Commodity trading monitoring report

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Commodity Trading Monitoring Report[1]

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[1]The results presented in this report are based on statistical analysis conducted by Prof. Giovanni Ferro-Luzzi and Difei Ouyang who had exclusive access to the data.

Executive Summary

Switzerland has a long tradition of commodity trading. Since the end of WWII the sector has developed and strengthened noticeably during the growth decade of international trade in 2000-2010. It has since become an important economic sector representing 3.8% of Swiss GDP. As a consequence of its growth, it has gained increased attention by political, and civil society actors. However, the debate in Switzerland on the commodity trading sector relies on widespread public perceptions of the industry, supported by little empirical evidence. With the exception of a survey conducted by Ernst and Young and the Geneva Trading and Shipping Association (GTSA) in 2007, no data currently exist on the profile of the industry in Switzerland. Indeed, data on commodity trading in Switzerland are scare, and actors engaging in the debate (scholars, political actors, authorities, professional organizations and NGOs) agree on the need for more scientific data on the sector in order to inform the discussion. This lack of visibility drives the collection of information (such as company size, employment, activities, trading area) in order to compare scientific observations with popular perceptions. By presenting the results of a unique representative survey on commodity trading companies, this report aims to provide a first preliminary overview of the sector and to offer important insights that are of particular relevance in the current debates and that have important policy implications.

The results of this study highlight the importance of systematically surveying and collecting data on a sector on which we have so little information. Evaluations on the importance and structure of the sector have so far relied mainly on approximations. For example, the Swiss classification of industries (NOGA) does not have one dedicated category for the trading sector, making it necessary to rely on the support of the umbrella organization of the sector (STSA), to identify relevant companies in Switzerland (about 450 companies).

A first result of the study shows that the number of direct jobs provided by the industry has been largely under-estimated previously (GTSA and E&Y, 2007; Déclaration de Berne (ed.), 2011). As of 2016 it provides over 35'000 direct jobs,[2] bringing the commodity trading sector more in line with typical employment to GDP ratios in high value-added service industries. This updated figure is more in line with what is observed in other comparable sectors.

Second, the survey shows that the 80% of the Swiss entities performing commodity trading activities in Switzerland employ 100 people or less in the country. For companies with their headquarters in Switzerland, the employment worldwide is less than 500 for more than three quarters of them. Moreover more than half of these have less than 100 employees worldwide.

Third, the results show the diversity of countries of origination and destination, with Europe dominating in both cases. This underlines the importance for Swiss trading companies to be close to their clients. Switzerland's position at the heart of Europe clearly provides trading companies with a strategic location. Therefore, whilst common perceptions suggest that the sector is operating from Switzerland mainly due to a favourable regulatory environment (Le

[2]By direct jobs we mean that the trading companies directly employ these workers. The sector itself may generate other (secondary) jobs in related activities.

Temps 27 January 2017) , the importance of commercial factors such as customer proximity and geographic advantages should not be overlooked.

Another important result shows that the most important priority for companies in terms of business environment is the regulatory environment (over 80% consider it as being very important), followed by corporate tax (71.4%). However, their level of satisfaction with these two factors in Switzerland is not as well rated as the political and economic stability which is considered as very good to good by over 80% of the responding companies.

Fifth, the survey shows that over 80% of the companies are dependent on bank financing. This finding has some implications in terms of regulation. Banks are submitted to strong financial regulations, in line with international regulations. Consequently, being under the direct supervision of banks, commodity traders are indirectly subject to these regulations.

Finally, this survey also highlights that the turnover of commodity trading companies is dependent on the type of traded commodity. It shows considerable differences across families of commodities given the difference of prices across commodities. In addition, results on the turnover of companies also show that it is greater abroad than in Switzerland, consistently with the international nature of the business.

Since this is the first scientific study on the sector in Switzerland, there are of course some possible improvements. The scarcity of data on the industry led to the design of a questionnaire combining different research objectives that significantly affected the complexity of the questionnaire. As a consequence, it could not be filled in by a unique respondent in an organization since it required competences that are spread across various departments. This affected the data collection and the response rate. However the study is a first step towards the systematization of information and data about the sector and calls for a regular monitoring under the auspices of the Swiss Research Institute on Commodities. Ideally, the regular monitoring should take place every 2 years focusing on a more specific questionnaire that will lead to a better response rate. This endeavour would result in a shorter and adjusted questionnaire. The results also reveal the importance for questions regarding financial information to be aligned with the standards of the yearly SNB survey, considering the significant work required from companies to provide this information. The use of internet administered questionnaire should also be considered in order to improve the response rate. The monitoring should also be completed by the development of a code for commodity trading in the Swiss classification of industries (3-digit NOGA code), that so far does not record commodity trading but merges it within different categories. This would allow to significantly improve the data collection about the sector and its evolution in a robust and scientific way, in order to better grasp a heterogeneous industry sector that is largely unknown from the general public.

1 Introduction

Switzerland has a long tradition of commodity trading. However, the sector grew substantially in the last 10 to 15 years and has become an important economic sector representing a significant share of Swiss GDP. As a consequence of this growth and the resilience of the sector during the economic and financial crisis that hit European countries in 2008, it gained increased attention by political, and civil society actors. In response to a need for a better understanding of the industry, the Swiss Government published a Background Report on Commodities in Switzerland in 2013 (Federal Council 2013). While the Swiss commodity trading sector is facing increasing scrutiny, data on the industry are scarce (Bürgi Bonami et al., 2015), mainly due to the absence of appropriate classification in the federal statistics.[3] Indeed, we still know little about the size of the industry, its structure, the volume and the type of traded commodities etc. As a consequence, discussions about commodity trading in Switzerland rely on rough estimations and little knowledge about what is at stake. The objective of this report is to partially fill this gap. Using unique data from a survey of companies active in the commodity trading sector conducted in 2016, it offers a preliminary overview of the industry in Switzerland. The first section of this report describes the survey and discusses methodological issues. The second section provides general information about the surveyed companies and the business environment in Switzerland as perceived by the survey respondents. The third section looks at financial and investment indicators. In the concluding section, we will summarize the main findings and offer some recommendations for future research and monitoring of the trading sector.

2 The Survey

The survey took place between March and July 2016 and was supervised by the University of Geneva and the Haute Ecole de Gestion of the University of Applied Sciences. To identify companies in the commodity trading and shipping sector, the sector was first mapped, listing all companies known to be active in Switzerland. In addition to commodity trading and shipping companies, the list includes service providers in the sector (finance institutions, banks, inspection and certification). Eligible companies are companies whose main activity is trading commodities in international markets or who are involved in related activities (eg. trade financing etc.). The mapping of the sector relied on various sources gathered by the Swiss Trading and Shipping Association (STSA)[4]: lists of participants at conferences on issues related to the industry (over 10 years), lists of STSA members, and key informants. STSA identified 648 companies in Switzerland, of which 496 were eligible, i.e. their core activity was commodity trading or related activities. A standardized questionnaire was sent to the eligible organizations via postal mail.

[3]The Swiss classification of industries (NOGA) does not have one dedicated category for the trading sector, and companies of this activity are therefore merged with either "Wholesale on a fee or contract basis" (461); "Wholesale of agricultural raw materials and live animals" (462); "Wholesale of food, beverages and tobacco" (463) or yet "Other specialised wholesale" (467).

[4]STSA is a non-profit, non-political Swiss association of commodity trading and shipping activities, trade finance companies, and related services. It is an umbrella organization of 3 regional associations, 170 members and institutions.

Mailed surveys are used extensively in organizational research. It is cost efficient, has the potential to reach a broad population (Cycyota and Harrison, 2006) and, what is fundamental in the context of the present study, carries the advantage of preserving the confidentiality of organizational information (Leong and Austin, 1996). The first draft of the questionnaire was designed by STSA in the framework of a sizing study aiming at a better understanding of companies in the sector and their activities, with a focus on general characteristics of organizations, financial and investment information and the general business environment in Switzerland. The questionnaire was further developed with the addition of a section on business and human rights, as agreed with the Swiss authorities and with the Institute for Human Rights and Business (IHRB) in the context of a mapping study preparing the ground for voluntary guidelines in business and human rights for the commodity merchanting industry.[5] The sizing and mapping studies were combined in a the same measurement tool to avoid conducting two separate studies at the same time and redundancies between the SRIC sizing study and the IHRB mapping study. The questionnaire was finalized in collaboration with the Swiss authorities, the IHRB and STSA. It covers three broad dimensions: general information about the company, the business environment, financial and investment information, and human rights considerations. While this report focuses on general information about companies active in the sector, their business environment as well as financial and investment information, the results of the survey on human rights considerations is published separately by the IHRB (see IHRB, 2017).[6] 62 companies answered the survey, which represents a 12.5% response rate (see Table 1) for the whole population, and a 30.7% response rate within STSA members. This difference in response rates between the whole population and STSA member companies is consistent with research on response rate in organizational studies suggesting that relying on existing networks, such as professional organizations, offering legitimacy to the study, positively affects the response rate of companies (Cycyota and Harrison, 2006).

Several reasons can help explain the response rate within the whole population. First, the high level and complexity of the questionnaire: the variety of aspects it addresses require knowledge and competence spread across various departments or specialized units within the companies. It thus demands the completion by senior executives of the surveyed companies or coordination among different departments. Second, a number of questions relate to financial data that are commercially sensitive in a highly competitive environment, so that some companies may have been reluctant to participate in the survey or refused to answer these questions. Third, companies are nowadays confronted with an increasing number of requests for participa-

[5]The mapping study was conducted by the IHRB in the framework of the implementation of Recommendation 11 from the Background report on commodities published by the Federal Council in 2013. Recommendation reads as follows: "A working group, in cooperation with representatives of the stakeholders involved (specifically, the cantons, as well as companies and NGOs) should prepare proposals for corporate social responsibility standards (including implementation mechanisms) for the commodity merchanting industry. Based on those proposals, consideration should be given to the submission of initiatives and international guidelines - designed, specifically, also to deal with ecological effects - before the appropriate international bodies." (Federal Council, 2013, p.45)

[6]The IHRB mapping study report addressing human rights considerations is available at `https://www.ihrb.org`

Table 1: Response rate

	STSA members only	Total
Mapped	137	648
Eligible	137	496
Declined	3	5
No answer	92	429
Answered	42	62
Response rate (answered/eligible)	30.7%	12.5%

Source: Sizing Study

tion in surveys and may not have the resources (personnel, time) to do so, what some authors call target saturation (Baruch, 1999). Fourth, it is also possible that companies who are not mainly involved in commodity trading did not feel concerned by the study and as a consequence did not participate. Fifth, the questionnaire also contained some questions that many respondents did not appear to associate with commodity trading defined as "...the process of buying, transporting, storing, transforming and/or selling physical commodities, as well as managing assets". In particular, questions related to land ownership were not viewed as applicable for many responding companies. It is thus not surprising that companies defined as mentioned earlier are not involved in acquisition of land. However, this response rate lies within the range observed within organizational surveys (Baruch and Holtom, 2008). Finally, the survey was conducted over a short period of time (3 months). Some companies completed the questionnaire after the deadline and could thus not be included in the analysis.

Nevertheless, more important than the response rate is to test statistically whether the sample is representative of the population. To do so, we compared the distribution of number of employees (i.e. the size) of companies in the sample to the number of employees distribution of companies in the population of reference. The population of reference are the 496 eligible companies that were previously identified. Table 2 shows the distribution of the number of employees in Switzerland in the sample[7] and Table 3 the distribution of number of employees in the population of reference.

Data for the population is drawn from the Business and Enterprise Register (BER), managed by the Swiss Federal Statistical Office (FSO) (see Table 3). The BER numbers of the companies were sent to the FSO in order to look at the distribution of size of companies in the population. According to the Federal Statistical Office, of the 496 identified companies; 484 companies are in the register (we could not find a BER number for 4 companies). 405 are active with employment, 19 are active but below the level of employment that the FSO collects (empty employment in the register), 10 are new or reactivated (employment not inputted in the database yet), 14 are capital companies (no employment in the register), 15 are not active (no employment), 10 are in

[7]Percentages in frequency tables may not total 100 due to rounding

liquidation according to the commercial register, and finally 11 are delisted. The total amount of jobs for the 405 active units with employment is 36'154.[8]

Table 2: Size of surveyed companies in the Swiss commodity trading sector (percentages)

Number of employees	
1-10	42.4
11-50	30.5
51-100	10.2
101-300	6.8
301-500	5.1
501 and more	5.1
Total (N)	100 (59)

Source: Sizing Study

Table 3: Size of companies in the Swiss commodity trading sector (percentages)

Number of employees	
1-10	42.5
11-50	28.3
51-100	11.4
101-300	10.9
301-500	2.4
501 and more	4.6
Total (N)	100 (405)

Source: Federal Office for Statistics, Business and Enterprise Register

The comparison of Tables 2 and 3 shows that the distributions are very similar, with a slight overrepresentation of large companies (over 301 employees) in the sample. Since the level of analysis is the company and because of the overrepresentation of large companies, the sample seems to cover more than 12.5% of the sector in terms of traded volumes.

To statistically assess whether the sample is representative of the population, we run a chi square goodness of fit test.[9] A chi-square goodness of fit test allows to test whether the observed proportions for a categorical variable (in the sample) differ from hypothesized proportions (the population). In this case, we want to see if the observed proportions from our sample differ significantly from these hypothesized proportions (from the Business and Enterprise Register). If the sample is representative, we should observe no significant difference between the two distributions. Table 4 shows the result of the test. The chi square equals 2.90 with 5 degrees

[8]This figure has been estimated by the FSO based on the list of companies active in the commodity trading sector identified by STSA

[9]The statistical software used was Stata and the corresponding command is csgof.

of freedom. The result is not significant, since the p value (.7152) is higher than 0.05 (for a confidence level of 95%) and therefore means that the sample is representative of the population.

Concerning the size if Swiss entities performing commodity trading activities in the country, Table 2 shows that 42.9% of companies are micro enterprises, 30.5% are small enterprises, 17% are medium enterprises, and 10.1% are large enterprises.[10] Thus, over 80% of the Swiss entities surveyed employ less than 100 people in the country. As for the employment worldwide, over 50% of the surveyed companies employ less than 100 people. In addition, for those having their headquarters in Switzerland, the employment worldwide is less than 500 for more than three quarters of them. Moreover more than half of these have less than 100 employees worldwide.

Table 4: Chi square goodness of fit test for size of companies

Number of employees	Exp %	Exp freq	Obs freq
1-10	42.5	25.075	25
11-50	28.3	16.697	18
51-100	11.4	6.726	6
101-300	10.9	6.431	4
301-500	2.4	1.416	3
>500	4.6	2.714	3

Chisq(5) is 2.9, p = .7152. The value of the Chi squared statistic would need to be higher than 11.07 to reject the null hypothesis (H0) that the two distributions are not different.

3 General Information

Commodity trading is an important sector for the Swiss economy. According to the Swiss government it represents 3.8% of the GDP (Federal Council, 2016). Figure 1 shows the net receipts from merchanting,[11] used as an approximation to assess the importance of the commodity trading sector.

While the contribution to the GDP of merchanting has slightly decreased since 2010, it still exceeds receipts from the cross-border commissions and services business of banks in Switzerland.

We also tried to estimate the number of jobs created by the sector in Switzerland. According to the FSO and based on the list of companies identified by STSA for the survey, in 2016 over 35'000 individuals worked in the sector at the national level which is comparable to the electrical equipment manufacturing sector.

Historically, trading companies in Switzerland have been concentrated in three areas: the Lake Geneva region (Geneva and Vaud), central Switzerland (Zug), and Lugano (TI). This still holds today. Table 5 shows that most of the companies are located in the Lake Geneva region, the second most important region is Ticino, followed by central Switzerland. Although Geneva

[10] This classification follows the FSO who defines micro-enterprises as companies with 1-9 jobs, small enterprises as 10-49 jobs, medium enterprises as 50-249 jobs and large enterprises as 250 and more jobs.

[11] Merchanting is goods trade that does not cross the border of the firm's country of residence

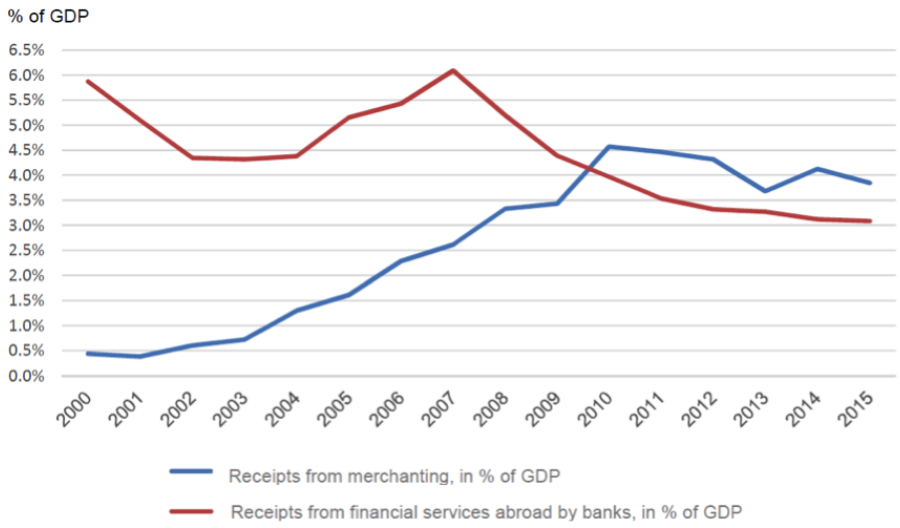

Figure 1: Receipts from merchanting and financial services abroad by banks, in % of GDP
Source: Federal Council 2016

is very attractive in terms of corporate tax policy in international comparison, it is not the most favorable location in Switzerland, even after taking into consideration cantonal tax statuses (all trading companies are subject to an auxiliary status with a tax rate at around 11.6% in Geneva). The canton Zug and other central Switzerland cantons show lower rates and a more favorable fiscal environment for companies (BCGE-OCSTAT-CCIG, 2015). Additional factors might explain the high concentration of commodity trading companies in the Geneva area. The cantons of Vaud and Geneva have long been a hub for commodity trading companies and offer a favorable general business environment due to the proximity of banks specialized in trade finance, service providers such as certification, security and shipping companies, an international airport facilitating international connectivity, and the international dimension of the city, home to many international organizations. Indeed, when asked about their priorities and level of satisfaction in terms of business environment, 70.1% evaluate the political and economic stability in Switzerland as very important (and 88.1% consider it as being good to very good in Switzerland); 71.4% of companies rate corporate tax as very important (and 58.6% as very good to good); 70.2% consider recruitment (quality of local workforce and ease to recruit) as very important (64.4% as very good to good); and 82.5% declare the regulatory environment in Switzerland to be very important (67.8% as very good to good). Thus, in addition to a favorable tax policy, these figures suggest that what is central to commodity trading companies is the general quality of the business environment, combining knowledge, competence, and expertise.

3.1 What type of firms are active in the commodity trading sector?

Over half of the companies present in Switzerland are international headquarters (Table 6), and almost all companies are privately owned (Table 7). This result is consistent with the tradition

Table 5: Location of companies (percentages)

Region	
Geneva/Vaud	61.3
Ticino (Lugano)	19.3
Central CH (BS, ZH, ZG)	17.7
Other	1.6
Total (N)	100 (62)

Source: Sizing Study

of independent commodity trading companies.[12] Considering the traditional financial model (short-term, uncommitted transactions with collateral guaranteeing the financing[13]), capital is not essential to the commodity trading business since it brings no advantage but more constraints particularly with a highly volatile business activity; it is rather a system of organization of the supply chain and a system of knowledge. Commodity trading is a knowledge industry, where information and expertise is the fundamental resource rather than capital(Dunand, 2014; Graber, 2014).

Table 6: Type of firm (percentages)

International headquarters	55.0
Branch office	16.7
Regional head office	11.7
Others	16.7
Total (N)	100(60)

Source: Sizing Study

Table 7: Owner structure (percentages)

Privately owned	91.5
Publicly owned	8.5
Total (N)	100(59)

Source: STSA Sizing Study

Companies in the commodity trading industry engage in a great variety of activities. Companies were asked about their main activities worldwide (Table 8) and in Switzerland (Table 9). The results show that the surveyed companies engage mainly in trading. Indeed, over 75% of companies declare trading to be their main activity worldwide, and almost 80% in Switzerland.

[12]The notion of Independent trading house reflects the fact that most commodity trading companies are privately owned, family run businesses, in contrast to State Owned Companies and/or publicly listed companies with State participation.

[13]In uncommitted transactions the lender has no obligation to extend the loans

On both levels, the second most important activity is trade finance, followed by brokerage. It is worth noting, that none of the surveyed companies indicated exploration and production or mining as core activity, and only 4.9% are processing and refining worldwide, but none do so in Switzerland itself. These results are consistent with the privately-owned nature of trading activities present in Switzerland as opposed to large integrated group companies.

Table 8: Core activity carried out by your group worldwide

Core activity	
Trading	75.4
Exploration and production	.0
Mining	.0
Warehousing and Storage	.0
Processing and refining	4.9
Distribution	3.3
Inspection	1.6
Brokerage	4.9
Shipping and chartering	1.6
Commodity trade finance	8.2
Total (N)	100(61)

Source: Sizing Study

Table 9: Core activity carried out by the entity controlled from Switzerland (percentages)

Core activity	
Trading	79.6
Exploration and production	.0
Mining	.0
Warehousing and Storage	.0
Processing and refining	.0
Distribution	1.7
Inspection	1.7
Brokerage	6.8
Shipping and chartering	1.7
Commodity trade finance	8.5
Total (N)	100(59)

Source: Sizing Study

3.2 What are the geographical markets of commodity traders in Switzerland?

Commodity trading is a globalized activity and traders play an important role in connecting producers and consumers by moving commodities from where they are produced to where they are consumed. In doing so, they are connecting a great variety of regions throughout the world.

This section looks at the origination and destination of commodities traded by Swiss companies. Table 10 shows the distribution of the main regions of origination of commodities traded from Switzerland. Interviewees could mention up to three regions of origination and destination. Almost 40% of the traded commodities originate from Europe. The second most important region of origination is Africa, followed by America. Taken together destination and origination of commodities show the predominance of Europe for Swiss commodity traders.

Table 10: Main region of origination (percentages, multiple response possible)

Region	
Europe	37.1
Africa	20.2
America	18.0
Asia	12.4
Middle East	4.5
CIS	4.5
Oceania	2.2
Mediterranean	1.1
Total (N)	100(89)

Note: 39 companies focus on particular geographical markets. 89 countries or regions are mentioned. 23 companies mention 3 originations, 6 report 2 originations, and 8 only 1
Source: Sizing Study

The distribution of destination countries shows some similarity with regions of origination. Again, almost 40% of traded commodities are destined to European countries, and around 20% to Asia and about the same proportion to America (Table 11).

In summary, Table 5 to Table 11 give a good overview of the commodity trading industry in Switzerland. The results show that 80% of the entities performing commodity trading activities in Switzerland employ less than 100 people, are mainly privately owned and with main trading activity from and to Europe. The commodity trading sector focuses its activities on trading and trade finance and is concentrated in the three historical areas of this activity in Switzerland (Geneva Lake Region, Zug and Tessin). The picture that emerges from the data is consistent with previous descriptions (GTSA and E&Y, 2007; Graber, 2014) of the sector and shows that, for Switzerland at least, the sector's companies cannot be exclusively assimilated to large MNEs with no links to local markets. Commodity trading companies' strong link to Switzerland is related to the overall business environment, an expertise in the field and the availability of

Table 11: Main region of destination (percentages, multiple response possible)

Region	
Europe	38.3
Asia	21.0
America	19.8
Africa	8.6
Middle East	7.4
Mediterranean	2.5
Oceania	1.2
Asia Pacific	1.2
Total (N)	100(81)

Note: 39 companies focus on particular geographical markets. 81 countries or regions are mentioned. 19 companies mention 3 destinations, 8 report 2 originations, and 8 only 1

Source: Sizing Study

highly skilled workers,[14] as well as a proximity to its markets. The next section addresses the financial dimension of the sector and gives an account on external finance, turnover and expenses.

4 Financial and Investment Information

Because of the high number of missing values, results of this section are to be taken with caution. A possible explanation for the low response rate might be that companies do not have the capacity to allocate resources to answer financial questions as asked in the questionnaire since no pre-existing standard format of reporting is fitting with the questionnaire format. This assumption finds some support knowing that the Swiss National Bank Survey on transit trades represents a heavy work load for company CFOs. In addition, most companies are privately owned, and financial data are rather sensitive in a highly competitive market.

Respondents were asked about their external financing, and more precisely their external financing by banks, which is shown in Table 12. Over half of the companies (65.3%) are mainly financed by banks and only a minority (less than 20%) is relying on other type of financing. This confirms the traditional financing of this sector (uncommitted, transactional, and collateral, see p.7). This result has some consequences in terms of regulation and is consistent with the practice of Swiss authorities to rely on banks to supervise the activity (Federal Council 2013). Banks are submitted to strong financial regulations, in line with international regulations and have to assess the conformity of their clients activities.

The last results focus on financial variables (Table 13). In general, these results show that all financial variables are highly scattered, i.e spreading across a large range of values with no specific pattern. The turnover of companies in the commodity trading industry in Switzerland ranges from 623'000 USD to 101'502 million USD, with a mean at 5'671 million USD and a

[14] See BCGE-OCSTAT-CCIG (2015)

Table 12: Share of yearly external finance financed by banks (percentages)

Share bank financing	
>20%	16.3
20%-40%	4.1
40%-60%	8.2
60%-80%	6.1
80%-100%	65.3
Total (N)	100 (49)

Source: Sizing Study

median at 400 million USD. As a benchmark these figures can be compared to the 5 largest publicly owned companies in Switzerland in 2016 according to the Thomson One Banker data (Table 13).

In comparison, the turnover of Nestlé lies at around 88 billion USD, Zurich Insurance around 58 billion and Novartis around 48 billion. The mean turnover of the Swiss entity of responding companies is considerably lower, with a mean turnover of 5 billion USD.

The results also show that staff costs range from 40 million USD to 184 million USD.

Table 13: Descriptive statistics of financial variables (in million USD)

	Min	Max	Mean	Median	N
Turnover Swiss	0.623	101'502.3	5'617.226	400	43
Turnover worldwide	3.45	167'798.2	14'801.82	750	29
Staff cost Swiss	0.40	184.558	18.266	3	45
Staff cost worldwide	0.25	775	110.214	9.214	30

Source: Sizing Study

Table 14: Sales of 5 largest publicly owned companies in Switzerland (in million USD)

Company	Sales
Nestlé S.A.	88'694.73
Zurich insurance group limited	58'291.28
Novartis AG	48'505.27
Roche holding AG	48'096.05
UBS group AG	36'293.06

Source: Thomson One Banker

It has to be noted however, that in this industry, the turnover is not the most relevant indicator to assess its size since it largely depends on the bare prices of the type of traded commodity. Three types of commodities are considered here. Agriculture refers to grain, feeds, oilseeds and vegetable oil, rice, coffee, cocoa, sugar, cotton, livestock and other soft commodities.

Table 15: Summary statistics of volume by commodity family (in million USD)

Commodity	Min	Max	Mean	Std. Dev.	N
Energy	0.041	164'473.4	24'351.600	47'343.530	17
Agriculture	0.135	14'665.59	2'839.878	4'603.951	15
Metals and ore	0.750	8'111.08	1'767.209	2'893.643	13

Source: Sizing Study

Table 16: Mean turnover (million USD) of company (Swiss entity) by size of company (anova)

Number employees in CH	Mean	Std. Dev	Min	Max	N
Less than or equal to 10	405.844	653.268	3.6	2'600.000	14
11 to 100	1'870.829	2'104.539	118.0	5'592.796	16
101 to $\geq$ 500	40'176.635	36'476.790	3'285.9	101'502.262	5

F=19.37 p=.0000, R2=.54, N=35

Source: Sizing Study

The energy category regroups crude oil, refined products, petrochemicals, gas, power, CO2 emissions and other energy. Finally, metals consist of metal-ferrous, non-ferrous, precious metals, and other metals. Table 15 shows the volume of the three commodity families expressed in million USD of the Swiss entity of responding companies. It shows considerable differences across different type of commodities, which has to be put in perspective with the prices of the commodity itself (indeed, the price for oil is much higher than the price for rice). The higher turnover is to be found for energy, with a mean of 24 billion USD. It is followed by agricultural commodities with a mean of 2.8 billion USD. Metals and ore display the lowest turnover with a mean at 1.7 billion USD.

The turnover also depends on the size of the company in terms of number of employees, for both the Swiss entity and worldwide (see Tables 16 and 17). The comparison of means show that differences are statistically significant (p=.0004). This means that the turnover differs significantly across size of companies, the larger the company, and the higher the turnover. For the Swiss entity, moving from microenterprises to companies with 11 to 100 employees, the turnover increases from 405 million USD to 1.8 billion USD. For companies with more than 101 employees the turnover increases to approximately 40 billion USD.

The relation is also significant (p=.0044) for the companies worldwide (Table 17). Microenterprises declare a turnover of around 350 million USD, companies with 11 to 100 employees of 6.5 billion USD and companies of 101 and more employees of 76 billion USD. These figures show that generally the turnover worldwide is higher than the turnover of the Swiss entity. This is consistent with the fact that it is an international business, where Switzerland is only a part of the international business. There is an exception for microenterprises (1-10 employees) whose presence worldwide is limited and who perform the majority of their activity in Switzerland.

Table 17: Mean turnover (million USD) of company (worldwide) by size of company (anova)

Number employees worldwide	Mean	Std. Dev	Min	Max	N
Less than or equal to 10	350.184	262.982	13.921	750.000	5
11 to 100	6'524.478	9'704.509	210.000	34'582.442	12
101 to ≥500	76'444.758	83'040.550	5'536.122	167'798.153	3

F= 7.6, p=.0044, R2=.47, N=20

Source: Sizing Study

5 Conclusion

Despite its importance for the Swiss economy, the Swiss commodity trading sector is largely unknown due to the lack of available data and statistics. This may cause misunderstandings about the way firms operate and finance their activity. This reports aims to bridge the gap by shedding light on these trading activities with new data from a survey. This preliminary overview allows us to draw some conclusions on the structure of the commodity trading industry in Switzerland. The results show that the sector is mainly composed of independent trading companies whose main activity, if not only activity, concentrates on commodity trading. From the 500 companies mentioned in the Background Report on Commodities (Federal Council, 2013), we sent a questionnaire to 496 companies. These companies are representative of the sector in Switzerland as a whole. The results presented in this report contribute to a better understanding of the sector by showing that a majority of Swiss companies active in commodity trading employ less than 100 people, use traditional financing by banks (that is typical of European commercial banks), that are privately owned and rely on bank financing as they have a low own funds to revenue ratio. In addition, companies active in the sector are mainly geared toward trading commodities from and to Europe.

While offering a first and preliminary overview of the sector, this report also shows some shortcomings. First, traded volumes could not be assessed, and thus the market share of Swiss companies for various commodities. While it was not the objective of this study, it would be important to estimate these volumes. Commodity traders are mainly trading the surpluses available on international markets. This aspect should be addressed in future research on the commodity trading sector.

Second, while our sample is representative of the whole population, the low response rate did not allow for more detailed multivariate analysis. The combination of two studies (the sizing study aiming at evaluating the sector and the mapping study aimed at studying human rights practices in the sector in Switzerland) affected the length and the complexity of the questionnaire and thus the response rate. However, because of issues of target saturation, the choice was made by STSA to combine both surveys to gain in efficiency and avoid requesting companies to fill in additional questionnaires. Future research should rely on the existing questionnaire and adapt it by keeping only specific dimensions in order to regularly monitor the sector. The higher response rate within the STSA membership, underlines the importance to follow the approach used for

this study, namely a collaboration between authorities and STSA as a professional organization offering a pre-existing network that can increase the response rate.

Finally, a monitoring of the sector and a study of the volumes to assess the market share of Swiss companies should be completed by the development in collaboration with the Federal Statistical Office to define a 3-digit NOGA code in order to systematise and standardise future data collection and provide authorities and decision-makers with better monitoring of sector activities.

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