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The impact of exchange rate on regional development: The example of western Switzerland

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38th Congress of the European Regional Science Association
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Corpataux José and Crevoisier Olivier¹

**THE IMPACT OF EXCHANGE RATE ON REGIONAL DEVELOPMENT :
THE EXAMPLE OF WESTERN SWITZERLAND**

Abstract : A currency space would be constitute in a ideal way if the integrated economic regions would react similarly on external shocks. In fact, Switzerland, as an economic space, is far from being homogenous. Since the end of Bretton-Woods, Switzerland is confronted with a durably overvaluation of its currency on the exchange markets. The export industries and the tourism seem to be challenged by the strong currency. However, the financial industry is likely to profit by the development of the exchange rates. The "working place" and the "financial place" of Switzerland compete more and more concerning the optimal economic conditions. This situation must be considered as fairly explosive for regional development. We face an uneven spatial allocation of export orientated industries and presumed beneficiaries. And, there is also an unequal availability of resources on the organisational, sectorial and regional level - in order to react on the long-term overvaluation of the Swiss currency.

This paper presents the first results of a research project led on the Swiss case² and the impact of exchange rate on regional development in Western Switzerland.

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1. Introduction

For about the last twenty years the Swiss franc has appreciated continuously on the currency markets. In the same period of time, the international flow of trade and capital has grown unabated. Whilst the theory of international trade and commerce strives hard to consider a nation as homogenous entity, and takes no account whatsoever of regional particularities, on the one hand, the theories on regional production systems, on the other hand, do not integrate currencies in their theoretical framework. *For this reason, this article seeks to demonstrate that regions in Switzerland evolve in a differentiated manner with regard to a currency which is persistently over-valued.*

From an empirical point of view, a first approach tells us that the various cantons indeed are not exposed equally to monetary fluctuations and international competition. Thus, exports of goods account for more than 50% of the GDP of cantons such as Basle, Neuchâtel or Solothurn, whereas in other cantons, such as Vaud or Zurich, they are about 15%. With respect to tourism and financial or other tertiary activities, the regional differences are just as important. This article is not in the nature of an econometric study and does not seek to quantify the gains and losses of each region, *but it does view their structural evolution as affected by exchange rates.* Faced with the appreciation in the Swiss franc and based on their productive specialities, some regions suffer badly from this, whilst others cope with it and even thrive on it. *This article thus argues that monetary policy is not neutral from a sectorial and regional point of view.* This being so, one can clearly wonder about the consequences of the Swiss National Bank's monetary policy of the last 20 years: has domestic industry not been sacrificed in favour of financial activities (Bairoch, 1990; Cassis, 1990) ? Considering that the economic situation has deteriorated severely since the beginning of the nineties, is the continuous overvaluation of the Swiss franc not turning Switzerland into a machine producing territorial divergence ?

At a theoretical level, a large number of studies on industrial and regional economy have shown that space is neither neutral nor homogenous (studies on industrial districts, localised productive systems, the innovative milieus, ...). It may seem a paradox that whilst a certain number of activities - more particularly standard production - can be transferred from one country to another, an increasing number of authors have shown that the capacity to innovate on the contrary lead to certain activities remaining anchored in very specific spaces. With their organisation, their specialities and their institutions the latter constitute real regional production systems (RPS) and

therefore display a real systemic coherence. Although these studies may help to understand why these systems are competitive, they have never established the link with macro-economic variables and in particular with exchange rates. The first part of the present article describes the method used to demonstrate the existence of RPSs, defines the organisation of production in the various regions of Western Switzerland as well as the basic revenue generated by these systems. In a second part, we will demonstrate how each of these RPSs has responded with regard to the Swiss franc's evolution.

2. Definition and method

2.1 Introduction

Our approach is as follows: in the first section we will define first of all the concept of Regional Production Systems (RPS), then the method with which we were able to identify these systems as well as the basic revenue generated by them. In the last section, all these elements will be related to exchange rate and we will explain the repositioning of the various, identified RPSs with regard to the Swiss franc's evolution.

2.2 Definition of Regional Production Systems

We define a RPS as an area of productive speciality(ies) including a certain number of small and/or large firms/organisations. This agglomeration of firms/organisations produces positive external effects on the local labour market, on the supply of goods and intermediary services and on the circulation of information. As a result, these RPSs concentrate a large part of domestic production in one or several given sectors, and when they sell their services abroad, they account for a large part of the country's exports in that particular field.

Over and above this strictly productive aspect, a RPS has players such as the public authorities, semi-public organisations and associations which provide goods and services, for example to firms, and define the rules and norms according to which the locals players act. For such RPS to be relevant, the players in them must have closer ties with each other than with the rest of the world. Lauret and Perez (1992) state "these relations are placed within a specific institutional framework which, together with the intensity of the relations, helps to choose the limits of the meso-systems".

Grosjean and Crevoisier (1997), however, do not emphasise only the intensity of the relations, but they also consider their functional nature (relations with the market, with research and training institutions, of production with other firms, ..). Thus, the tight weave of the interdependencies favours the creation and the development of regional know-how (Crevoisier, Maillat et al., 1996) and the emergence of regional innovation dynamics (Bramanti, Gordon and Ratti, 1997).

Lastly, these RPSs or meso-systems are also characterised by coherence at the regional level, i.e. by a relative autonomy with regard to competing meso-systems or to the global system in general. Relative autonomy meaning that these meso-systems display "a logic and a capacity of their own to function, to regulate, to produce" (Lauret and Perez, 1992), even though they naturally remain integrated in the overall economy.

It should be noted, however, that even though one can demonstrate the existence of RPSs, this does not mean that *all* firms in the region are part of this system. Certain firms (sometimes the majority of them) are either engaged in spin-off activities, such as the construction sector, the retail trade, or they are firms with an existence and behaviour that lies outside the remit of the RPS in question.

2.3 Demonstrating the existence of Regional Production Systems

Taking the lead from various publications (Guégan, Rousier, 1989; Isaksen, 1996; Asheim, Isaksen, 1997) the basic unit we have used is the region with spatial mobility (SM). Based on alternating migration, the concept of a region with SM covers entities with both a geographic and a functional coherence. By grouping several SM regions together one can demonstrate the existence of coherent RPSs (Thierstein et al., 1995; Guégan, Rousier, 1989).

Firstly, and from an essentially quantitative angle, we have based our study on criteria which are very similar to the ones adopted by Guégan et Rousier (1989) or by Isaksen (1996), Isaksen and Asheim (1997):

- the localisation quotient³ of every economic activity identified is greater than 1;

³ We recall here that the localisation quotient is the degree to which an activity is concentrated in a region as compared with a reference territory. It is calculated as follows : ((employment in a particular sector of activity in a region / total employment in the region in question) / (employment in the previously mentioned sector of activity at the national level / total national employment)) x 100 (Polèse, 1994).

- the economic activities with a quotient greater than 1 furthermore account for at least 3% of the region's total employment or for at least 10% of the employment in the branch of activity at the national level.

A certain number of problems are inherent in this statistical approach. The first one has to do with the degree of sensitivity of the localisation quotient with respect to the chosen aggregation level of the nomenclature of activities. Consequently, we have made a certain number of attempts to define the optimum degree of analysis: we decided to choose the two digit 1985 NGAE nomenclature and to sometimes disaggregate to three digits in order to obtain a higher precision in certain branches. The second one concerned the suitability of the nomenclature applied to certain activities by the Federal Office of Statistics. Thus, the registered headquarters of the large firms do not come under a specific heading of the nomenclature used and are thus attributed to their respective branch: the employees at the headquarters of Nestlé would, for example, all be in the agro-food branch. Equally, a certain number of RPSs comprise supplementary activities. Geneva's revenue is generated mainly by the activities of the international organisations, but air transport, the hotel trade and a large share of the tourism and of jewellery and watch-making latch onto this flow. In these conditions some of these activities do not meet our criteria of statistical selection; nonetheless, these specialised activities are clearly linked to the identified lead branches and we have chosen to integrate them in our various production systems. Thus, there is a certain discrepancy between the reality as it can be grasped by statistics and the actual reality of the RPS.

Secondly, we made use of a certain number of qualitative data. In fact, a study focused exclusively on statistics makes it impossible to detect the complementarities that exist between the various activities in a region, regardless of whether they concern sales/purchasing relationships, the technologies applied and their related know-how or anything else. In order to understand the territorial (or systemic) coherence of the various RPSs even better we have therefore resorted to two sources of information: interviews with regional experts or with company managers and existing regional monographs.

2.4 *Analysis of the basic revenue of a RPS*

This issue should allow us to specify the general basic revenue generated by the various RPS we have identified. The basic theory (Hoyt, 1939, Gouguet 1981) assumes that the economic growth of a city or of a region depends on its *basic revenue*, i.e. the revenue it derives from selling its products and services outside of the region, whether this be to the remainder of the country or as exports. Thus, jobs in the region are induced by this revenue. The first of this theory was very limited and was criticised severely. Nonetheless, its basic principle (the link between the basic revenue and the development of the region) still gives inspiration to many research studies in the field of regional economics.

From this point of view the role played by regional production systems is essential in ensuring the competitiveness of the various nations and in supplying a large part of exports to the latter (Storper, 1992; Ratti and Baggi, 1993; Perret, 1994, Tatteaccioli and Tabariès, 1995). In the light of the above, we determine the basic revenue generated by the various regional production systems as identified in the preceding stage as follows:

- in terms of exports of industrial goods;
- in terms of hotel overnight stays in tourism;
- and in a more indirect manner, with regard to the remaining activities (banking, insurance, etc.) since the regional statistics are deficient in this respect and do not provide us with the data required by this study.

2.5 *The differentiated impact of exchange rate*

By definition, currency is a-spatial in its zone of validity: a monetary unit with the same exchange rate vis-a-vis of the rest of the world takes precedence over regional diversity (Regnault, 1998). Nonetheless, Mundell (1961) showed that an optimal monetary zone should group together all those regions which react symmetrically to an external shock. This idea is fundamental to our work; we prefer, however, to study its corollary. *Since a currency is used by a group of regions which react asymmetrically to exchange rate fluctuations, what are the resulting tensions between regions and how do they affect the regions' dynamics ?*

In the past twenty years Switzerland has experienced a period of near permanent appreciation of its currency. This offers a rather exceptional opportunity to understand the concrete, territorial effects of such an appreciation. Thus, it is a question of establishing the relation, on the one hand, between the way basic activities and the currency have developed (for example, the contraction of these activities, their development, high-tech specialisation, conversion to new activities, etc.) and the characteristics of the RPSs both from the point of view of its specialisation and its organisation as from the point of view of its evolution over the past twenty years. The varied industrial fabric of the region of the Swiss Jura, which is made up of many SMEs, led by a few large, independent firms, is specialised and organised, and has evolved differently from the industrial sector in Valais: this area is marked by the predominance of three large firms' subsidiaries and distinguishes itself by depending on the outside world and by its advanced specialities in the chemical and metallurgical industries. There is no doubt that the appreciation of the Swiss franc forced the firms in the Swiss Jura to move into more and more sophisticated activities, whilst industrial Valais is threatened much more directly by relocation, because of its weak autonomy.

Thus, we have chosen to study the sectorial impact of exchange rates, on the one hand, and on the other hand, to reintroduce the systemic complexity of the various RPSs we have identified by demonstrating their singular evolution in the light of the evolution of the Swiss franc.

As a result, we found three types of regional production systems: systems that are highly exposed to monetary appreciation and which are specialised in financial activities (usually benefiting from this appreciation), systems specialised in industrial activities or tourism (usually suffering from it), and systems which subsist exist mainly on the control of domestic flows and are hardly affected by monetary appreciation.

3. Different types of Regional Production Systems: Four examples in Western Switzerland

In this section we will portray different types of RPSs. We selected them, on the one hand, because we felt they were special from the point of view of their economic structure (both in terms of their speciality(ies) and their internal coherence) and, on the other hand, because each one evolved very differently with regard to the appreciation of the Swiss franc:

3.1 The metropolitan system of Geneva

3.1.1 The broad features of the RPS

Geneva is a production system with a very special profile, geared to international services. This system is characterised by the existence of three main sets of activities (see Table 1).

The first set comprises the financial and banking centre and has generated activities in international commerce. In 1995, there were 108 foreign banks and 54 Swiss banks in the banking centre. They are specialised in asset management, an area in which Switzerland manages 35% of the world's cross-border assets⁴, but also in the financing of international trade and commerce (Roth, Béguelin, 1992). This is mainly trade in raw materials and commodities, an activity in which Geneva is a world leader.

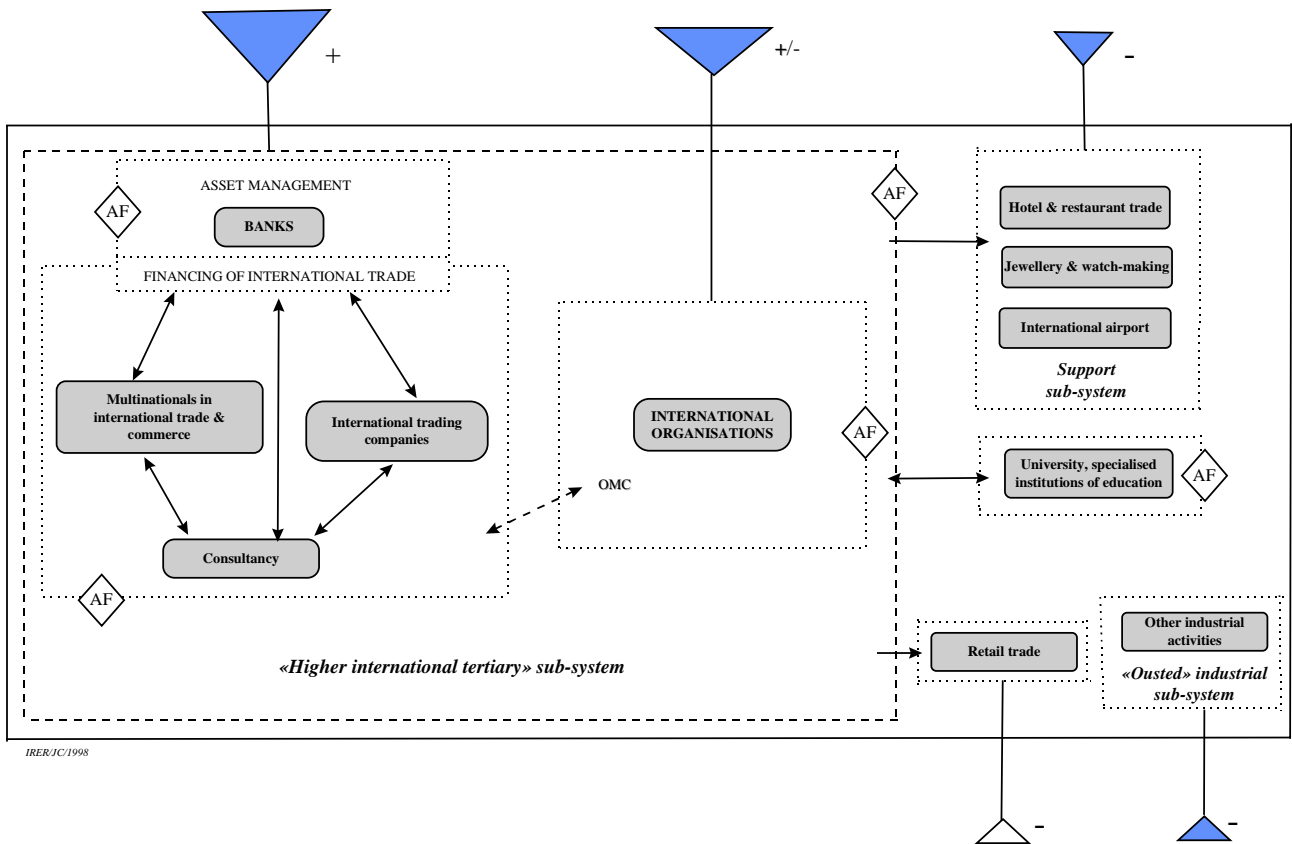
The second set of activities arises from the presence of 150 international organisations which employed nearly 27'000 people in 1994. Here too, revenue originates nearly exclusively abroad.

Lastly, the third set groups the activities which support or back-up the first two sets of activities. Thus, 35% of the hotel trade serves business travel and another 35% the international organisations. 51% of customers of the international airport are business travellers. The main part of jewellery and watch-making production, which is specialised in the top range of the market is exported directly, whilst the remainder is sold directly to wealthy tourists. In 1995, this sector employed 5'000 people.

The Genevan industry for its part has declined steadily since the beginning of the seventies. The retail trade has also suffered from the proximity of the French border.

⁴ According to some estimations of Chase Manhattan Bank (1993) in : Swiss Bankers Association (1996), **The Swiss Banking Sector : Development, Structure and International Position**, SBA, Basel.

Table 1 : The metropolitan system of Geneva



3.1.2 The impact of exchange rate

The metropolitan system of Geneva is characterised by its very great openness to the exterior. Most of the inflows are from abroad and thus are exposed to the Swiss franc's appreciation:

- Thanks to its international tradition and its specialisation in asset management the Geneva banking community has been able to benefit from a continually appreciating currency. This is borne out by the number of foreign banks which have set up in Geneva in the last twenty years: increasing from 48 in 1980 to 108 in 1995.
- The activities geared to international trade and commerce are not affected by the evolution of the Swiss franc: these companies' transactions are expressed in dollars.
- The international organisations do not really suffer from an overvalued Swiss franc since the sources of finance are governmental and are frequently determined by international agreements. In the long term, dollar-denominated wages and the disadvantages arising from unfavourable exchange rates may incite the administrators of these international organisations to reconsider

their location. Furthermore, the border impact has been quite considerable: in 1994, 47.7% of international civil servants had their residence in France compared with 34.2% in 1981.

- The industrial sector has suffered especially badly from the Swiss franc's appreciation. The Genevan industry has been declining since the beginning of the seventies. For all of the industrial activities taken together, with the exception of jewellery and watch-making, jobs have shrunk from about 30'000 in 1975 to less than 18'000 in 1995 (- 39%).
- Watch-making and jewellery was also able to draw on its tradition of producing luxury goods, and has thus been sheltered from the rising Swiss franc. This sector accounted for more than 60% of the canton's exports in 1995.
- Generally speaking, the activities in the hotel and restaurant trade react very sensitively to currency fluctuations. As the above-mentioned statistics confirm, however, these activities are linked very closely to the international activities in Geneva. Even with the handicap of the franc's evolution, they continue unabated thanks to business travel and to the international organisations.

3.1.3 Some conclusions

In the period from 1975 - 1995 Geneva consolidated its image as an open and international city: the presence of the international organisations as well as the international services has built a coherent milieu which favours such a development. Furthermore, their various activities are not bothered by a strong franc. Industry, (except for jewellery and watch-making), on the other hand is running out of steam : "only research and high added-value production are still located in the canton, whereas the remainder of production and assembly work is to be found mostly outside the canton" (UBS, 1995).

3.2 *The mountain tourism system and the industrial system of Valais*

3.2.1 The broad features of the RPS

The Valaisan economy is characterised by the presence of two large groups of quasi-independent activities: on the one hand, a system of mountain tourism, the driving force of the Valaisan economy, and, on the other hand, an industrial system "focused" on the chemical and metallurgical industries. After the euphoria of the eighties, the tourist sector has barely returned to a growth dynamic; various elements hamper its recovery : fiercer international competition, unfavourable

exchange rate, introduction of VAT, etc. The industrial sector for its part is marked heavily by the presence of large firms (see Table 2).

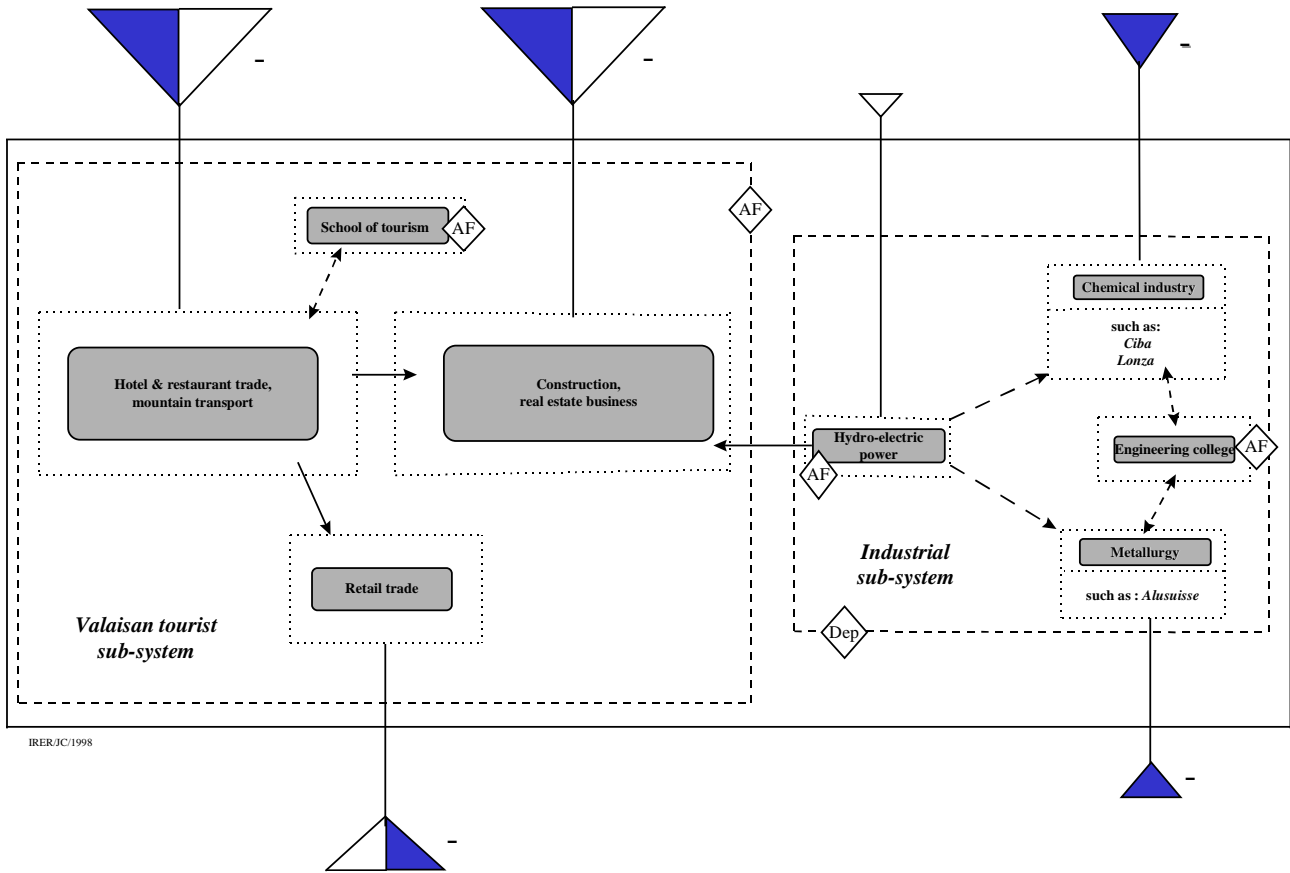
Usually, the classical definition of tourism only includes the major industries: hotel and restaurant trade, mountain transport (UBS, 1996). We apply a wider definition here which also embraces closely linked activities such as construction and real estate business.

Direct revenue (expenditure of tourists) from tourism in Valais at the end of the eighties was estimated to be about CHF 1.5 billion and CHF 3 billion including spin-off effects. According to the Valaisan Tourism Union, not only does one inhabitant of Valais in three earn his/her living thanks to tourism, but half the population of Valais depends economically or indirectly on tourism (Dayer, 1992).

The overnight hotel stays are split nearly equally between Swiss clients on the one hand (45% of overnight stays in 1995) and foreign customers on the other (55%). Valais thus accounts for nearly 13% of all overnight stays recorded in Switzerland.

Valais has never had a genuine industrial tradition which may explain the weakness of its industrial fabric as well as its dependence. At the end of the 19th century, and at the beginning of this century, the first large firms set up in Valais (Lonza in 1897, Ciba in 1904, Alusuisse in 1905) for the proximity to the sources of hydro-electric power: thus, "Valais experienced its first wave of industrialisation thanks to the taming of hydraulic forces" (Sodeval, 1996). The Valaisan industry does not really export, considering that its share accounted for only 1.53% of total Swiss exports in 1995. At the present time, the three above-mentioned multinationals employ nearly half of the industrial labour force of the region. The other half is employed by some 300 SMEs. The industrial fabric of Valais, like that of the rest of Switzerland, is composed of small-sized firms. Only about thirty firms employ more than 100 people (Dayer, 1992).

Table 2 : The mountain tourism system and the dependant industrial system of Valais



3.2.2 The impact of exchange rate

The Valaisan economy distinguishes itself by its great openness to the exterior, and its specialised activities, in addition, are generally not favoured by the Swiss franc.

- There is no doubt that the Valaisan system of tourism is suffering from the Swiss franc's appreciation: on the one hand, foreign tourists increasingly prefer other destinations, and on the other hand, Swiss customers are also being wooed away to fly to other climes more cheaply (by dint of the strong franc). The spin-off activities such as construction, real estate business or the retail trade have also been seriously affected by this phenomenon. A study conducted at the University of St. Gall (Jäger, Minsch, Abrahamsen, 1996) examined, for the period of 1980 to 1993, the influence of the Swiss franc's exchange rate on tourist demand originating in various countries. It turned out that for all the countries of origin considered, there was a significant statistical relationship between the level of the Swiss franc and the number of nights spent in Switzerland. An appreciation of the Swiss franc by 1% in real terms led to a fall of 0.4% to 2.3%

(depending on the country of origin) in nights spent in Switzerland by foreign tourists. Thus, the exchange rate fluctuations have a decisive influence on foreign tourist demand. Besides, the players in the sector of tourism can hardly relocate their production and they are bound irremediably to their geographical location. This being so, they frequently choose to hire underpaid foreign labour at the expense of service quality, even while attempting to develop strategies of co-operation.

- The industrial system of Valais, for its part, is characterised by the predominance of three large firms whose decision-making centres are not located in Valais. Quite on the contrary, the added-value of their activities is very low. The historical reason which brought them originally to the region (proximity to hydro-electrical power) has maybe lost its *raison d'être*. As a result, these rather unstrategic activities may well be relocated. The heavy investments required by these activities may, however, prevent this relocation in the medium term. As to the local SMEs, the strength of our currency hardly favours their exports.

3.2.3 Some conclusions

The Valaisan economy is subsumed nearly entirely in its sector of tourism. It is composed nearly exclusively of SMEs, and is thus very "fragmented", having trouble finding synergies and a certain coherence, although some initiatives (co-operation between various resorts, for example) are beginning to emerge. The industrial fabric, which is marked by an absence of autonomy and tradition, is not really rooted in Valais. The whole Valaisan economy is suffering from the Swiss franc's appreciation, and the quasi-absent co-operation between the local players hinders endogenous development processes.

3.3 *The urban system of the Lausanne conurbation and the tourist and cultural system: the Lake Geneva Coast, the Riviera, the Vaudois Alps*

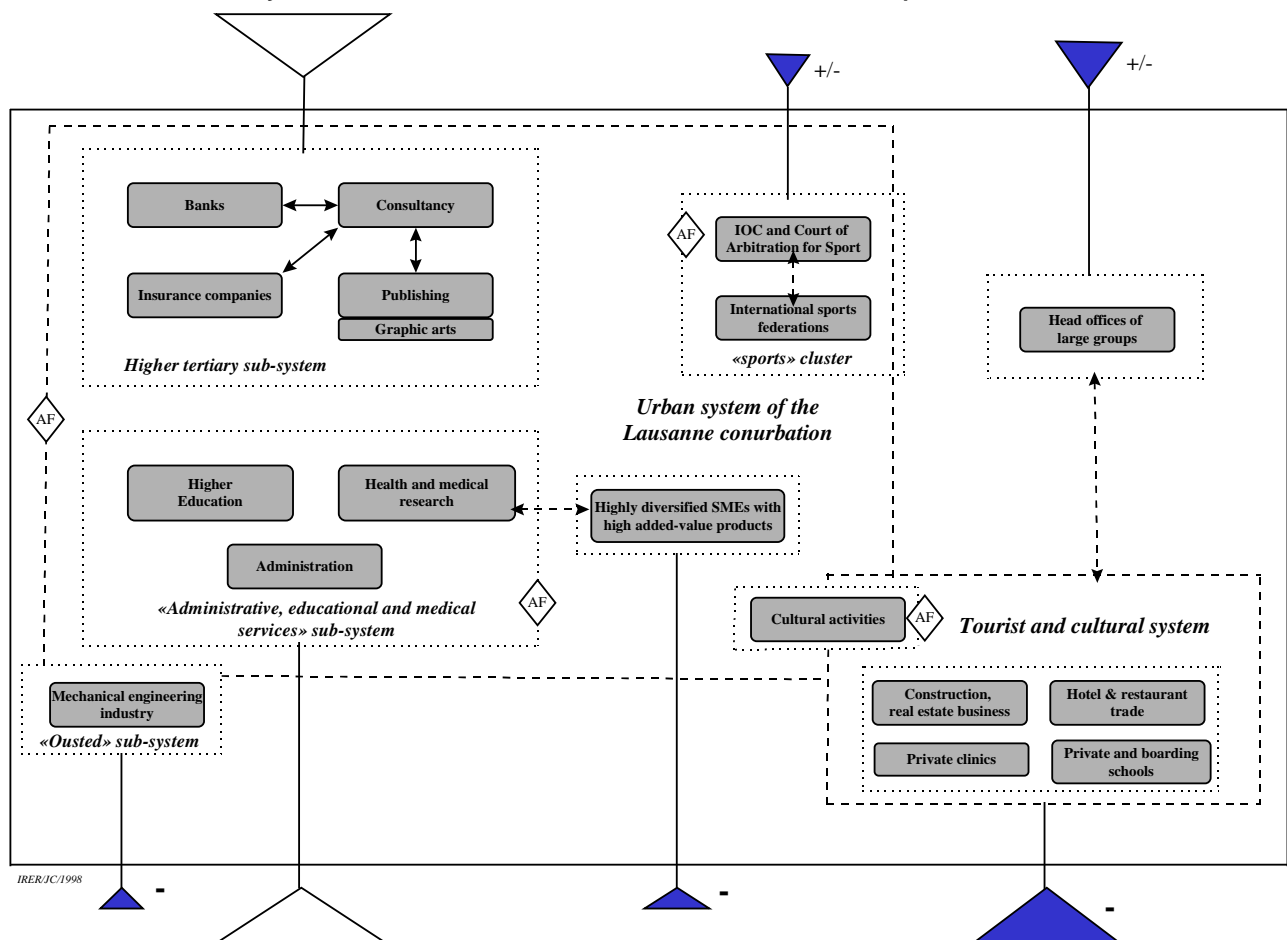
3.3.1 The broad features of the RPS

The economic fabric of the Lausanne conurbation is marked by great variety. Thus, its central geographic location (at the heart of the French-speaking part of Switzerland) is a predisposition for it to play the part of a central hub in various areas of activity: banking, insurance, publishing,... but also in education, training and research. As Cuhna states, "the scope of the social services and distribution services (communications, transport) in Lausanne emphasise both the weight of an

administration and of public services serving a vast hinterland and its centrality in the French-speaking part of Switzerland" (Cuhna, 1995). The fabric of the Lausanne economy is very varied, centred on controlling internal flows, with a heavy predominance of the tertiary sector, but its international openness is also surprising. It has consolidated its image as the Olympic Capital (with the IOC's headquarters located in Lausanne) and has thus managed to attract a large number of international sports federations.

The tourist system (the Lake Geneva Coast, the Riviera, the Vaudois Alps) have benefited from the cultural wealth of the region and of its specialities (educational and medical tourism) and now holds its own as a serious economic player (see Table 3).

Table 3 : The urban system of the Lausanne conurbation and the tourist and cultural system: the Lake of Geneva Coast, the Riviera, the Vaudois Alps



3.3.2 The impact of exchange rate

The urban system of the Lausanne conurbation is characterised by the strong presence of tertiary activities which are hardly affected by the franc's evolution. On the contrary, they are focused on

controlling internal flows; the tourist and cultural system has to some extent felt the impact of the Swiss franc, although it is not geared to mass tourism :

- The higher tertiary sub-system (banking, insurance, consultancy, publishing) is hardly concerned by this phenomenon. The basic revenue of this system is generated mainly in the neighbouring regions. To some extent banking and insurance in Lausanne act as the central hub of the French-speaking part of Switzerland. Edipresse also floods Western Switzerland. Consultancy focuses mainly on Lausanne and its environs.
- The "administrative, educational and medical services" sub-system is based on incoming flows from the rest of the Canton of Vaud or from the Confederation. These flows are not affected by the Swiss franc's evolution.
- The "sports" cluster does not suffer seriously from the franc's excessive valuation. A strong currency suits the brand image of those who are at the head of these organisations. In the long term, dollar-denominated wages and the disadvantages arising from a continuously unfavourable exchange rate may incite the administrators to reconsider their location. The head offices of the large groups established in the region have the same dilemma.

Other activities feel the franc's appreciation:

- The mechanical engineering industry, exiled to the outskirts of the city, is feeling the crunch from the strong franc. The fabric of "budding" SMEs is also being endangered by this situation.
- The tourist and cultural system suffers from the Swiss franc's appreciation. On the one hand, foreign customers are despondent and prefer other destinations. On the other hand, Swiss customers have no qualms about spending their vacations in other latitudes, given the attraction of the strong franc. This system does however benefit from special advantages (educational tourism and highly reputed medical tourism, a great cultural wealth that others envy for both its quality and its variety, ...) which somewhat soften the unpleasantness caused by the strength of our currency.

3.3.3 Some conclusions

Despite its complexity and its variety, the economic fabric of the Lausanne conurbation displays no real coherence. Nonetheless, the juxtaposition of the various activities serves as an easy explanation

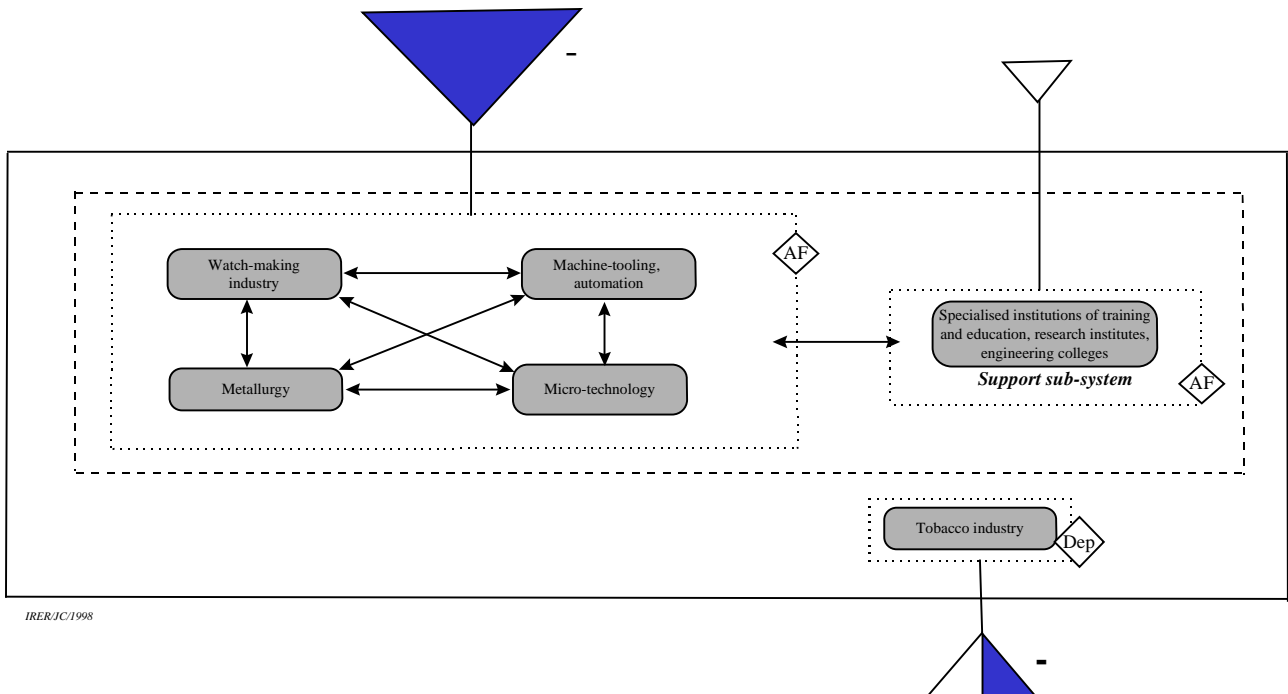
for the role of central hub in the French-speaking part of Switzerland that Lausanne has never stopped playing in the last twenty years. The tourist system has used its specialities and the advantages offered by the region well (varied and numerous cultural activities,...). On the whole, the system is not really thwarted by the strength of the Swiss franc.

3.4 The industrial production system in the Swiss Jura

3.4.1 The broad features of the RPS

The economy of the region of the Jura is characterised by its very strong specialities in the field of supplementary industrial activities: machine tooling, automation, micro-technology, metallurgy, jewellery and watch-making. This system, which is very open to the exterior and a fundamental exporter (about 15% of total Swiss exports in 1995), has a high concentration in various parts of the Jura region. This economy also distinguishes itself by the predominance of often very sophisticated, technological industrial activities and an abnormally low level of services rendered to firms. One should not forget to mention the presence of two large firms in the tobacco industry (see Table 4).

Table 4 : The industrial system of the Swiss Jura



IRER/JC/1998

3.4.2 *The impact of exchange rate*

The industrial system of the Swiss Jura is geared heavily to exporting and thus is particularly exposed to the evolution of the Swiss franc:

- The machine-tool/automation sector declined over the last decade. The high cost of the Swiss franc and the undervalued currencies of certain competitors reduced the competitiveness of the region's manufacturers as a consequence of which some firms went out of business and the machine-tool sector was subjected to accelerated restructuring (loss of jobs, take-over of firms by foreign groups). The high labour cost in Switzerland did not help recovery. As a result, the firms in the sector started a race in search of priceless advantages. What ensued was an uncontrolled upward spiral, on very narrow markets with increasingly sophisticated products the costly development of which could not be amortised anymore by means of sufficiently large production series (Grosjean, 1998).

Furthermore, whilst most of the mechanical parts had been manufactured in-house, the large firms in the sector out-sourced/subcontracted out many operations over the last fifteen years. They do not hesitate, at present, to obtain supplies at a lower cost abroad, a phenomenon which is accentuated by the strength of our currency.

- The watch-making industry, for its part, has managed to consolidate its position in the top-of-the range market. Thus, even though the share of Swiss watch-making production in the world's volume output has shrunk drastically in the past decades, the share in terms of value has grown unabated. The Swiss watch-making industry is thus positioned in the top-of-the range market. (FH, 1997).

Grosjean has observed two distinct periods regarding the strategies pursued by firms: until the beginning of the nineties, corporate strategy was devoted mainly to the development of new products. After this phase of innovation (new products, design and marketing), however, the main bulk of strategy was aimed at maintaining, even strengthening the links with the market, neglecting innovation. This being so, the firms concentrated on streamlining production, even relocating part of it. The concentration of large groups further intensified this phenomenon as they themselves were investing in the production of certain parts in Asia. Thus, some subcontractors in the region of the Jura were forced to close down, other diversified into the field of

mini-electronic components, the automobile industry, etc. In contrast, the remaining firms persevered in innovation trying to stay competitive in the face of competition from abroad. New production processes led to the lowering of cost price of components thanks to the introduction of regional innovation networks involving firms with complementary activities: manufacturers realised the need for streamlining and the changes that had to be made in manufacturing processes, so they invited firms specialised in mechanical engineering and in automation to design new production or assembly systems for them (Grosjean, 1998). Despite these efforts, there was some relocation of production, mainly at the low end and in the medium product range, whereas in the production of luxury and mechanical watches, where quality is essential, special long-term relations with the suppliers is and remains an asset for the branch, preventing relocation.

- The micro-technical industry, for its part, has concentrated on niches. The firms in the sector have developed products with a high technological content and closely observe the way in which their customers' needs change. Thus, they have managed to defy an unfavourable exchange rate with a strategy of specialisation.
- In metallurgy, especially in high precision turning, the appreciation of the Swiss franc is an additional obstacle to exports, but also in an indirect manner, inasmuch as the principals (customers) obtain supplies abroad or relocate. This has made high precision turners compete with each other, sometimes they produce in-house or set up and develop activities abroad. The result is stiffer requirements and eroded margins in certain markets. Thus, the high precision turners felt obliged to diversify their outlets.

3.4.3 Some conclusions

The industry of the Swiss Jura has been deeply marked by the appreciation of the Swiss franc. All branches have turned to niche markets, which implies limited production series. The large firms have restructured (rationalisation of production, relocation, ...) and many SMEs have vanished : in the watch-making industry, for example, jobs have dwindled from more than 48'000 in 1997 to about 23'000 in 1995. The surviving firms have nonetheless benefited from a milieu favouring the development of a micro-technical industry, thanks to the combination of the various technologies and regional skills.

4. Conclusion

From a regional point of view, there is no doubt that the policy of a strong franc, which is implicitly supported by the Swiss National Bank, has fragilised entire regions and resulted in a dead loss of jobs in tourism and in the exporting industries in particular, surrendering these activities to great pressure from competition. On the other side, financial and importing activities, which are concentrated in the large urban centres in Switzerland (Geneva, Zurich, Lugano,...) , were favoured by this evolution, as the long-term appreciation of the franc gave them a substantial advantage. Other urban regions (Lausanne, Berne, ...) with a focus on controlling internal (public or private) flows have hardly been affected by the evolution of the franc, and have thus been afforded a steady expansion.

Thus, the strength of the franc accentuates the regional disparities in an increasingly evident manner. At a time of full employment in the Swiss economy, up until the beginning of the nineties, such a policy did not provoke any violent reactions. At the time, the Swiss National Bank argued that a firm franc would incite industrialists to specialise in high added-value sectors. There is no doubt whatsoever that the evolution in the watch-making industry (Crevoisier, 1993) is close to such an approach. Other branches, for example the chemical industry, also re-enforced their competitiveness. Let us underline, however, that these "successes" have been offset by extensive job losses in Switzerland.

Furthermore, in a context of globalisation and liberalisation, a strong currency is particularly helpful to the expansion and relocation strategies of large multinationals. SMEs hardly have the organisational and financial capacities to consider these different types of scenarios. And as Juvet points out: "One can at a pinch accept that transnationalisation is apparently irreversible, but it is a moot point whether the phenomenon is accelerated by the strength of national currencies" (Juvet, 1996)

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