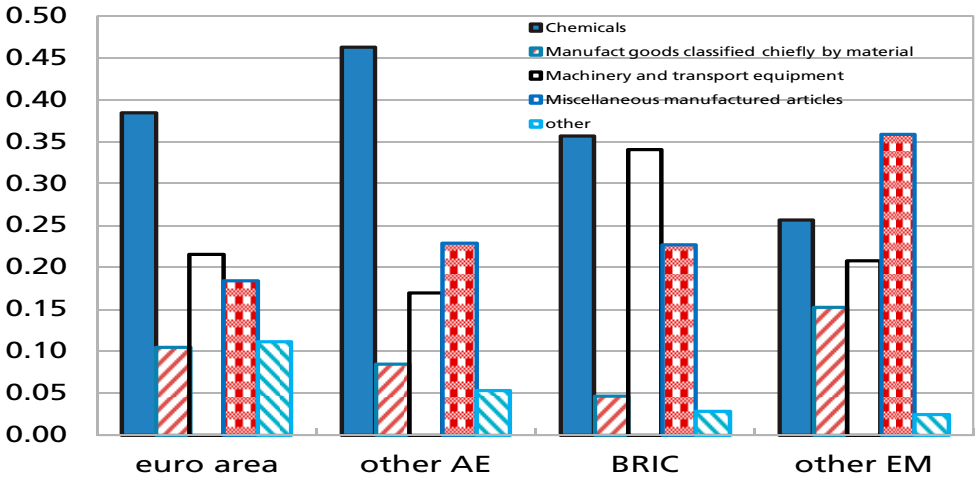
[17] Import regressions were also estimated. We found that imports are not significantly correlated with exchange rate fluctuations.

[18] Findings are similar to estimates for euro area countries (see for instance, Chen, Milesi-Ferretti and Tressel (2010).

[19] Other emerging markets include Korea, Thailand, Singapore and Vietnam.

Other advanced economies—in particular the U.S.— import a larger share of pharmaceutical products than other countries. The BRIC import a large share of machinery and equipment than other countries. Finally, watches and clocks are a large share of exports to other emerging markets.

Sectoral Breakdown of Exports by Destination



Source: : World Integrated Trade System (2009).

20. **In spite of differences in the composition of exports by destination, the type of goods exported does not explain differences in exchange rate elasticities.** A regression analysis based on a specification similar to equation (2), but with a sectoral breakdown of exports, does not reveal any clear pattern in real exchange rate elasticities across sectors. Thus, alternative explanations— such as different pricing strategies across different markets, or characteristics of demand— are more plausible explanations for the differences in exchange rate elasticities by destination markets.

D. Estimates of Exchange Rate Pass-Through

Empirical Approach

21. **A micro-founded model of export pricing behavior predicts a relationship between the price level and the exchange rate.** The import price index of a country is a weighted average of export prices of trading partners expressed in domestic currency. Export prices in turn depend on marginal costs and on mark-ups of producers. The marginal cost depends on foreign wages, which we approximate with foreign price levels, and demand conditions, proxied by the real GDP of the import market; the mark-up is assumed to be a function of the exchange rate and of other, non-observable factors.[20]

[20] A similar theoretical approach is found in Campa and Goldberg (2005).

22. **The empirical specification is a standard error-correction model of domestic prices estimated at various lags.** We estimate the pass-through for two key price indices: the consumer price index (excluding energy, food, and administered prices), and the import price index. Explanatory variables include the nominal effective exchange rate ($NEER$), real GDP ($\mathrm{Re}alGDP$) and the price level of trading partners (PX).[21] Formally, the model, estimated at a quarterly frequency and at N lags, is given by the following equation, where the long-run exchange rate pass-through is given by $-\frac{a_N}{\lambda_N}$

$$\Delta p_t = \alpha + \left(+ \sum_{j=1}^{N-1} \lambda_{t-j} \cdot \Delta p_{t-j} + \sum_{j=0}^{N-1} a_j \cdot NEER_{t-j} + \sum_{j=0}^{N-1} b_j \cdot \mathrm{Re}alGDP_{t-j} + \sum_{j=0}^{N-1} c_j \cdot PX_{t-j} \right)$$
$$+ \left(\lambda_N \cdot p_{t-N} + a_N \cdot NEER_{t-N} + b_N \cdot \mathrm{Re}alGDP_{t-N} + c_N \cdot PX_{t-j} \right) + \varepsilon_t$$

E. Findings

23. **Specification tests suggest that a co-integration approach is appropriate, implying the existence of a long-term relationship between the variables considered.** Dickey-Fuller tests do not reject the null hypothesis of unit roots in almost all cases, whether a trend is included or not.[22] Moreover, Johansen tests confirm the existence of a co-integrating vector between the domestic price index, the nominal effective exchange rate, the foreign price level, and real GDP.

[21] The CPI index and the import price index are from the Swiss Federal Statistical Office, real GDP from the State Secretariat for Economic Affairs, and the REER and NEER from the INS. The foreign price level is defined as: $p_j = CPI_{CHE} \cdot \frac{NEER}{REER}$. Data are at a quarterly frequency over 1980Q1–2010Q3.

[22] The test however rejects the null hypothesis in a few cases, including for core inflation and foreign prices when a trend is included.

Unit Root Tests

	No trend		With trend		Obs.
	Statistics	p value	Statistics	p value	
Core inflation	-0.96	0.77	-5.54	0.00	211
CPI	-5.40	0.00	-1.98	0.61	123
Import price index	-1.69	0.44	-2.04	0.58	370
Nominal effective exchange rate	-0.97	0.76	-2.49	0.33	370
Real effective exchange rate	-1.58	0.49	-2.34	0.41	370
Foreign price index	-0.60	0.87	-5.14	0.00	210
Real GDP	1.02	0.99	-1.17	0.92	122

Note: Augmented Dickey-Fuller unit-root test on log of variable, with and without a time trend (H0: unit root), Dickey-Fuller test statistic and MacKinnon approximate p-value are reported. All variables at monthly frequency, except real GDP (quarterly).

Co-Integration Tests

	Number of cointegrating vectors [1/]			
	2 lags	4 lags	5 lags	6 lags
Core inflation	1	1	1	3
CPI	1	0	0	1
Import price index	1	1	1	1

Note: Johansen trace tests for cointegration with 2, 4, 5 and 6 lags; the model includes REER, real GDP, and trading partners' prices.

[1/] Cointegration rank based on 5 percent critical values.

24. **The long-run pass-through is typically low for the consumer price index, but noticeable for import prices.** Error-correction models estimated at various lags (from 2 quarters to 6 quarters) suggest that the long-run exchange rate pass-through for core CPI is very low ranging from 2 percent to 4.7 percent. It is also very low—but very imprecisely estimated— for the headline CPI. In contrast, the exchange rate pass-through is typically much larger for import prices (after accounting for the effect of oil prices), ranging between 31 percent, to 56 percent within 6 quarters, but is also imprecisely estimated.[23] Short-term dynamics suggest that the effect on import prices materializes mainly after 3 quarters.

[23] Such estimates are of the same order of magnitude as those typically found in the literature (see Campa and Goldberg, 2005).

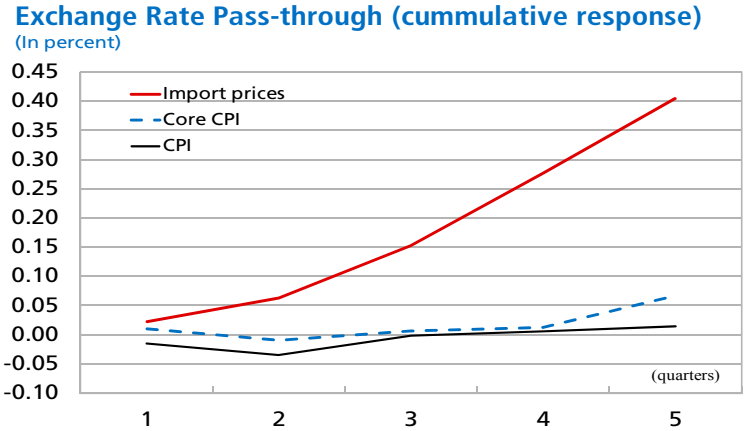
Estimates of Long-Run Pass-Through

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable:	Log Core Inflation			log CPI [1/]			Log Import Prices [1/]		
Number of lags	2	4	6	2	4	6	2	4	6
Dep variable (t-N) *(A)*	-0.229**	-0.262***	-0.358***	-0.733***	-0.729***	-0.727***	-0.290***	-0.245***	-0.242**
	(0.088)	(0.067)	(0.101)	(0.0548)	(0.0928)	(0.102)	(0.047)	(0.062)	(0.095)
Log NEER (t-N) *(B)*	-0.005	-0.004	-0.017	-0.00165	0.000527	-0.0242	-0.0913*	-0.107	-0.136*
	(0.011)	(0.009)	(0.011)	(0.0139)	(0.0187)	(0.0214)	(0.052)	(0.079)	(0.077)
Log Real GDP (t-N)	-0.015	0.044	0.064	-0.0216	0.00441	-0.00133	0.041	0.098	0.185
	(0.035)	(0.028)	(0.049)	(0.0401)	(0.0380)	(0.0460)	(0.121)	(0.151)	(0.249)
Log Foreign Prices (t-N)	0.113*	0.0597	0.0805	0.315***	0.292***	0.291***	-0.223	-0.272	-0.369
	(0.065)	(0.053)	(0.088)	(0.0360)	(0.0764)	(0.0587)	(0.141)	(0.166)	(0.255)
LR exchange rate elasticity *(-B/A)*	**-2.0%**	**-1.3%**	**-4.7%**	**-0.3%**	**0.1%**	**-3.3%**	**-31%**	**-44%**	**-56%**
p value	**0.70**	**0.69**	**0.09**	**0.91**	**0.98**	**0.31**	**0.11**	**0.21**	**0.25**
Observations	68	66	64	68	66	64	68	66	64

Newey-West robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

[1/] Error correction model also includes log of oil prices assuming pass-through of oil prices occurs during the same quarter.

Short-Term Dynamics



Source: Author's calculations

F. Concluding Remarks

25. **Based on past experience, the recent appreciation of the Swiss franc is unlikely to cause significant deflationary pressures, but it may result in a reduction in the external trade surplus.** Given the low short-run and "long-run" exchange rate pass-through for the CPI, an appreciation of the Swiss franc is unlikely to exert major downward pressure on domestic prices. For example, the estimated pass-through at four quarters (respectively six quarters) implies that a 20 percent nominal effective appreciation of the Swiss franc would result in a 0.02 percent decline (respectively 0.66 percent decline) in overall CPI. This suggests that deflationary mechanisms would be unlikely to materialize as a result of a nominal appreciation. However, the large exchange rate pass-through of import prices tends to suggest that exchange rate movements would result in expenditure switching effects for imported goods and therefore have an impact on the external balance of Switzerland, in spite of a low pass-through to the consumer price index.

26. **Swiss exports have so far remained competitive even if the real effective exchange rate appreciation was sustained.** The growing importance of large emerging markets in the world economy has benefited Swiss exporters, contributing to a growing trade surplus which bodes well for the future. However, significant elasticities with respect to the exchange rate—that could reflect different pricing strategies or characteristics of demand in export markets—could dent export volumes in these markets, unless productivity is fostered. In contrast, exports to advanced economies might be less likely to be affected by exchange rate fluctuations.

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Annex 1

Export Regressions Country Sample

Country sample		
Australia	Hong Kong SAR	Mexico
Austria	Hungary	Netherlands
Belgium	India	Norway
Brazil	Ireland	Poland
Canada	Israel	Portugal
China	Italy	Russia
Czech Republic	Japan	Singapore
Denmark	Korea	South Africa
Finland		Spain
France		Sweden
Germany		Thailand
Greece		Turkey
		United Kingdom
		United States
		Vietnam

Export Regressions (by destinations)

	(1)	(2)	(3)	(4)
log(RER) euro area	0.0028	0.0035	0.0028	0.0018
	(0.876)	(0.849)	(0.873)	(0.921)
log(RER) emerging markets	0.7191***	0.6787***		
	(0.005)	(0.007)		
log(RER) other AE	0.5129	0.6516	0.3951	
	(0.173)	(0.107)	(0.485)	
Log(RER) (BRIC)			0.9145***	0.6498**
			(0.006)	(0.037)
log(RER) (Other EM)			0.5675**	0.6102***
			(0.012)	(0.003)
log(RER) (USCANUKAUS)			0.2480	0.5154**
			(0.655)	(0.013)
log(RER) (res. AE)				0.4830
				(0.297)
log(Dom Demand)	1.1466***		1.1496***	
	(0.000)		(0.000)	
log(Dom Demand) euro area		1.2317***		1.0404***
		(0.000)		(0.000)
log(Dom Demand) emerging markets		1.0758***		
		(0.000)		
log(Dom demand) other AE		0.5720		
		(0.197)		
Log(Dom Demand) (BRIC)				1.1458***
				(0.000)
log(Dom Demand) (Other EM)				0.4476**
				(0.037)
log(Dom Demand) (USCANUKAUS)				0.7979**
				(0.016)
log(Dom Demand) (res. AE)				-0.5101
				(0.157)
Observations	543	543	543	543
R-squared	0.98	0.98	0.98	0.99

Robust pval in parentheses
*** p<0.01, ** p<0.05, * p<0.1

II. A LEGAL FRAMEWORK FOR MACROPRUDENTIAL OVERSIGHT IN SWITZERLAND[1]

A. Introduction

1. **This chapter reviews the current Swiss legal framework and identifies the need for revisions thereto to introduce macroprudential oversight.**[2] This review shows that current legislation does not envisage macroprudential oversight: neither the Swiss National Bank (SNB) nor the Swiss Financial Market Supervisory Authority (FINMA) has a macroprudential mandate, and there is no clear division of labor with respect to the key stages of macroprudential oversight. This chapter is organized as follows. Section II assesses whether the current legal framework includes macroprudential mandates and whether it addresses related risks. Section III reviews the current framework for cooperation between the Swiss National Bank (SNB) and the Swiss Financial Market Supervisory Authority (FINMA), and their division of labor. Section IV describes a way forward in Switzerland discussing first briefly the Federal Council's too-big-to-fail proposals, then continuing with a broader approach to macroprudential oversight.

2. **Macroprudential oversight seeks to limit systemic or system-wide financial risks, thereby contributing to financial stability.**[3] It does so by focusing on three types of risk: pro-cyclicality inherent in the financial system and conventional microprudential oversight; joint failure of financial institutions due to interconnectedness, and risks stemming from one single entity responsible for a systemic function that is not easily replaceable by another entity in case the former goes bankrupt. Policy instruments and legal powers should address these risks.

3. **The key stages of macroprudential oversight are as follows**:[4] surveillance and assessment of risks; warnings and policy recommendations; and regulatory and supervisory action including through back-up mechanisms. Responsibilities and legal powers in each stage should be clearly laid down in law.

4. **An important feature of macroprudential oversight is cooperation between relevant public agencies.** Where more than one authority is involved, legislation should

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[1] Prepared by Atilla Arda (LEG). We are very grateful to the authorities for useful discussions, including in particular Hans Kuhn, Oliver Wünsch, and Dina Beti.

[2] This Note does not discuss crisis management and resolution frameworks. Neither does it discuss other components of what is called macroprudential policies, e.g., tax and fiscal policies, and capital control.

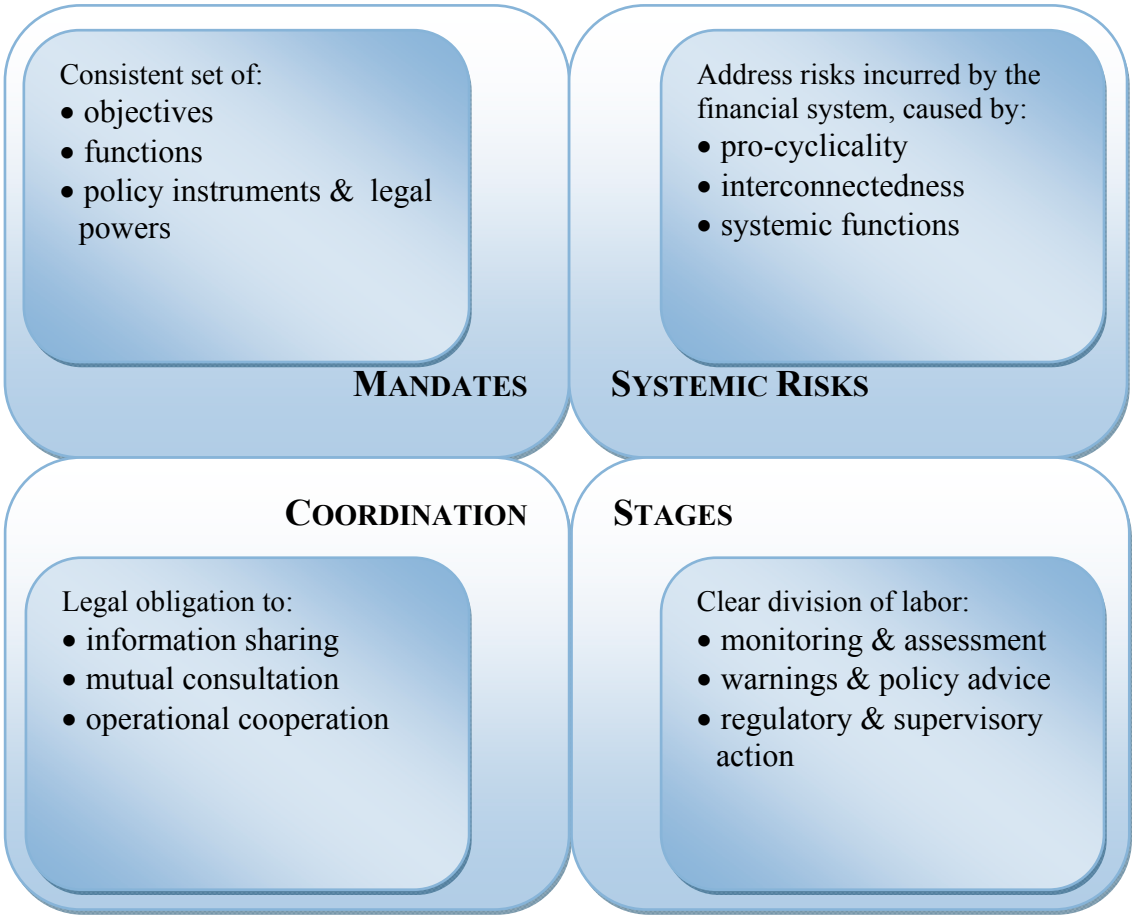
[3] Macroprudential Policy—An Organizing Framework, IMF, March 2011.

[4] For purposes of this Note, 'oversight' includes regulation (i.e., setting rules and standards), supervision (i.e., enforcement of rules and standards) and the policies informing regulation and supervision.

clearly delineate responsibilities and ensure effective cooperation. At a minimum, the legal framework should ensure cooperation between the monetary and prudential agencies in three areas: sharing information on the financial system and its participants—possibly through a joint database; mutual consultation on policy and regulatory changes that may affect financial stability; and operational cooperation through a formalized structure including information sharing, policy and regulatory coordination, and enforcement.

5. **Macroprudential oversight is related to monetary policy and microprudential oversight, however its unique perspective distinguishes it from these policy areas.** While monetary policy focuses primarily on the money supply including through restricting or expanding credit in general, macroprudential oversight targets mainly specific types of lending that could fuel a credit and asset bubble and destabilize the financial system. And macroprudential oversight looks at *risks posed* to the financial system as a whole by a single or a group of financial institutions, or a systemic function that is not easily replaceable, while microprudential oversight addresses mainly *risks incurred* by individual financial institutions.

Figure 1: Legal Framework for Macroprudential Oversight



6. **A sound macroprudential legal framework should include a clear mandate including a consistent set of objectives, functions, and instrument/powers.** Any public agency requires a legal framework clearly specifying the objectives and functions of such agency and the policy instruments and legal powers supporting these objective and functions. As an illustration one could look at monetary policy: the objective is price stability; the function is formulating and implementing monetary policy; the policy instrument is the interest rate; and the powers are, inter alia, engaging in open market operations and imposing minimum reserve requirements. Translated to macroprudential oversight, this could mean the following: the objective is contributing to the stability of the financial system; the functions include monitoring the financial system, identifying and assessing systemic risks, preventing and mitigating such by formulating and implementing macroprudential policies; the policy instruments and powers include, e.g., regulating and enforcing loan-to-value ratios, debt-to-income ratios, countercyclical capital buffers, systemic capital and liquidity surcharges on systemically important financial institutions.

7. **Specific challenges for legislating macroprudential oversight stem mostly from its close relationship with other objectives and tasks of public agencies.** Both macroprudential oversight and monetary policy contribute to sound macroeconomic conditions by calibrating credit to macroeconomic needs; both macroprudential and microprudential oversight contribute to the stability of the financial system by regulating, inter alia, capital and liquidity levels, and governance structures and business practices. In the case of a public agency with multiple objectives, the legal framework of such agency should clearly distinguish between its objectives and their complementary functions, instruments and powers; this is not an easy task because of the close relationship between macroprudential oversight on the one hand, and monetary policy and microprudential oversight on the other.

8. **There is no consensus on best practices for the implementation of macroprudential mandates, and country examples illustrate that different legal and institutional approaches can be considered.** The use of macroprudential instruments varies greatly between countries. (See Annex 1 for selected country examples) Interestingly, legislative action and political debate focus on institutional arrangements between public authorities and the risks stemming from systemically relevant institutions and functions. (See Annex 2 for selected country examples) One could broadly distinguish two institutional models: a unified model and a functional model. (See Box 1)

Box 1. Main Institutional Arrangements for Macroprudential Oversight

Unified Model—A dedicated, single agency could be put in charge of pursuing financial stability and developing macroprudential policy. This agency would be the leading, if not the sole, actor in all stages of macroprudential oversight: surveillance and assessment of risks, warnings and policy recommendations, and regulatory and supervisory action. Alternatively, supervisory action and other forms of follow-up could be delegated to existing agencies with a proper back-up authority in case of inadequate follow-up. A unified financial supervisor incorporated in the central bank could be considered an expression of this model. In this alternative a central bank that is the sole supervisor in the financial sector would be given also a financial stability objective clearly delineated from its monetary policy objective. Malaysia may be considered to use this model. The model envisaged in the U.K. resembles the aforesaid but its unique set-up has also some elements of a second model, the Functional Model.

Functional Model—In this model two or more agencies are involved in ensuring financial stability through assigning to all agencies a macroprudential role in the key stages identified above, which each of them could perform in the pursuance and exercise of their respective objectives and functions. This would indeed require strong coordination prescribed by law, through mutual consultation, information sharing, and exchange of views, joint analyses, and duties to explain if a recommendation or a risk warning, made by one agency is not followed up (or even through a back-up mechanism). Coordination could be facilitated by either personal unions or a policy council.

- **Personal Unions**—In this alternative either most staff is shared while separate decision-making bodies are in place, or separate entities share some members of their decision-making bodies. Enhanced institutional cooperation as prescribed by law would be strengthened through cross-appointments or mutual *ex officio* memberships. The institutional arrangements in France (and some South-American countries) resemble the first alternative; the envisaged model in the U.K. mimics the second alternative. EU arrangements resemble the second alternative too; however these arrangements include elements of a Policy Council as well.

- **Policy Council**—A Financial Stability Council comprising the monetary authority, financial sector supervisors, and the ministry of finance could discuss and internalize policy trade-offs. Such Council could also adopt secondary legislation and have the last say where the constituent monetary and supervisory agencies cannot agree on policy matters and the implementation thereof. EU arrangements consisting of (i) co-existence of central banks and supervisory agencies, (ii) an advisory financial stability council comprising primarily central banks, and (iii) a supporting role for the ECB and its staff, could be considered an expression of this model, and similarly, the Italian model. The U.S. has also put in place such council albeit one with stronger powers and that a new office under Treasury—instead of the Fed—is responsible for risk analysis.

9. **Developments in other countries show that both monetary and microprudential authorities should play an important role in macroprudential oversight, while some involvement by Ministries of Finance may be necessary**. A recent IMF survey shows that in ninety percent of the sixty countries that responded, central banks are given some type of financial stability mandate.[5] Indeed, central banks' expertise in monetary policy and payment system oversight is crucial for systemic risk analysis that should inform macroprudential policies.[6] As most macroprudential tools are adaptations of microprudential tools the involvement of prudential regulators and supervisors is essential as well to safeguard consistency of macro and microprudential policies, and to ensure continued effective application of supervisory tools. Involvement of ministries of finance is necessary to ease the integration of fiscal policies and to facilitate discussion of any legislative changes that may be required to prevent or mitigate systemic risks. In particular, where a macroprudential authority could bring within the scope of macroprudential oversight systemically relevant entities that are unregulated, involvement of ministries of finance appears to be a conditio sine qua non.[7]

B. Does the Current Legal Framework Support Macroprudential Oversight?

Introduction

10. **In Switzerland the main agencies in financial sector oversight are SNB and FINMA.** SNB, being Switzerland's central bank, pursues price stability, and FINMA is responsible for microprudential and conduct of business supervision over certain financial institutions and markets. They do so pursuant to their respective organic laws, specific financial market legislation, and Ordinances adopted by the Federal Council based on such legislation.

11. **A better understanding of the objective for which SNB and FINMA have been given certain powers should inform the analysis of their macroprudential oversight**

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[5] The following caveats should be made: (i) the survey does not distinguish between central banks that are solely or primarily responsible for monetary policy and central banks that are also banking or financial sector supervisors, and (ii) the survey does not clarify the nature of the financial stability mandate vested in central banks.

[6] This was also stressed by the Group of Thirty in its report 'Enhancing Financial Stability and Resilience: Macroprudential Policy, Tools and Systems for the Future' (October 2010) The legal framework of central banks should be clear with respect to the objectives of monetary policy and macroprudential policy. It may be necessary to assign both policy areas a primary objective, e.g., price stability for monetary policy and financial stability for macroprudential policy, clearly distinguishing between the policy tools available for these distinct policies.

[7] In addition, one could argue that ministries of finance need to be involved in such policy committee, because in the end they will be responsible for recapitalization/bail-out of insolvent systemic financial institutions.

roles, if any. Being creatures of statute, monetary and prudential agencies can only exercise those powers that are vested in them by legislation. Objectives established by this legislation determine the scope for which these powers may be used. In Switzerland this is very well illustrated by Article 7.2 of the FINMA Act stating that FINMA "exercises its regulatory powers only to the extent required by its supervisory objectives." The explanatory note accompanying the Federal Council's too-big-to-fail (TBTF) legislative proposals ('Erläuternder Bericht zur Vernehmlassungsvorlage') adds that Article 7.2 has a normative function clarifying what measures are legally authorized and specifying delegated regulatory powers.[8]

12. **This section makes clear that current legislation does not provide for macroprudential oversight**.

- Objectives— FINMA does not have an explicit financial stability *objective*, and SNB's financial stability *task* is strictly framed by its monetary policy objective.

- Functions—SNB has certain functions that contribute to financial stability. Although FINMA has no financial stability objective *de jure*, its supervision does *de facto* contribute to the stability of the financial system as a whole. However, neither has been tasked with macroprudential oversight and their primary policy perspective is price stability, the soundness of individual institutions, and transparency in financial markets, and not the stability of the financial system as a whole.

- Instruments & Powers—Among the two of them, SNB and FINMA should have sufficient information to monitor certain aspects of the financial markets, but current powers would not allow for surveillance over unregulated institutions. SNB has mainly monetary policy instruments and FINMA has mainly microprudential instruments. The legal framework of neither entity authorizes them to introduce macroprudential instruments.

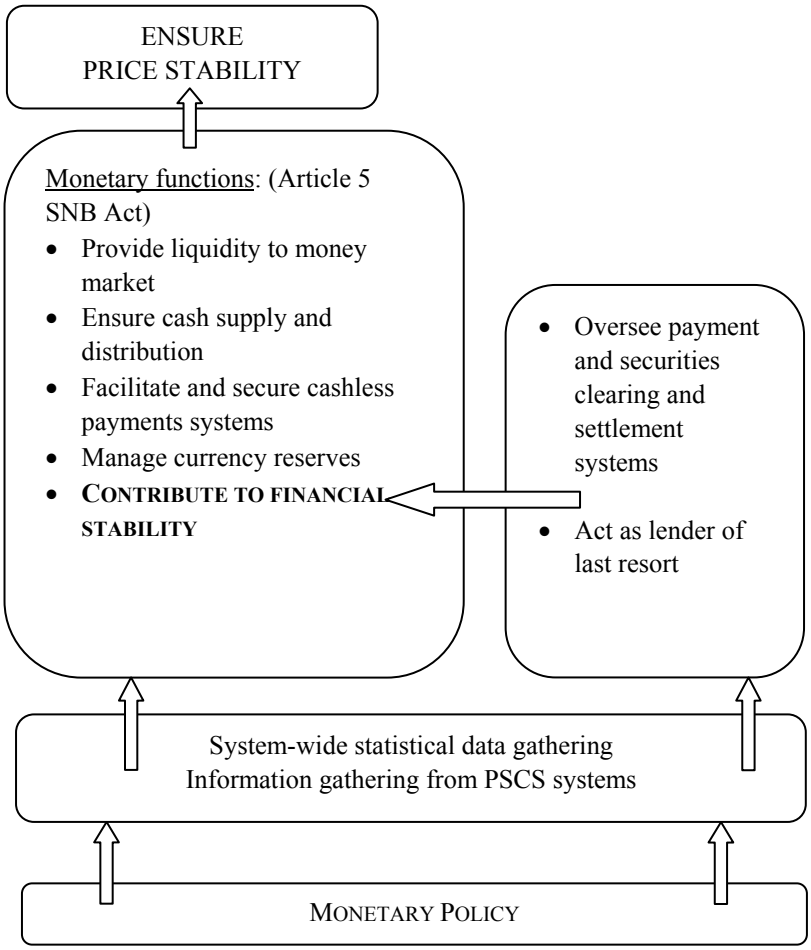
13. **Systemic risks are only to a certain limited degree addressed by current legislation.** Only oversight over systemically relevant payment and securities clearing and settlement systems is provided for. Risks caused by, inter alia, other systemic functions, interconnectedness, and pro-cyclicality are not regulated.

[8] Moreover, the aim of financial market supervision and FINMA's purpose also informs FINMA's decision whether it may refuse sharing information with SNB. (Article 40 of the FINMA Act) See further paragraph 20 of this Note.

SNB's Mandate[9]

14. **SNB's single *objective* is to "ensure price stability."** For this purpose, Article 5 of the SNB Act states that SNB shall "pursue a monetary policy serving the interests of the country as a whole." [10]

Figure 2: SNB's Current Mandate



[9] As explained in paragraph 6, for purposes of this Note the term 'mandate' includes a consistent set of objectives, functions, and instrument/powers.

[10] According to the explanatory note accompanying the SNB Act, the clause "serving the interest of the country as a whole" (i) clarifies that the integration of SNB's monetary policy in the general economic policy of the federal government, (ii) shows that SNB must ensure optimal monetary conditions for the economy, (iii) indicates that SNB must bridge, in the interest of the country as a whole, any conflict between its price stability objective and economic developments, and (iv) stresses that SNB's monetary policy must be based on the needs of the Swiss economy as a whole and not on the problems of individual regions. (paragraph 2.1.5.2.1, page 6179/6180).

15. **Even though SNB has not been given a financial stability objective, it is the only public agency in Switzerland with an explicit financial stability *function*,[11] albeit this function is strictly framed by its monetary objective.** "Within this framework," i.e., pursuing a monetary policy aimed at price stability, Article 5 assigns to SNB the "monetary task" to, inter alia, "contribute to the stability of the financial system." [12,13,14] The explanatory note accompanying the SNB Act ('Botschaft über die Revision des Nationalbankgesetzes') acknowledges that the relationship between monetary policy and financial stability works both ways: on the one hand monetary policy aimed at price stability is essential for the stability of the financial system, on the other hand clearing and settlement systems for payment and securities function as transmission mechanisms for monetary policy.[15] The explanatory note continues by providing that SNB should pursue a (price) stability oriented monetary policy to provide a strong basis for the financial system.[16] However, the note seems to focus mainly on the necessity of sound financial infrastructures for monetary policy explaining that this is the rationale for giving SNB the power to oversee systemic financial system infrastructures.[17] It is this dimension of the relationship between monetary policy and financial stability—i.e., the latter supporting the former—that is laid down in the SNB Act.[18] The structure and language of the SNB Act appears to suggest that SNB cannot take actions—be it financial sector surveillance, recommendations to other agencies, or policy decisions and implementations by SNB itself—that are not aimed at price stability and certainly not actions that would run contrary to this objective.

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[11] See also the explanatory note accompanying the TBTF proposals. (paragraph 2.1.3, page 24).

[12] For purposes of this Note the terms 'function' and 'task' are interchangeable—the author prefers the former term.

[13] While the German and Italian versions of the SNB Act use the clause "in diesem Rahmen" and "entro questo ambito," respectively, which can be translated as "within this framework," the French version of the Act uses the clause "dans les limites ainsi fixées," which can be translated as "within these set limits." Both "framework" and "limits" refer to the SNB's price stability objective.

[14] Articles 6 and 9 of the SNB Act refer to the tasks listed in Article 5 as "monetary tasks."

[15] Paragraph 1.5.6.1, page 6136.

[16] Paragraph 2.1.4.3.5, page 6186.

[17] See in particulars paragraph 1.5.6.6.3.2, page 6171 and paragraph 2.1.5.3.3, page 6185.

[18] That is not to say that price stability does not contribute to financial stability, but the SNB Act only acknowledges and regulates how financial stability supports price stability.

16. **The SNB Act gives SNB two clear powers supporting its financial stability function.** First, SNB is responsible for overseeing systemically relevant payment and securities clearing and settlement systems, and SNB may impose minimum requirements that need to be fulfilled with respect to the operation of these systems.[19] [20] Second, SNB acts as lender of last resort (LLR) to financial market participants.[21]

17. **Although SNB has broad information gathering powers with respect to systemic financial infrastructures, otherwise its powers are limited to collecting statistical data, rendering its information gathering powers of limited use for macroprudential oversight.** Monetary authorities in particular can play an important role in monitoring the financial system and its participants with a view to identifying systemic risks. In this respect, SNB's information gathering powers vis-à-vis operators of payment and securities settlement systems are relevant. Pursuant to Article 20 of the SNB Act, operators of payment systems processing high volumes or of securities settlement systems must provide SNB, on request, with all necessary *information and documents*, and permit on-site inspections of their installations. Otherwise, SNB's information gathering powers are limited to *statistical data*, albeit from a wide-range of financial and non-financial natural and legal persons.[22] These limited information gathering powers appear to be ill suited to support SNB's current LLR function—rendering it almost fully dependent on information from FINMA and the voluntary cooperation of financial institutions requesting emergency liquidity assistance.[23]

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[19] Article 19 of the SNB Act authorizes SNB to oversee payment and securities clearing and settlement systems "in order to protect the stability of the financial system." SNB's oversight also extends to "payment and securities settlement systems whose operators are domiciled abroad, provided that substantial parts of the operation or leading participants are located in Switzerland."

[20] Article 20 of the SNB Act. These minimum requirements—laid down in an SNB Ordinance—"may in particular relate to the organizational basis, the terms and conditions of business, operational security, participants' access to the system, the implications of a system participant's payment difficulties and the payment instrument used."

[21] The SNB Act does not explicitly regulate SNB's LLR function. Instead, Article 9.1.e authorizes SNB to provide credit to banks and other financial market participants. According to the explanatory note this is the legal basis for SNB's LLR function. (paragraph 2.2.2.6, page 6199) See also Section 6, page 6 of SNB's Guidelines on Monetary Policy Instruments for a discussion of its emergency lending assistance (ELA). The tension between ELA and monetary policy objectives is illustrated by the warning in the explanatory note, (paragraph 2.1.4.3.5, page 6186) cautioning that money creation through liquidity operations for financial stability purposes could jeopardize monetary policies aimed at price stability.

[22] Articles 14 and 15 of the SNB Act.

[23] Article 7 of the MoU between FINMA and SNB provides that "SNB may carry out its own enquiries with systemically important banks, and may request that these banks provide information." However, this authority is not supported by the SNB Act and a MoU cannot create legal powers, which is also confirmed by Article 1(2).

These restrictions may render SNB's information gathering powers also insufficient for its envisaged role under the TBTF proposals and under macroprudential oversight.

18. **Certain other powers of SNB could support its financial stability function as well.** To the extent necessary for performing its tasks, SNB may participate in the capital of companies and other legal entities and acquire membership rights in such companies and entities.[24] Possibly, this could provide a legal basis to recapitalize financial institutions. Furthermore, SNB may effect banking transactions including raising and granting credits with other central banks and international organizations, which is the legal basis for, inter alia, foreign exchange swaps to provide ELA in other currencies than the Swiss Franc.[25] None of these powers are considered to be macroprudential, although they are useful to address financial crises and could contribute to financial stability.

FINMA's Mandate

19. **FINMA's supervision over financial markets is aimed at typical objectives of microprudential and conduct of business supervision focusing on risks incurred by supervised entities and not the risks incurred by the financial system as a whole.** FINMA has been established for the supervision of the financial markets as elaborated upon in seven separate financial market laws in addition to the FINMA Act.[26] Article 5 of the latter provides that FINMA's objective is "protecting creditors, investors, and insured persons as well as ensuring proper functioning of the financial market."[27] This provision attempts to capture FINMA's objectives laid down in specific financial market legislation and should be read in conjunction with the objectives of individual financial market

[24] Article 12 of the SNB Act.

[25] Article 10 of the SNB Act. See also paragraph 2.2.3, page 6200 of the explanatory note.

[26] Article 1.1 of the FINMA Act. English versions of only the FINMA Act and the Anti-Money Laundering Act were available to the author; translations of provisions from other legislation are by the author. Insurance Supervision Act (Article 1): "protecting insured persons against insolvency of insurance undertakings and abuse." Collective Investments Act (Article 1): "protecting investors as well as transparency and proper functioning of markets for collective investments schemes." Stock Market Act (Article 1): "ensuring transparency and equal treatment of investors …ensuring proper functioning of the stock exchange." The Banking Act, the Insurance Contracts Act, the Anti-Money Laundering Act, and the Mortgage Bond Act do not contain any specific objective.

[27] This appears to be based on the French and Italian versions of the FINMA Act, both using the terms 'protecting' and 'ensuring' distinctly: 'protéger …les créanciers, les investisseurs et les assurés, et d'assurer le bon fonctionnement des marchés financiers' and 'protezione dei creditori, degli investitori e degli assicurati, nonché la tutela della funzionalità dei mercati finanziari.' The German version uses twice the term 'protecting:' 'Schutz der Gläubigerinnen und Gläubiger, der Anlegerinnen und Anleger, der Versicherten sowie den Schutz der Funktionsfähigkeit der Finanzmärkte.'

legislation.[28] Article 5 cannot broaden the scope of these specific objectives. The explanatory note accompanying the FINMA Act ('Botschaft zum Bundesgesetz über die Eidgenössische Finanzmarktaufsicht') explains that, according to conventional understanding, banking supervision primarily protects creditors against insolvency or illiquidity of banks ('individual protection').[29] The note continues by stating that more recently supervision also includes the objective of protecting public confidence in financial intermediation ('functional protection'), and concludes that the whole package of financial market legislation serves individual and functional protection.[30] In other words, with respect to certain financial markets, FINMA is responsible for the soundness of individual financial institutions through *microprudential supervision* to protect depositors and insured persons and it exercises *conduct of business supervision* protecting investors and public confidence in financial intermediation and the transparent functioning thereof.[31] The Swiss legislator did not envisage a financial stability objective for FINMA: neither at the time of passing the SNB Act in 2003, nor in 2007 when the FINMA Act was passed.[32]

20. **Although FINMA has no financial stability objective *de jure*, its supervisory functions do contribute *de facto* to the stability of the financial system as a whole.** This is the expected result of effective microprudential and conduct of business supervision, albeit that the recent global financial crisis illustrates that these types of supervision alone are not sufficient to ensure financial stability. Hence the need for macroprudential oversight.

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[28] Explanatory note accompanying the FINMA Act, paragraph 2.1, pages 2859/2860.

[29] Neither the FINMA Act nor the explanatory note distinguishes between different types of creditors (e.g., depositors and bond holders).

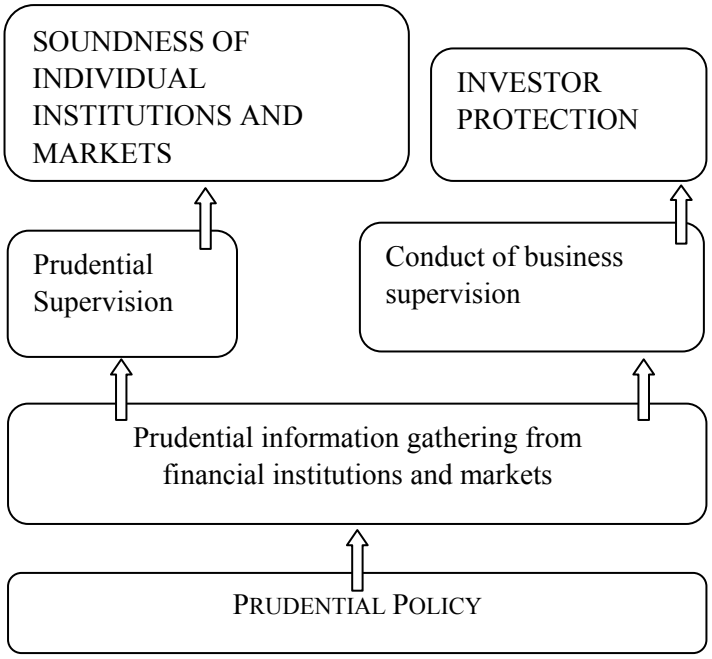
[30] Paragraph 2.1, pages 2859/2860.

[31] FINMA's focus on the risks incurred by supervised entities—as opposed to the risks caused to the system by supervised entities—can also be found in Article 7.2.c of the FINMA Act. This provision establishes that FINMA in using its regulatory powers should take into account, inter alia, "the various business activities and risks incurred by the supervised persons and entities." Consequently, FINMA can use its powers related to capital, liquidity, risk diversification, corporate governance, business models, etc. only to ensure the soundness of the individual financial institution and not to protect the financial system as a whole.

[32] Paragraph 2.8.2.1.1, page 6277 of the explanatory note to the SNB Act states, when clarifying Article 1bis of the Banking Act, which was introduced by the SNB Act, that oversight over payment and securities settlement systems is based on a division of labor between SNB and EBK (i.e., FINMA's predecessor): SNB oversees these systems with a view to ensuring financial stability and EBK exercises microprudential supervision over the system operators. In the same vein, paragraph 2 of Article 2 of the MoU between FINMA and SNB ("the bilateral MoU") provides that SNB "monitors developments in the banking sector from the perspective of the system as a whole," while paragraph 5 states that FINMA "monitors developments at the institutions being supervised and in the financial markets from the perspective of the individual banks and financial groups."

21. **FINMA's information gathering and regulatory powers are essential for macroprudential oversight as well.** However, although its information gathering powers cover "all information and documents that [FINMA] requires to carry out its tasks," they only apply to supervised persons and entities, and related parties; they do not cover unregulated persons and entities.[33] The same applies to FINMA's auditing powers.[34] Furthermore, FINMA's does not have general regulatory powers but only for specific cases provided for in financial market legislation.[35]

Figure 3: FINMA's Current Mandate



C. Cooperation Framework

22. **At a minimum, the legal framework should provide for a clear division of labor with respect to the key stages of macroprudential oversight and ensure coordination between the monetary and prudential agencies.** The key stages are market surveillance and assessment of risks, warnings and policy recommendations, and regulatory and

[33] Article 29 of the FINMA Act.

[34] Article 24 of the FINMA Act.

[35] Article 7 of the FINMA Act.

supervisory action including through back-up mechanisms.[36] Cooperation should be ensured with respect to sharing information on the financial system and its participants—possibly through a joint database—and mutual consultation on policy and regulatory changes that may affect financial stability, complemented by a formalized structure at principle and more operational level ensuring ongoing cooperation.

23. **In Switzerland current legislation and institutional arrangements underpinning interagency cooperation require strengthening and streamlining.** Cooperation between SNB, FINMA and the Federal Department of Finance (FDF) is governed by legislation and non-binding MoUs, and coordinated by five committees and groups. The SNB Act and the FINMA Act detailed cooperation arrangements with respect to payment and securities clearing and settlement systems only; otherwise this legislation requires strengthening with respect to information sharing, regulatory consultation, and operational cooperation. Two MoUs attempt to remedy legislative shortcomings, but as MoUs do not affect the statutory responsibilities of their signatories, they are inadequate tools to address the challenges raised by the desire to introduce macroprudential oversight. Indeed, given that several safety net participants are involved in macroprudential oversight, only legally binding institutional arrangements can effectively underpin the exercise of their powers, responsibilities, and obligations, at the various stages of macroprudential oversight.[37] The MoUs also establish four coordinating committees with overlapping membership and responsibilities: two Steering Committees, a Committee on Financial Crises, and a Standing Committee for Financial Stability; an unnamed fifth group is established for information sharing.

Information Sharing

24. **Legislative provisions authorizing information sharing between SNB and FINMA seem broadly appropriate but weaknesses exist.** Both are authorized to share information with other domestic agencies, if such information is necessary for the fulfillment of the agencies' respective tasks. SNB is authorized "to provide the competent supervisory authorities of the Swiss financial market with information and documents which are not publicly accessible and which they need to fulfill their tasks."[38] The same authority is given

[36] The Report of the Control Committees of the Federal Assembly raises the concern of the Swiss authorities' ability to detect financial market crises being impaired by "the lack of follow-up of their own criticisms and the lack of a critical attitude on the part of all the authorities involved". In the same vein, a report by FINMA on 'Financial Market Crisis and Financial Market Supervision' refers to the warnings issued by SNB in its financial stability reports about the high level of debt of Switzerland's large banks in terms of their unweighted capital ratio upon which SFBC (FINMA's predecessor) reportedly decided, given the lack of internationally agreed standards, not to act.

[37] The macroprudential proposals by Mr. Jordan, SNB Vice-Chairman in his remarks of December 16, 2010 would appear to require a revision of the existing legislation.

[38] Article 50 SNB Act.

to FINMA vis-à-vis specifically SNB in the Banking Act, the Insurance Supervision Act, and the Stock Market Act—but not in the Anti-Money Laundering Act.[39] Although, the relevant legislative provisions appear to be appropriate at first sight, there are weaknesses. In particular because the provisions are based on the implicit assumption (i) that information and documents are shared at the request of the other agency—not at the initiative of the agency holding these information and documents, (ii) that this agency knows what specific information and documents it is looking for in order to fulfill its functions, and (iii) that the agency sharing the information and documents has discretion to judge whether the requesting agency indeed needs these to carry out its functions. Regarding the latter, Article 40 of the FINMA Act provides that FINMA may refuse disclosing information, inter alia, where such disclosure "is not compatible with the aims of financial market supervision or with its purpose."

25. **The MoU between FINMA and SNB does not adequately address these weaknesses.** Article 6(2) confirms that information sharing is allowed but not obligatory. Article 3 exhaustively lists common areas of interest and Article 6(3) clarifies what information—not documents—in particular is to be exchanged, which is helpful.[40] However, paragraphs 5 and 6 of Article 6 suggest that the agency sharing information judges whether information and documents are relevant and should be shared. Moreover, information sharing is not required on an ongoing basis; Article 6(4) of the bilateral MoU provides that "information is exchanged when it is topical or at the regular meetings of the Steering Committee and the Standing Committee."[41]

Regulatory Consultation

26. **A mutual obligation to consult exists between SNB and FINMA related to payment and securities settlement systems.** Article 20(3) of the SNB Act obliges SNB to consult with FINMA before issuing Ordinances detailing minimum requirements for the operation of these systems, and the Banking Act and the Stock Market Act oblige FINMA to consult with SNB before issues Orders to operators of these systems.[42]

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[39] Article 23bis (3) of the Banking Act, Article 80 of the Insurance Supervision Act, and Article 34bis(1) of the Stock Market Act.

[40] The areas of common interest are as follows: (i) assessment of the soundness of systemically important banks and/or the banking system; (ii) regulations that have a major impact on the soundness of banks— including liquidity, capital adequacy and risk distribution provisions, where they are of relevance for financial stability; and (iii) contingency planning and crisis management.

[41] The Steering Committee meets at the least twice a year and the Standing Committee at the least four times a year. (Articles 4(3) and 4(6) of the bilateral MoU).

[42] Article 23bis (4) of the Banking Act and Article 34bis(2) of the Stock Market Act.

27. **SNB is required to consult FINMA on minimum reserve requirements.** Article 18(5) of the SNB Act requires SNB to consult FINMA before issuing Ordinances detailing minimum reserve requirements that SNB can impose on banks.[43]

28. **There is no duty of (mutual) consultation in other areas of common interest; neither is there a formal right to submit recommendations regarding policy and regulatory changes.**[44] In particular, the law does not require FINMA to consult with SNB in other areas than supervision of payment and securities settlement systems. Article 3 of the bilateral MoU does state that SNB and FINMA will "consider how their activities will affect the other institution's are of responsibility" and that "where there are common areas of interest, one institution may apply to the other to take measures within its area of responsibility and competence." However, a MoU cannot create legal duties, which is also confirmed by Article 1(2) of the MoU. Furthermore, the MoU only requires that "the other institution responds in an appropriate form;" it does not impose what could be called the comply-or-explain-principle.[45]

Operational Cooperation

29. While **SNB is required to cooperate with FINMA with respect to collecting statistical data, legislation does not prescribe a general obligation to cooperate.**[46] The SNB Act prescribes operational cooperation in the collection of statistical data, which is governed by a separate agreement by SNB and FINMA.[47] Contrary to its regulatory activities with respect to payment and securities settlement systems, SNB is not required to consult with FINMA before adopting legal instruments detailing the provision of statistical data by financial institutions.

30. **FINMA is authorized—not obligated—to cooperate with SNB and only on a limited number of issues.** Article 39 of the FINMA Act provides that FINMA is authorized to cooperate with domestic authorities in accordance with financial market laws and laws applicable to these domestic authorities. With respect to SNB, this authorization only applies to supervision over payment and securities settlement systems, and SNB's collection of

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[43] The SNB Act includes the power to impose minimum reserves requirement under the heading 'Monetary policy powers' and the explanatory note (paragraph 2.3.2.1.2, pages 6212/6213) confirms that this is a monetary policy instrument.

[44] Interestingly, Article 15(3) of the SNB Act, while giving SNB the authority to regulate the statistical date provision to SNB by financial institution, this provision does not require SNB to consult with FINMA.

[45] Under the comply-or-explain principle the agency receiving recommendations should either comply with these recommendations or (publicly) explain why it does not comply (in full) therewith.

[46] Article 14(2) of the SNB Act.

[47] Article 1(3) of the bilateral MoU.

statistical data and its minimum reserve requirements. Article 3(2) of the bilateral MoU provides that FINMA and SNB work together in all specified areas of common interest. However, a MoU cannot create legal duties and rights, which is also confirmed by Article 1(2) of the MoU.

Institutional Arrangements

31. **Current institutional arrangements should be clarified.** Two MoUs establish five committees and groups with overlapping membership and responsibilities. First, the bilateral MoU establishes a Steering Committee "at the strategic level" and a Standing Committee for Financial Stability at operational level. Both committees work in the common areas of interest identified by the MoU: (i) assessment of the soundness of systemically important banks and/or the banking system; (ii) regulations that have a major impact on the soundness of banks— including liquidity, capital adequacy and risk distribution provisions, where they are of relevance for financial stability; and (iii) contingency planning and crisis management.. Second, a tripartite MoU between the FDF, SNB and FINMA establishes a Steering Committee for "strategic coordination of the crisis management organization and of any intervention" and a Committee on Financial Crises (that also functions when there is no crisis) "responsible for coordinating preparatory efforts and for crisis management." In addition, the tripartite MoU establishes an unnamed group for continued information exchange.

- The bilateral Steering Committee comprises all members of the SNB Governing Board and three FINMA officials, i.e., the Chairman and Vice-Chairman (banks) of the Board of Directors and the CEO. This Committee is co-chaired by the Chairpersons of the SNB Board and the FINMA Board.
- The bilateral Standing Committee for Financial Stability comprises the Head of SNB's Department II and FINMA's CEO, and is co-chaired.
- The tripartite Steering Committee comprises the Head of the FDF (chairperson) and the Chairpersons of FINMA and the SNB Governing Board.
- The tripartite Committee on Financial Crises comprises FINMA's CEO, the State Secretary of the FDF, the Vice-Chairman of the SNB Governing Board, and the Director of the Federal Finance Administration. In principle, FINMA chairs this committee, unless crisis management powers of the Confederation or SNB take precedence over FINMA's supervisory and resolution powers.
- A tripartite framework for information exchange comprising the State Secretary of the FDF (chair), FINMA's CEO, and the Vice-Chairman of the SNB Governing Board.

D. A Way Forward in Switzerland

Introduction

32. **The Swiss authorities are considering legislative changes to strengthen oversight over the financial stability ensuring its stability.** The Federal Council's too-big-too-fail proposals are an important step forward, but broader legislative revisions are needed to effectively introduce macroprudential oversight. It is expected that such revisions will be considered by a working group that is being established under the aegis of the Federal Department of Finance.

Too-big-to-fail Legislative Proposals

33. **The Federal Council has introduced TBTF legislative proposals to address systemic risks stemming from certain financial institutions exercising a systemic function.**[48] According to the explanatory note accompanying the TBTF legislative proposals ('Erläuternder Bericht zur Vernehmlassungsvorlage') the objective of this legislation is threefold: (i) to decrease the risks for the financial system caused by the systemic relevance of individual institutions, (ii) to ensure the continuation of systemic functions in case of insolvency of these entities, and (iii) to avoid the need for bail-outs by the Federal State.[49]

34. **Under the TBTF proposals, SNB, FINMA and the Federal Council would each play a specific role.**

- SNB would be given an additional function to contribute to financial stability, i.e., to determine, after consultation with FINMA, which banks, financial groups and bank-dominated financial conglomerates are systemically relevant and what functions of these entities is systemically relevant;

- the Federal Council would set the parameters for supplementary supervisory requirements applicable to systemically important entities—the Federal Council would do so in consultation with SNB and FINMA; and

- FINMA's new prudential powers under the TBTF legislation would aim at financial stability by limiting a certain type of systemic risk, i.e., risks stemming from systemically relevant financial institutions; it would do so within parameters to be set by the Federal Council, and after consultation with SNB. FINMA will continue to exercise regular supervision over financial institutions aimed at existing objectives.

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[48] The TBTF legislation follows a proposal from the Swiss Commission of Experts for Limiting the Economic Risks Posed by Large Companies.

[49] Paragraph 2.1.2, page 24.

A Broader Approach to Macroprudential Oversight

35. **In additional to the TBTF proposals, consideration should be given to strengthening legislation with a view to addressing a broader range of risks.** This includes more than identifying financial institutions and functions that are too-big-to-fail; systemic risk assessments should be broadened to include also pro-cyclicality inherent in the financial system and common exposures that could lead to joint failure. In line with emerging international practices, issues to be addressed would include: (i) providing for a consistent—and between the competent agencies, complementary—set of objectives, functions, instruments and powers, taking into account also other objectives of these agencies, and (ii) facilitating effective cooperation between competent public agencies, clarifying the nature of policy recommendations—binding or not—publication of such recommendations with a complementary duty for the receiving public agency to comply or explain, and whether back-up powers are provided for in case of inadequate implementation.[50]

36. **A future framework should clearly align mandates of the SNB and FINMA with their responsibilities and instruments.** (See Annex 3 for a schematic overview) SNB's financial stability function should be transformed into a macroprudential mandate including a financial stability objective and macroprudential functions and tools distinct from its monetary policy mandate. The new mandate could include SNB's current financial stability responsibilities, complemented with its envisaged powers under the TBTF proposals and possibly certain macroprudential instruments. SNB would also need broader access to information, including over individual financial institutions, to support its current functions and the ongoing systemic risk assessment envisaged under the TBTF proposals. FINMA's mandate also needs to be broadened to widen its supervisory perspective to include also the stability of the financial system and powers to set instruments directly influencing lending practices or affecting capital and liquidity requirements on a system-wide basis.

[50] It should be noted that the autonomy of SNB with respect to monetary policy is enshrined in Article 99 of the Federal Constitution: "[SNB] as an independent central bank, shall pursue a monetary policy."

Table 1: Macroprudential Instruments[1]

Tools	**Risk Dimensions**	
	Time-dimension	**Cross-Sectoral Dimension**
1. Instruments developed specifically to mitigate systemic risk		
	▪ Countercyclical capital buffers ▪ Through-the-cycle valuation of margins or haircuts for repos ▪ Levy on non-core liabilities ▪ Countercyclical change in risk weights for exposure to certain sectors	▪ Systemic capital surcharges on SIFIs ▪ Systemic liquidity surcharges on SIFIs ▪ Levy on non-core liabilities ▪ Higher capital charges for trades not cleared through CCPs
2. Recalibrated instruments		
	▪ Time-varying Loan-To-Value (LTV), Debt-To-Income (DTI) and Loan-To-Income (LTI) caps ▪ Time-varying limits in currency mismatch or exposure (e.g. real estate) ▪ Time-varying limits on loan-to-deposit ratio ▪ Time-varying caps and limits on credit or credit growth ▪ Dynamic provisioning ▪ Stressed VaR to build additional capital buffer against market risk during a boom ▪ Rescaling risk-weights by incorporating recessionary conditions in the probability of default assumptions (PDs)	▪ Powers to break up financial firms on systemic risk concerns ▪ Capital charge on derivative payables ▪ Deposit insurance risk premiums sensitive to systemic risk ▪ Restrictions on permissible activities (e.g., ban on proprietary trading for systemically important banks)

[1] Source: 'Macroprudential Policy: An Organizing Framwork' (IMF, 2011).

37. **In that context macroprudential instruments should be introduced in legislation.** The law should provide a legal basis (for the Federal Council to elaborate upon in Ordinances) for macroprudential instruments. Table 1 gives an overview of possible instruments. Given the ongoing discussion on this type of instruments, the law should allow for flexibility; specifics could be included in secondary legislation by the Federal Council.

38. **Furthermore, the legal framework supporting the mutual cooperation between FINMA and SNB requires some strengthening and streamlining**, inter alia, by enhancing the current authorization to share information into an *obligation* to cooperate (including sharing information) in all relevant areas, to be enshrined in legislation and based on reciprocity.[51] The legal framework should allow and encourage publication of policy recommendations.

39. **The scope of the TBTF proposals could be broadened to include also prevention of systemic risk.** These proposals are based on powers vis-à-vis financial institutions deemed to be systemically relevant. One could also consider creating powers to prevent financial institutions becoming systemically too important to fail. However, the explanatory note to the TBTF proposals clarifies that such intervention in market developments was considered and deemed disproportionate.[52]

40. **There is no single best institutional arrangement for macroprudential oversight and the authorities should effectively utilize the expertise and resources of both the SNB and FINMA.** (See Annex 3 for a schematic overview)

- Division of labor—Building on SNB's and FINMA's expertise, instruments calibrating cycle variation could be vested in SNB, and prudential system-wide instruments could be given to FINMA complementing its envisaged powers under the TBTF proposals. Both would continue contributing to financial system surveillance while SNB would be responsible for risk assessments (including determinations under TBTF proposals) and FINMA would remain solely responsible for enforcement of prudential measures (including under TBTF proposals).

- Institutional arrangements—Switzerland has a three-level rule-making framework: Parliament adopts primary laws, the Federal Council is responsible for elaborating certain aspects of legislation in Ordinances, and SNB and FINMA adopt

[51] In this context, cooperation would facilitate the exercise by SNB and FINMA of their respective current responsibilities; a different issue relates to cooperation mechanisms for the performance of macroprudential oversight.

[52] Paragraph 1.4.3, page 13.

implementing rules and interpretations. This is also the framework in the TBTF legislative proposals, and could very well effectively support macroprudential oversight. Although a Financial Stability Council may not per se be necessary, for practical purposes and with a view to streamlining the current five groups for interagency cooperation, such Council could be considered comprising SNB, FINMA and the Federal Department of Finance to discuss and internalize policy trade-offs and to facilitate cooperation including information sharing—see Annex 3 for a possible schematic arrangement. With a proper legal basis and clear mandate, such Council could formalize and replace the existing committees and groups established by the bilateral and tripartite MoUs—the legal framework for such Council should also allow for sub-committees dedicated to specific topics and types of cooperation. Such Council is not a substitute for, but complementary to robust legal underpinnings for SNB's and FINMA's macroprudential mandates.

41. **Lastly, macroprudential oversight should include unregulated entities.** This would mean that: (i) broad information gathering powers should be provided for in the law (a useful reference can be drawn from current SNB powers under Article 15 of SNB Act to request from a wide range of entities information for statistical and market surveillance purposes), and (ii) once systemic risks are identified, unregulated entities should be brought under the regulatory perimeter, through legislative reforms, where necessary, and regulatory and supervisory follow-up actions.

Annex 1: Selected Country Examples for Macroprudential Tools

Measures	Description	Countries
Bank-specific caps on credit growth	Limits on the quantity of credit taking into account the balance sheet profile of the financial institution.	Brazil, Kuwait, United Kingdom
Credit ceilings	Limits on the quantity of credit.	Bulgaria, Croatia
Loan-to-deposit limits	Bank funding target to secure that loans are funded with stable sources. In this case deposits rather than, say, wholesale funding.	Hong Kong, SAR, Indonesia, Kuwait
Loan-to-value ratio caps	Limits imposed on the percentage of the total appraised value of an asset to the loan provided by a financial institution, or time-varying LTV that is adjusted over the cycle.	China, Hong Kong, SAR, Hungary, Korea
Debt to income ratio caps	Limits imposed on lending through the percentage of consumer's monthly gross income that goes toward paying debts.	Korea
Capital requirements	Capital requirement changes depending on the credit or/and economic cycle.	Brazil, Bulgaria, Saudi Arabia
Foreign exchange lending limits	Limits imposed on lending in foreign exchange taking into account FX mismatches of the financial institution.	Hungary
Leverage ratio caps	Limits on the leverage of a financial institution.	Canada
Limits on the foreign exchange position	Limits on the amount of securities (e.g., Derivatives) owned or owed by the financial agent.	Brazil, Colombia, Mexico, Peru
Dynamic provisioning	Bank loan-loss provisioning based on future expected losses rather than past incurred losses. In some cases, bank-specific.	Bolivia, Colombia, Peru, Spain, Uruguay
Limits on net non-core funding dependence ratio	Restrictions on the degree to which the bank is funding longer-term assets (loans, securities that mature in more than one year, etc.) with non-core funding.	
Minimum core funding ratios	Measures imposing restriction on the structure of funding for financial institutions to ensure they hold sufficient retail and long-dated wholesale funding.	New Zealand
Minimum liquidity mismatch ratio	Rules ensuring adequate liquidity for financial institutions over a short-term period, in case of funding risks materialize.	New Zealand
Reserve requirements	The reserve requirements (or cash reserve ratio) is a bank regulation that sets the minimum reserves each bank must hold to customer deposits. It would normally be in the form deposits in the central bank.	Bulgaria, Colombia, Indonesia, Peru, Romania
Limits on interbank exposures	Limits based on linkages among financial institutions.	European Union

Source: Western Hemisphere Regional Economic Outlook, IMF, October 2010.

Annex 2: Selected Country Examples for Macroprudential Mandates

European Union—A European Systemic Risk Board has been established comprising EU and national central bankers and financial sector supervisor, chaired by the ECB President, responsible for monitoring the financial system, identifying and prioritizing systemic risk, issuing risk warnings and recommendations to competent agencies and the Ecofin Council and monitoring the follow-up to such warnings and recommendations. The legal framework is silent on the scope of requirements that could be covered in the recommendations. Regulatory authority remains with the competent EU and national agencies.

United States of America—A Financial Stability Oversight Council has been established comprising Treasury (chair), the Fed, and relevant federal financial sector supervisors, with a view to identifying systemically important financial entities and systemically risky market activities, and issuing non-binding recommendations to competent authorities, which should comply or explain. The Fed has regulatory and supervisory powers over the systemic entities subject to enhanced supervision, and a back-up authority regarding systemic activities. The legal framework details enhanced prudential standards and the powers of the Fed and other competent agencies. The affirmative vote of Treasury is required for critical decisions.

United Kingdom—In 2009 the BoE was given a financial stability objective next to its existing monetary stability objective; however, without new powers. Currently, the U.K. is in the process of integrating financial sector supervision into the BoE. A new Prudential Regulatory Agency (PRA) will be established as a subsidiary of BoE with its own Board chaired by the BoE Governor and a BoE Deputy Governor as its CEO. In addition, a Financial Policy Committee within the BoE chaired by the BoE Governor will be provided with macroprudential tools aimed at financial stability. The PRA and, where relevant, a new Financial Conduct Authority will implement these tools.

France—A new unified financial sector prudential oversight agency (the Prudential Control Authority) has been established chaired by the BdF Governor—and staffed mainly by the central bank—with objectives that include financial stability.

Italy—Three "credit authorities" must take into account, inter alia, the overall stability of the financial system. These authorities are an Inter-Ministerial Committee (chaired by the Minister), the Ministry of Economy and Finance, and the Bank of Italy. The latter formulates proposals for the Committee and implements its decisions; constituent agencies are legally required to cooperate, including through exchange of information. In March 2008, a Committee for the Safeguard of Financial Stability was established through a protocol. The Committee, comprising the Ministry, the Bank of Italy, and the securities and insurance supervisors, assesses financial system risks and vulnerabilities, and promotes crisis prevention and preparedness.

Malaysia—The Central Bank of Malaysia's (CBM) objectives are monetary and financial stability. It is fully in charge of prudential regulation and supervision, and has broad powers to act in case of systemic risk provided that the Financial Stability Executive Committee (FSEC) chaired by the CBM Governor and including the Ministry of Finance approves such action. In addition to approving or revising regulatory and supervisory action in case of systemic risk, the FSEC decides on liquidity assistance and solvency support.

Annex 3: Possible Swiss Macroprudential Mandates & Institutional Arrangement