BUSINESS INTEREST IN SWISS CLIMATE POLICY

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ABSTRACT

Business associations play an important role in the decision making process of climate policy. In 2009, the revision of the Swiss CO_2 law for designing post-2012 climate policy is at stake. This paper analyzes the positions and arguments of the Swiss business community on climate policy using cluster analysis. As a main finding, we can observe gradual positioning between opponents and proponents to climate regulation. There is no solid business front opposing climate policy in Switzerland but different clusters and sub-clusters of business interest. The positions mainly rely on rational behaviour assessing the respective industry's costs and benefits of climate regulation as well as the exposure to climate change impacts. However, opponents to climate policy tend to overstate the expected costs resulting from climate regulation. There is potential for business conflict between early movers and sectors being less strictly regulated.

Keywords: business interest associations, climate policy, Switzerland

1. INTRODUCTION

Besides environmental effectiveness and economic efficiency, acceptability is an important criterion for appropriate design of environmental economic policy. Private interest groups have always played an important role in the design of policies and the political decision making process. This is particularly true for Switzerland. The Swiss political system has always been considered as 'democratic corporatism,' with long tradition of powerful interest associations being more coherently structured and better endowed with resources than the rather weak political parties (Katzenstein 1984). It is characterized by a centralized and concentrated system of interest associations, voluntary and informal coordination of the various interests in continuous political negotiations with political parties and public administration, and an ideology favouring social partnership (Kriesi and Trechsel 2008).

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However, the recent literature comes to the conclusion that, after its apogee in the 1980's, corporatism is declining in Switzerland and in whole Europe after the end of the Cold War and with the emerging globalization and internationalization of political and economic exchange (David, Mach et al. 2009). With the emergence of new policy issues, such as environmental policy, we note the appearance of new 'public interest groups' advocating public concerns in environmental and social policy issues (Oxenfarth 2009). This development attracts pluralist theories on interest organization as it has been formulated by Robert Falkner in his book on 'Business Power and Conflict in International Environmental Policies' (Falkner 2008). Falkner states that business conflict may arise between technological leaders and laggards, nationally and internationally operating firms, and along the supply chain. Technological leaders and innovators, enjoying competitive advantage, could be more open to climate legislation. Furthermore, internationally operating firms and firms operating close to consumers are more exposed to pressure of international NGO's and consumer organizations.

In contrast to the existing literature on Swiss interest associations, mainly focusing on peak industry associations, this paper deals with the positions of the whole business community on climate policy. It considers the positions of peak industry associations, industry associations and individual firms expressing their positions in the 2009 consultation on the revision of the CO_2 law and post-2012 climate policy for Switzerland. This analysis focuses on the research question:

- *How can the different firms and industries be grouped into clusters according to their positions on the CO_2 law?*

This question investigates the positions of the different industries on Swiss climate legislation. The assumption underlying this question is that there is no 'solid business front' simply opposing climate legislation but that there are several groups of businesses formulating different interests. This analysis focuses on the detailed features of climate legislation rather than the general thrust.

In the discussion part we analyze the main lines of conflict regarding the CO_2 law, comparing our results with Falkner's theory on business conflict. Furthermore, we identify drivers behind the arguments. Relying on rational choice theory, the positions of the industries are compared to their exposure to climate change impacts, climate regulation and the resulting costs and benefits. Firms can benefit or lose from climate legislation. The reasons are changes in demand resulting from the introduction of a price on carbon and product differentiation. First movers enjoy competitive advantages from lower production costs when regulation is introduced. The industries' positions will be related to industry size, fossil fuel efficiency, exposure to climate change impacts, expected costs and benefits from climate legislation.

The paper is organized as follows: After a brief introduction to Swiss climate policy and Swiss economy, we will explain methods and data. The second part of the paper presents the results of the analysis and the discussion of the formulated research questions. The final section concludes.

2. THE SWISS CO_2 LAW

Policies and measures for GHG mitigation are ruled by the Swiss CO_2 law and the Energy law. The CO_2 law entered into force in October 1999. It aims at reducing 10% of greenhouse gas (GHG) emissions by 2012 with respect to 1990 levels. Figure 1 sketches the current climate legislation for Switzerland. Fundamental in Swiss policy making is the subsidiary principle which gives priority to voluntary approaches. Accordingly, the current version of the Swiss CO_2 law consists primarily of voluntary approaches. Together with the Swiss peak industry association, economiesuisse, the government created the Energy Agency of the Economy (ENAW) which should enable firms to make self-declarations for emissions reduction in order to get exempted from the CO_2 tax on heating fuels. As another voluntary measure, in 2005, the oil industry and the transport associations introduced the Climate Cent, a levy of 0.015 CHF per litre of gasoline or diesel which is spent for climate friendly projects. Moreover, the Swiss government negotiated voluntary agreements with the cement industry and the car importers.

The CO_2 law suggested that a CO_2 tax on heating fuels could be introduced by the government if the voluntary efforts made by industry were not sufficient to reach the national reduction target. In 2008, a levy of 12 CHF per tonne of CO_2 has been introduced for combustible fuels. The law stipulates a step-wise increase of the tax by 12 CHF p.a. The tax revenue is redistributed to the population.

Since the current version of the Swiss CO_2 law is going to expire in 2012, the government has launched the discussion on the revision of the CO_2 law in 2009. For this purpose, it made two different proposals which have been discussed in the consultation on the revision of the CO_2 law in 2009.

VARIANT 1: 'BINDING CLIMATE TARGETS'

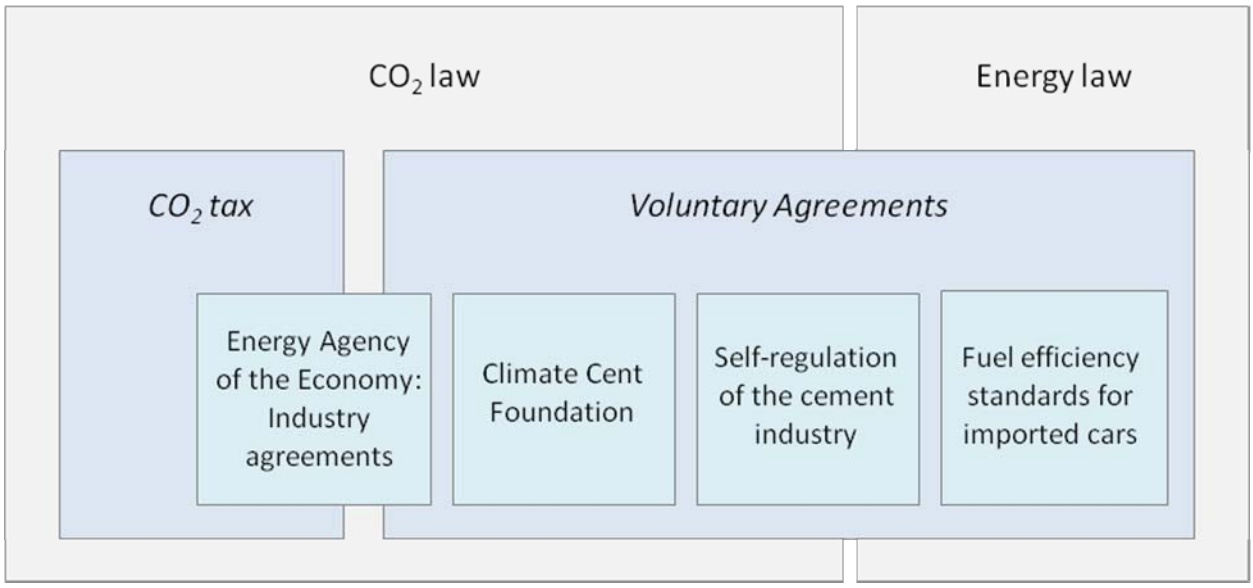
The first variant commits to a 20% reduction of GHG emissions by 2020 with respect to 1990, or 30% if other countries commit to similar targets. The reduction target should mainly be achieved with domestic measures, i.e. the CO_2 tax on heating fuels. Only 25% of the emissions reduction could be realized by emissions trading. If the reduction path is not met, the government can introduce the CO_2 tax on transport fuels, too.

VARIANT 2: 'BINDING STEPS TO CLIMATE NEUTRALITY'

The second variant aims at a climate neutral Switzerland by 2030 to 2050. The target is reached step-wise, starting with 50% GHG emissions reduction by 2020, using both domestic measures and flexible mechanisms. The CO_2 tax

transport fuels and non-energetic emissions from agriculture are included. A price ceiling of 1.2 billion CHF is defined for total certificate costs until 2020.

FIGURE 1: SWISS CLIMATE LEGISLATION IN 2008



3. THE SWISS ECONOMY

Switzerland is a service economy. The largest economic sectors are the financial sector accounting for 11% of total industry output, the wholesale and the retail sector (10%), construction (6%), and the chemical industry (7% including nuclear, coke and petroleum manufacturing). They are followed by spendings for rentings of machinery and equipment (6%) public administration, health and social work and real estate (household) activities (5% each), machinery and equipment, medical and optical instruments, tobacco, food products and beverages (4% each); (SFOS 2008).[2] Other economic sectors contribute less than 2% to Swiss consumption.

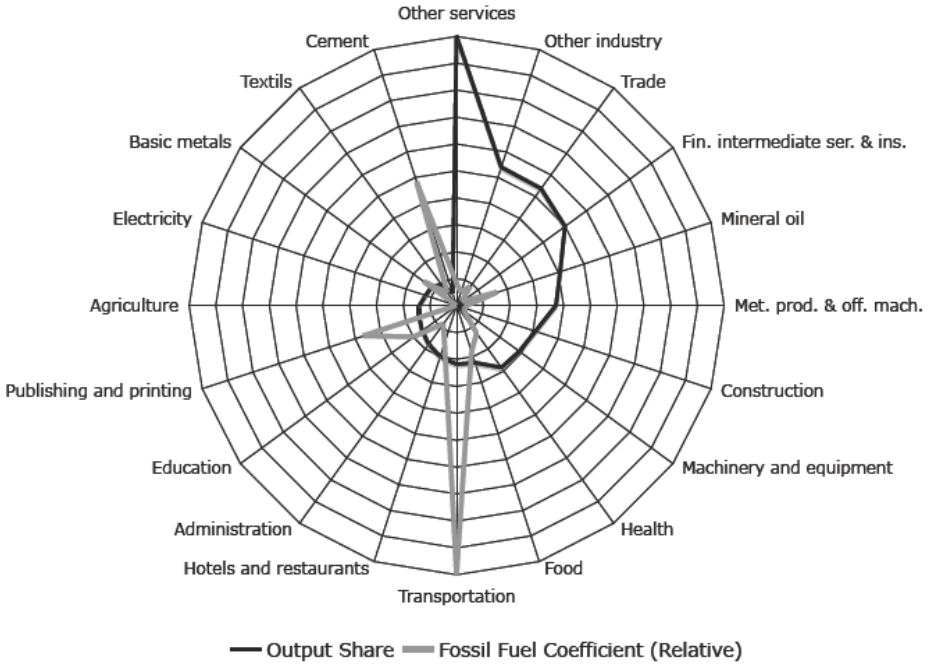
In 2003, the greatest GHG emitters were the transport sector (30%) and the residential sector (22.6%), followed by the industry (SAEFL 2005). The industry emits only 22% of Swiss GHG. Agriculture (11.7%) and the commercial and institutional sector (10.5%) contribute the lowest share of GHG, together with waste incineration (3.2%).

Figure 2 relates the output shares of Switzerland's most important production sectors (2001) to fossil fuel efficiency. The most fossil fuel intensive sectors are in particular transport and the heavy industries, i.e. cement,

[2] These figures are shares of total industry output, without imports, from Swiss input-output-tables for 2005.

pulp and paper, oil refineries and the basic metals industry (Bucher 2008).[3] The sectors with the largest output shares, service, trade and other industry, oil refinery, construction, machinery and equipment and health expose a very low coefficient of fossil fuel use.

FIGURE 2: THE MOST IMPORTANT PRODUCTION SECTORS IN SWITZERLAND AND THEIR FOSSIL FUEL EFFICIENCY



Source: Bucher (2008)

4. METHODS AND DATA

For answering the research questions formulated in the introduction to the paper, we perform cluster analysis and qualitative content analysis of the responses to the consultation on the revision of the CO_2 law.

First, the responses to a questionnaire sent to 75 firms and industry associations by the Swiss Federal Office for the Environment (FOEN) are analyzed in a hierarchical cluster analysis. Cluster analysis examines multivariate data with a view to uncovering or discovering groups or clusters of observations that are homogeneous and separated from other groups (Everitt and Hothorn 2006). The analyzed questionnaire consists of 21 questions on the two variants of the CO_2 law and policy measures independent from these variants. These include questions on the CO_2 tax, emissions trading, financing, adaptation measures, and risk management. For calculating the distance matrix and performing hierarchical cluster analysis, 'R' is used as statistical software. We calculated distance measures by

[3] The relatively low fossil fuel intensity of oil refineries is due statistical definitions since own consumption and geogene emissions are not taken into account.

simple matching, since questions could only be answered with 'yes' or 'no' in the questionnaire. If the respondent did not tick 'yes' she answered 'no'.

Second, we perform content analysis of the letters that were sent together with the questionnaire to the Federal Office of the Environment for a qualitative assessment of the respondents' positions. The data was made available to us by the Federal Office for the Environment after the end of the consultation in June 2009.

5. RESULTS

Figure 3 shows the quantitative cluster analysis for the responses of 75 Swiss firms and industry associations to the questionnaire on the revision on the CO_2 law. On the aggregate level, there are two main clusters and several sub-clusters of firms and business associations that have responded similarly to the questionnaire. Respondents on the left-hand side of Figure 3 oppose both variants proposed by the Federal Government, emphasizing the importance of voluntary approaches and demanding minimum state intervention. This group consists of the peak industry associations, the transport associations, the conventional energy industry and the heavy industry. On the right-hand side, there is a very heterogeneous group of sectors, such as the primary sector, the service economy and the renewable energies, preferring Variant 1 or higher mitigation targets. This group shows concerns about climate change impacts and does either tolerate climate policy or demand more stringent policies and measures.

At a first glance, there are several sub-clusters in the diagram:

- Economiesuisse, AluSuisse, the employers' association and the transport associations form one big sub-cluster on the lower left-hand side of the figure.
- The renewable energies, the building services and some retailers form another cluster on the lower right-hand side of the figure.
- In between these two, we find some smaller clusters, as for instance the heavy industries on the middle left and the timber industry on the middle right-hand side of the figure.

These groups are identified as clusters because they ticked similar answers in the questionnaire. However, during the analysis of the letters, it became clear that not all respondents within a cluster strictly share the same position as their neighbours. Some ticked the same answers in the questionnaire for different reasons providing different arguments. Combining the information from the quantitative cluster analysis and the qualitative content analysis of the written answers to the consultation we identify three aggregate groups of respondents with four smaller sub-clusters.

GROUP 1: PEAK ASSOCIATIONS, ENERGY, HEAVY INDUSTRIES AND TRANSPORT

Peak Assoc.:	*Economiesuisse, Employers' association (Centre Patronal), house owners (HEV), Swiss trade and crafts association (SGV), Swiss Trade (VSIG),*
Oil & transport:	*Oil Union, SwissOil, AVIA, transport associations (ASTAG, AGVS, ACS, Auto-Suisse, route Suisse)*
Energy:	*AVES, Swiss Energy Forum, Swiss Electricity (VSE), natural gas (VSG), electrosuisse, BKW*
Heavy industries:	*SwissMem, CemSuisse, Konferenz Steine und Erden (KSE), glassworks, pulp and paper (ZPK), Alusuisse, brick makers (VSZ),*
other:	*Fédération des Entreprises Romandes, chamber of trade and commerce Basel, Chemical and pharmaceutical industry (SGCI), Swiss Textiles, builders' association (Baumeisterverband),Vegetables*

The first group of respondents to the revision on the CO_2 law consists of five peak industry associations, the transport associations, the heavy industries, the energy industry and two trade associations.

All associations in the first group reject both variants formulated by the Swiss government. Most of the respondents favour of the alternative proposal formulated by the peak industry association economiesuisse. In this proposal, economiesuisse demands the continuation of the current CO_2 law relying on voluntary approaches as main policy instrument.[4] It demands further the possibility to abolish the CO_2 tax if the mitigation targets have been met.

These associations emphasize the success of voluntary approaches, oppose the introduction of a CO_2 tax on transport fuels, demand internationally harmonized policy measures, the use of flexible mechanisms and no earmarking of tax revenues from the CO_2 tax on heating fuels. Many of them ignore the importance of climate policy in comparison to other policy issues. Some respondents doubt the scientific evidence of climate change.

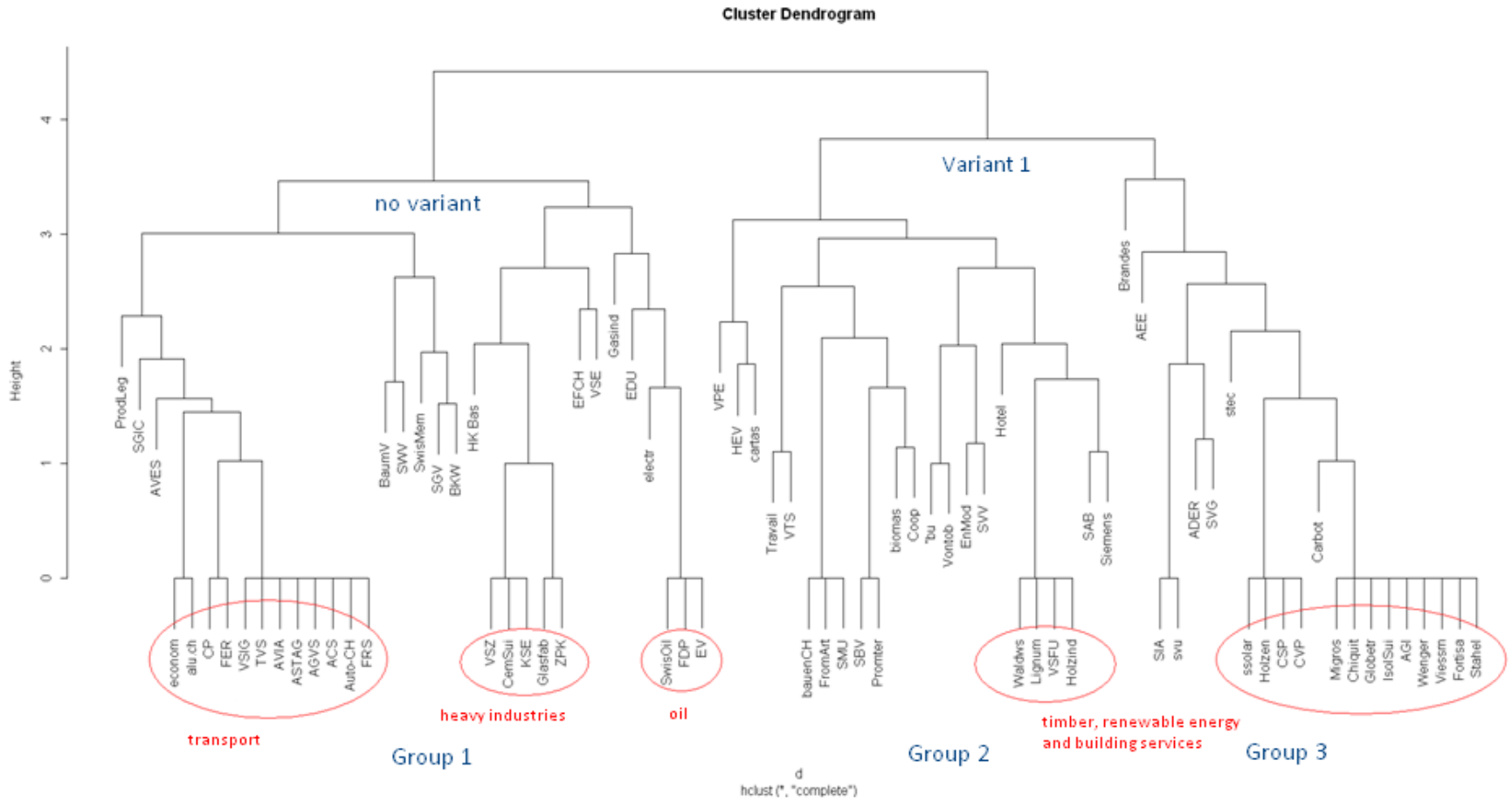
SUB-CLUSTER 1: OIL AND TRANSPORT

The transport associations do all make very similar proposals. In addition to the lines of arguments described above, they do particularly emphasize the success of the Swiss Climate Cent as voluntary measure and do strictly oppose a tax on transport fuels. They clearly oppose the introduction of a CO_2 tax on transport fuels and other state regulation.

The oil industry claims a lower emissions reduction target including all greenhouse gases. Together with one transport association they even doubt the validity of the IPCC reports.

[4] For an evaluation of the effectiveness of Switzerland's voluntary agreements see: Baranzini, A., P. Thalmann, et al. (2004). Swiss Climate Policy: Combining VAs with other Instruments. Voluntary Approaches in Climate Policy. A. Baranzini and P. Thalmann, Edward Elgar Publishing Ltd.

FIGURE 3: CLUSTER ANALYSIS ON THE POSITIONS OF BUSINESS INTEREST ASSOCIATIONS AND INDIVIDUAL FIRMS ON THE REVISIONS OF THE SWISS CO_2 LAW 2009



SUB-CLUSTER 2: HEAVY INDUSTRIES

The second sub-cluster of respondents in Group 1 consists of the heavy industries. In contrast to the other respondents of the first group, they demand a lower reduction target for GHG emissions than 20% by 2020, but also measures for the buildings and the transport sector.

The heavy industries, cement, glass, brick and pulp and paper, make very similar proposals on the revision of the CO_2 law. Together with the textile and the machine industry, they emphasize the voluntary efforts that had already been made in cooperation with the Energy Agency of the Economy and state that no further achievements would be possible. They refer to an alternative proposal made by the association for energy intensive industries (IGEB), similar to the proposal of economiesuisse but with a maximum reduction target of only 15% by 2020. The heavy industries propose internationally harmonized sectoral approaches based on industry benchmarks. In contrast to the remaining respondents in Group 1, IGEB, the glass and the pulp and paper industry also demand policy measures for the building and the transport sector. The heavy industries criticize the grandfathering of emissions certificates which punishes the voluntary efforts made by early movers.

SUB-CLUSTER 3: ENERGY

In addition to the before mentioned arguments, the energy associations criticize the mandatory CO_2 compensation for gas power plants. The electricity associations promote nuclear power and claim equal treatment for all fossil fuels, whereas the natural gas association further demands the integration of methane emissions from agriculture into climate legislation and the promotion of combined heat and power. Two electricity associations propose the total electrification of road transport.

GROUP 2: AGRICULTURE, CONSTRUCTION AND SERVICES

Peak association:	*Swiss Mountains (SAB)*
Energy:	*Employees in electricity (VPE), water economy (SWV)*
Industry:	*constructionsuisse, Swiss Metal Union, textile care (VTS), cartaseta*
Agriculture:	*farmers' association, Prométerre, FromArte*
Tourism:	*hotelleriesuisse*
Finance:	*Bank Vontobel*

Group 2 shows a very heterogeneous structure. It consists of the peak associations SAB, the association of house owners and the construction industry, the Swiss metal industry, the insurance industry, the farmers, and individual firms, such as Bank Vontobel and cartaseta.

Except hotelleriesuisse and SAB, the parties of Group 2 do all have in common that they favour Variant 1 over 2. Most of them agree to earmarking of tax revenues as well as adaptation measures against climate impacts. Similar to Group 1, the Swiss Metal Union, the textiles association, the association of house owners and constructionsuisse

show concerns about competitiveness and emphasize the effectiveness of voluntary approaches together with international harmonization of policies and measures. However, they demand explicitly incentive programs for the building sector to be funded by the revenues from the CO_2 tax on combustible fuels.

The tourism sector and the primary sector express sincere concerns about the impacts of climate change on the Swiss economy. Particularly hotelleriesuisse demands stringent adaptation measures and funding for research in adaptation. However, hotelleriesuisse asks the exemption from the CO_2 tax for small and medium sized enterprises. The farmers' association claims to treat no other GHG than CO_2 in future climate legislation.

GROUP 3: SERVICES, THE TIMBER INDUSTRY, AND RENEWABLE ENERGIES

Peak association:	*Travail.Suisse*
Energy:	*géothermie, suissetec, swissolar, géothermie, wood energy, biomass, AEE, ADER, Brandes*
Buildings:	*IsolSuisse, AGI, Wenger Fenster, Viessmann, SIA, SVU, Stahel*
Forestry:	*Lignum, timber industry, forestry, VSFU*
Finance:	*Insurance industries (SVV), Energy-Model Zürich*
Retail:	*Coop, Migros, Fortisa, Chiquita*
Other:	*öbu, Siemens, Globetrotter, Carbotech*

The third group consists of the Swiss employees' association, the insurance industries, the two biggest retailer Migros and Coop, Siemens, the timber industry, the renewable energy sector, building services, two architects' associations, eco-consultants and other service industry.

All respondents in this group agree to Variant 1 or claim even higher reduction targets than proposed by the government. Altogether, they express their concern about climate change and its impacts. The respondents prefer Variant 1 for its domestic reduction target, which they consider to be a chance for the Swiss economy in terms of innovativeness, investments and employment. Moreover, some of the respondents demand higher domestic reduction targets and the offset of Switzerland's 'grey emissions' by foreign certificates, as well as the integration of marine and air transport into the emissions trading system. All respondents to cluster 3 agree to the earmarking of tax revenues for the national building programme. Some of them demand similar programmes for renewable energies, research and development or public transport. Referring to the McKinsey abatement cost curve, many respondents claim the exploitation of cheap reduction potentials in the buildings and the transport sector.

Progressive positions towards climate policy were drafted by the Swiss employees' association, the retailers, the insurance industries, and Siemens. They emphasize the high potential for employment and innovation from domestic GHG mitigation, the exploitation of cheap reduction potentials in transport and the building sector, referring to the McKinsey abatement cost curve. Moreover, Coop criticizes the failure of the voluntary agreement for private road transport, and Siemens demands higher investments in public transport, renewable energies and R&D. Coop, Switzerland biggest retailer, announces to become climate neutral within the next 15 years.

SUB-CLUSTER 4: TIMBER INDUSTRY

The timber industry particularly advocates the CO_2 tax on combustibles linked with the buildings programme. This provides incentives to substitute other building material by timber and promote wood as renewable energy. Moreover, the timber associations demand a fund compensating forest owners for their sinks, and they oppose a CO_2 tax on transport fuels since their business faces high transport costs.

6. DISCUSSION

6.1 LINES OF CONFLICT

Altogether, one can observe a gradual development in the position of business on climate legislation ranging from opponents to proponents of climate policy. The oil industry and the transport associations formulate the strongest arguments opposing climate legislation, whereas the renewable energy industry, the insurance industry, the building services and some individual firms give the most progressive answers in which they express sincere concern about climate change impacts, and propose further climate legislation.

The common arguments of the opponents to climate legislation are concerns about growth and competition. They oppose both variants proposed by the federal government, emphasize the success of the voluntary approaches and demand access to flexible mechanisms. These industries strictly oppose the introduction of the CO_2 tax on transport fuels and claim that no further reductions would be possible.

Proponents of climate legislation are in favour of Variant 1 or demand even higher reduction targets. They emphasize the benefits from domestic GHG reduction in terms of competitive advantage from innovation, investments and employment. Furthermore, proponents of climate policy welcome the reduced import dependency on fossil fuels claiming the application of the polluter-pays principle.

Among all respondents, there was consensus about the harmonization of Swiss legislation with EU and international politics.

FALKNER'S THEORY ON BUSINESS CONFLICT

Referring to Falkner's hypotheses on business conflict, there is no clear evidence for Switzerland that internationally operating firms would be more open to climate legislation. The heavy industries, the chemical industries and the trade associations are rather opposing further climate regulation. It can be confirmed that the internationally operating insurance industry, the financial services represented by the 'Energy model Zurich,' Siemens and Bank Vontobel express their concerns about climate change and are open for climate policy and measures.

The same is true for the argument that firms operating close to consumers are more open to climate policy. The Swiss retailers Migros and Coop react very sensibly on the topic and show progressive positions towards climate policy. The argument also holds for finance, tourism, and other services. However, there are also firms operating close to consumers among the opponents to climate regulation, as for instance members of economiesuisse or the transport associations.

As for the previous argument, there is no clear evidence the responsiveness of technological leaders, either. On the one hand, the renewable energies, Siemens and the building services support climate policy and measures. On the other hand, the machine and metal industry, the heavy industries and the chemical industry are rather opposing climate legislation. We would need more firm information for testing this hypothesis.

CONFLICT ON SWISS CLIMATE REGULATION

Based on the present content analysis of the responses to the consultation on the revision of the CO_2 law, the following lines of business conflict can be identified:

- early movers vs. industries with low reduction efforts:
  e.g. the heavy industries that made considerable reduction efforts claim the introduction of policies and measures for the buildings and the transport sector
- regulated vs. less regulated sectors:
  e.g. electricity producers that have to offset CO_2 emissions from natural gas power plants vs. industries that are exempted from the CO_2 tax (e.g. heavy industries)
- CO_2 emitters of vs. emitters of other GHG:
  e.g. the farmers opposing measures for other GHG than CO_2

6.2 DRIVERS OF THE ARGUMENTS

Regarding the quality of the arguments, there seems to be evidence that most of the respondents gave rational answers to the consultation, according to their specific interests. However, many associations under- or overstate their positions and oppose or demand policy measures that would not concern their core business. In particular, some of the peak associations show a tendency to work with rather general arguments. This was, for instance, the case for the employers' association, the trade associations, the builders' association and the house owners providing standard answers that oppose government regulation in general. The top industry associations face the challenge to represent a large number of business associations with very different characteristics. Economiesuisse, for instance, opposes the introduction of a CO_2 tax on transport fuels, while it also represents members demanding more stringent measures for transport and equal treatment for economic sectors.

Based on the above analysis of the identified clusters, the following potential drivers for industry positions can be identified:

1. ECONOMIC COST OF CLIMATE POLICY AND MEASURES

The introduction of a price on carbon induces shifts in supply and demand from market distortion. This invokes output changes. Assessing the economic burden of Swiss post-2012 climate policy, Sceia et al. (2009) find that the output losses for Swiss economic sectors are rather low.

TABLE 1: OUTPUT VARIATIONS FOR SWISS ECONOMIC SECTORS BY 2020 WITH TWO DIFFERENT SCENARIOS (IN %)

Sector	Petroleum refining	Agriculture	Forestry	Minerals	Chemical	Metal	Printing and publishing	Consumption goods	Equipment	Dwelling	Rail transport	Road transport	Air transport	Services
Scenario 1	-8.2	-2.1	-1.5	-0.4	-0.1	0.3	-0.2	-1.2	-0.3	-0.3	-0.7	-0.7	-0.3	-0.1
Scenario 2	-11.9	-3.8	-3.2	-0.8	-0.2	0.1	-0.4	-2.2	-0.9	-0.3	-1.1	-1.0	-0.3	-0.1

Source: Sceia et al. (2009). Assumptions for Swiss post-Kyoto climate policy: emissions trading for energy intensive sectors with 80% of allowances grandfathered, CO_2 tax on transportation if limit on certificate purchase is reached, CO_2 tax on combustible fuels with 200 Mio. CHF of tax revenues spent for the building programme, no constraints for air transport, emissions standards for newly registered cars and penalty for car importers if emissions are above target value. Scenario 1 with limited international agreement (only low abatement globally), Scenario 2 with international agreement where stronger abatement would be agreed upon all world regions.

Table 1 shows the output losses from Swiss Post-2012 climate policy for different economic sectors in 2020, provided two different international climate policy scenarios. The most affected sector is petroleum refining expecting production losses between 8.2 and 11.9%. It follows agriculture with production losses between 2.1 and 3.8%, forestry (1.5 to 3.2%), consumption goods (1.2 to 2.2%), and rail and road transport (0.7 to 1.1% each). According to this study, the total loss of GDP is not be more than 0.33% (Sceia, Thalmann et al. 2009). Compared to the expected welfare losses from climate change impacts of e.g. 0.48% of GDP by 2100, these figures are moderate (Ecoplan 2007).[5]

Regarding the expected output losses of Swiss post-2012 climate legislation as suggested by Sceia et al., there is strong evidence that the oil industry, expecting considerable output losses in petroleum refinery (-8.2 to -11.9%), does consequently oppose climate legislation. Other opponents, the heavy industries, the chemical industry or the transport sectors would only face moderate output losses. In contrast, the primary sector, agriculture and forestry, would face much higher output losses but do not oppose climate legislation.

[5] This figure considers only direct impacts. Accounting for indirect economic impacts and uncertainties from non-linear events, the annual losses of GDP are likely to be higher.

2. Benefits from climate regulation

The introduction of climate legislation can also imply benefits for economic actors. Industries developing alternative technology could benefit from a shift in demand of consumers substituting energy intensive products. First movers would enjoy cost advantages towards their competitors (Porter and Linde 1995). Other firms could benefit from product differentiation addressing environmentally friendly consumers. The earmarking of tax revenues for investment programmes or research and development would benefit the concerned industries.

Indeed, there is clear evidence that those industries that benefiting from climate regulation give strong support to the CO_2 law and the earmarking of tax revenues. These are the renewable energy industry, the building services, the timber industry and the eco-consultants. Migros and Coop, Switzerland's biggest retailers, mention benefits from product differentiation.

3. Exposure to climate change impacts

Industries being exposed to impacts of climate change are likely to support climate policies and measures in order to reduce their operative risks, stabilize demand and keep production costs low. In Switzerland, the most vulnerable industries to climate change are tourism and energy, but also agriculture, transport infrastructure and the insurance business are affected by damages from climate change (Ecoplan 2007).

Actually, the Swiss farmers, the timber industry and the tourist sector show concerns about the impacts of climate change and demand measures for adaptation. In particular the insurance industry shows serious concerns about climate change impacts increasing business risk.

4. Size and structure of association

Since not all responses were determined by pure rational decision making we try to identify other factors explaining deviations from pure rational choice theory. One of them is the size and structure of the organization. There are obviously more peak industry associations and large business associations opposing climate legislation, and smaller associations and individual firms supporting climate policy. Maybe for reputational or historical reasons, large and mature associations show a tendency to conservative positions being subject to inter-organizational conflict. On the other hand, individual firms and smaller business associations seem to be more open to new policy issues and formulate more extreme positions.

5. Firm: Organizational structure and ethics

One final point is the progressive position of the two retailers Migros and Coop. Though the retail industry might face output losses in consumption goods that are exceeding the losses in road transport, Migros and Coop give strong support to measures of climate policy. An interesting feature of these two firms is that they are organized as cooperatives that are not subject to maximization of shareholder value but have high ethical values promoting

corporate social and environmental responsibility. It is likely that the same holds for family businesses, which is partly the case for Bank Vontobel and the eco-consultants.

7. CONCLUSION

Cluster analysis and qualitative content analysis of the responses of business associations and individual firms to the 2009 revision on the Swiss CO_2 law give us insights to the positions of the Swiss business community on climate policy. Identifying three different groups regarding climate legislation, we find that the positions on climate policy range gradually from strong opponents to proponents of climate legislation. The main opponents are the oil industry, the transport associations and the heavy industries. Proponents are the renewable energy industries, the insurance industry, retailers, buildings services and the timber industry. Their arguments are largely based on rational behaviour depending on the expected costs and benefits of climate regulation and exposure to climate change impacts. However, opponents of climate regulation tend to over-estimate the expected costs of climate legislation leading to a gap between rational behaviour and the actual position. Other factors explaining these positions could be related to the structure and size of the organization, reputational or historical factors. There is potential for business conflict between early movers and sectors with low reduction efforts, regulated industries and non-regulated industries as well as emitters of CO_2 vs. other GHG. Further research is needed for a more careful investigation of factors underlying the positions and the logic of influence on the political decision making process in Switzerland.

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