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the Swiss debate in the European context**

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***Voluntary amalgamation of local
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the Swiss debate in the European context***

Bernard Dafflon
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In the policy domain, no one seems to have asked to what extent the theoretical foundations for structural reform play a role in real-world structural reform programs. Put differently, can extant and new economic theory on optimality in local government structure explain the observed incidence of structural reform in actual local government jurisdictions?

B. Dollery and L. Robotti

Introduction, page 3

The Theory and Practice of Local Government Reform, 2008

The debate about the amalgamation of local government units (thereafter LGUs for simplicity – in Switzerland: “communes” or “Gemeinden”) usually stems from the fact that LGUs’ political borders (the institutional territory) do no longer coincide with the economic boundaries required for an efficient provision of most local public services (the functional territory). And both do not correspond with the relational territory which arises out of the private and professional activities of LGUs’ residents as they commute daily or periodically for work, shopping and leisure (Dafflon and Ruegg, 2003: 890). Additional problems are the openness of economic activities and the emergence of industrial clusters which largely overlap local boundaries. Finally, urban areas and agglomerations usually regroup several neighbouring LGUs whereas the needs for specific public services are identical in each of them and require horizontal cooperation.

The core question of this paper is how to reform the institutional and functional territories in such a way that public services are delivered efficiently, according to local preferences and in a way that responds to the needs expressed in the larger relational territory. For the local public sector, the main concern is the reorganisation in a new, coherent public institution of the three circles of deciders, beneficiaries and payers, that is:

- the residents in the commune that vote the provision of a public service (admittedly, corporate business and business units have no vote),
- the users whose residence or domiciliation can be in but also outside the territory of the LGU which provides the service and
- the taxpayers when according to the principle of origin, taxation is attributed to the commune of residence of individuals or legal domiciliation of business companies.

Several financial or spatial solutions are possible to restore the coincidence between the three circles. If we abstract from financial transfers, the theoretical and practical answers are that LGUs should either coordinate horizontally or amalgamate. Horizontal coordination is possible under various legal regimes, through private contracts, or through public and administrative law (special service precinct, syndicate of LGUs and association of communes, for example). In the Swiss context, Della Santa (1996) was first to explore from the point of view of institutional and political economy the issues of horizontal cooperation between LGUs under private or public law. Dafflon and Ruegg (2001) further developed the issues in designing the “optimal” institutional agglomeration (urban areas), a theme which was thoroughly scrutinized and pursued by Perritaz (2003b). At the same period, Frey and Eichenberger (1999, 2006) proposed

a totally different approach with the FOCJs, for functional, overlapping and competing jurisdictions. This paper focuses on the voluntary amalgamation of LGUs, one of the possible solutions experienced in the Swiss case. But first, three general points deserve some attention.

✓ The debate about the size of government units is not new. Olson (1969) discoursed on the principle of fiscal equivalence between deciders, beneficiaries and payers in the division of responsibilities among the different levels of government. Following Oates (1972: 38ss) and King (1984: 50-85), most first generation theories of fiscal federalism have devoted pages to promoting the “optimal size” of local service precincts. But this does not help the territorial organisation in practice for at least three reasons. First, the theory is developed for one service¹, whereas LGUs propose a basket of local public services. Second, it does consider only purely economic arguments, drawing a flat functional and territorial map, whereas one knows that local territories result from past history and from social, demographic and geographic environmental variables. Third, amalgamation is a political and democratic process, not an economic and technocratic drawing. Practices show other roads (Swianiewicz, 2002; Dollery and Robotti, 2008).

✓ The debate divides Europe in two territorial blocks which also correspond to two political options (Dafflon, 2003: 276-77). Table 1 recapitulates. [1] Between 1952 and 1972, compulsory amalgamation by decision of the centre has been an almost exclusive specificity of countries in the North of Europe, with a drastic reduction in the number of LGUs. Compulsory amalgamation in the South (the “Latin” world) was not successful. [2] From this period, voluntary amalgamation is dominant in the South of Europe. Switzerland is an interesting border case: except for one canton (Glarus in 2006), all LGUs’ amalgamations have been on a voluntary base including in the German speaking cantons.

¹ On this point, I would urge the profession to stop presenting this approach as a theory of the optimal size of local government when it is, in fact, the optimal size of one functional service precinct. This is substantially different and cannot be transposed without important theoretical changes to existing political government units.

Table 1 LGUs' amalgamation policies, Europe, Selected countries

country	year	reference	Number of LGUs		
			before	after	2007
Norway	1952 1956	Committee on the amalgamation of municipalities Law on the amalgamation of municipalities	744	454	431
Denmark	1958	Law on the re-mapping of municipal jurisdictions Municipal	1385	275	
	2005	Reform of June 21, 1975 (effective 2007)			98
Sweden	1961	Expert committee on LGUs' regrouping "principles on the new mapping of municipalities"	2281	278	290
England	1967	Radcliff-Maud Report			
	1972	Law on local governments	1383	402	354
Germany	1969	Wagner thesis: "Territorial Reform of Local Government in the Länder" (from 1971 to 1980)	24386	8501	12312
Belgium	1971	Law of July 23, on the amalgamation of communes	2669	596	589
France	1971	Law of July 16, on the amalgamation of communes	38814	36433	36683
Italy	1971	Creation of regions with "ordinary statute": communalization	8032	8066	8101
Spain	1978	Constitution of December 29, 1978	8800	8150	8111
Switzerland	From	Ad hoc cantonal decrees on the amalgamation of communes, from canton to canton	(1970)	(2011)	
	1973		2915	2551	2721

Sources: Derycke and Gilbert 1988; Council of Europe, 1995; for 2007: Hoorens, 2008; for Switzerland: Swiss Statistical Office, various years.

✓ Too many too small communes is a real preoccupation in European countries² (Marcou, 2000; Swianiewicz, 2002), but not only. A unique case is that of Quebec.³ In 2000 the Provincial Parliament passed a series of laws that obliged municipalities to amalgamate (from 212 to 42 communes) for two main reasons: [1] too much fragmentation was creating inefficiencies in the delivery of local public services and a proliferation of spillovers; [2] the proliferation of intermunicipal collaborations reduces the openness and clarity with respect to decision-making and diminishes political accountability to residents (Québec, 2000: 20). In the 2002-3 campaign for the Provincial election, the opposition party (Parti Libéral du Québec - PLQ) promised legislation changes in order to permit residents to decide through referenda whether they would maintain the amalgamations that were imposed by the former government or return to the previous situation. When the opposition came into power, the "des-amalgamation process" was launched⁴ not because the previous reasons were wrong, but because the now-in-power PLQ was against "compulsory" amalgamation. This move illustrates one of the key problems of LGUs amalgamation: sound economic arguments versus participative democracy.

² See also the special issue of «Pouvoirs locaux», no 81 II/2009 on "Territories in the European Union": decentralization, territorial rationalization and local organization in Europe. <http://www.idecentralisation.asso.fr/revue.php>

³ Perritaz, 2003a, gives a thorough account of this historical sequence and draw the lessons on "compulsory" versus "voluntary" amalgamation, and for Switzerland.

⁴ The des-amalgamation process required a majority of votes (51%) and minimum participation threshold (35%). The referendum was demanded in 89 pre-amalgamation municipalities. In 58 the result was the amalgamation status quo and in 31 a des-amalgamation.

With this foreword in mind, the present paper is divided in six sections. Section one summarizes the the debate about LGUs' amalgamation in the Swiss context, past and present. Past, because without due attention paid to the political history of communal amalgamations in the cantons, one does not understand the "voluntary" versus "compulsory" core issue. Present, because despite a modest decrease in the number of communes (from 3021 in 1990 to 2551 at the end of 2010), Switzerland is the successful story of voluntary LGUs amalgamations in Europe. Section two tackles the fundamental problem: if too many LGUs are too small, when is small too small and why? Horizontal cooperation is one possible solution, but it creates serious problems, explained in Section 3. Section 4 presents the core concept of "noyaux durs" which is one of the effective approaches to LGUs amalgamation. Section 5 details the cantonal financial incentives that are needed to encourage voluntary amalgamation, besides a cantonal planning strategy and technical help in the process of amalgamation. Section 6 concludes with some notes on the performance of the system.

1 Local governments' amalgamation in Switzerland: a reminder

The trend of LGUs' amalgamation in Switzerland is summarized in Table 2 which gives the decrease in the number of political communes in the cantons for the 1950 – 2011 period together with the average and median population size per commune per canton. The actual average population per commune is around 3000 – which corresponds to the lowest figures in the Europa league just before Slovakia, France, Cyprus and the Czech Republic, all with less than 2000 (Dexia, 2008: 41). The value of the national median is 1378 residents – but with figures as low as 377 in Graubünden.

Yet, although several cantons have promoted amalgamations through financial incentives, only three of them, Fribourg, Bern and Ticino, proposed a policy target before 2000. Seven other cantons have joined the club thereafter, though in most cases on the basis of a "non-official" reference planning – which really illustrates how politically sensitive is the issue. Table 3 summarizes and gives the references. Two cantonal historical paths serve to exemplify the "voluntary" versus "compulsory" issue and, at the same time, the tension between economic and political variables. One canton is Fribourg, with the oldest policy experience. The other is Glarus, where compulsory amalgamation of communes was recently imposed top-down – though democratically decided - reducing their number from 25 to 3.

Table 2 Number and population size of Swiss communes, per canton

canton	Number of communes (situation January 1, reference year)						variation		Population 2009		
	1950	1990	2000	2005	2009	2011	1990-2000	2000-2011	Resident	average	median
Zurich	171	171	171	171	171	171	0	0	1'332'727	7'794	3'403
Berne	493	412	400	398	392	383	-12	-17	969'299	2'473	934
Lucerne	107	107	107	103	88	87	0	-20	368'742	4'190	2'175
Uri	20	20	20	20	20	20	0	0	35'162	1'758	814
Schwyz	30	30	30	30	30	30	0	0	143'719	4'791	3'041
Obwald	7	7	7	7	7	7	0	0	34'429	4'918	4'752
Nidwald	11	11	11	11	11	11	0	0	40'737	3'703	3'249
Glarus	29	29	29	27	25	3	0	-26	38'370	1'535	1'001
Zoug	11	11	11	11	11	11	0	0	110'384	10'035	8'299
Fribourg	284	259	242	176	168	167	-17	-75	268'537	1'598	930
Soleure	132	130	126	126	125	121	-4	-5	251'830	2'015	1'028
Bâle-Ville	3	3	3	3	3	3	0	0	186'672	62'224	20'539
Bâle-Campagne	74	73	86	86	86	86	13	0	271'214	3'154	1'273
Schaffhouse	35	34	34	32	27	27	0	-7	75'303	2'789	820
Appenzell Rh.-Ext	20	20	20	20	20	20	0	0	53'054	2'653	1'689
Appenzell Rh.-Int	6	6	6	6	6	6	0	0	15'549	2'592	2'004
Saint-Gall	91	90	90	89	86	85	0	-5	471'152	5'479	3'741
Grisons	221	213	212	208	190	178	-1	-34	190'459	1'002	377
Argovie	233	232	232	231	229	220	0	-12	591'632	2'584	1'483
Thurgovie	201	179	80	80	80	80	-99	0	241'811	3'023	1'936
Tessin	257	247	245	204	169	157	-2	-88	332'736	1'969	860
Vaud	388	385	384	381	375	375	-1	-9	688'245	1'835	512
Valais	170	163	163	153	143	141	0	-22	303'241	2'121	969
Neuchâtel	62	62	62	62	53	53	0	-9	170'924	3'225	1'201
Genève	45	45	45	45	45	45	0	0	446'106	9'913	2'604
Jura	-	82	83	83	64	64	1	-19	69'822	1'091	552
Total	3101	3021	2899	2763	2624	2551	-122	-348	7'701'856	2'935	1'378

Sources: 2000 à 2009: OFS:<http://www.bfs.admin.ch/bfs/portal/fr/index/themen/01/02/blank/data/01.html>;
2010 ; OFS:http://www.bfs.admin.ch/bfs/portal/de/index/infothek/-nomenklaturen/blank/blank/raum_glied/01.html.
Up-dated information in : http://de.wikipedia.org/wiki/Gemeindefusionen_in_der_Schweiz

Table 3 Cantons with a targeted planning in LGUs' amalgamation (2011)

Canton	Year of planning	Number LGUs at the time	proposal	Number of LGUs 2011	Difference to target
Fribourg	1974 / 1999/2011	245	89	167	- 78
Bern	1998	400	70	383	- 313
Ticino	1998	245	86	157	- 71
Luzern	2000	107	min. 3000 H _i	87	?
Valais	2001	163	n.a.	141	?
Neuchâtel	2006	62	11	53	-42
Vaud	2006	381	107	375	- 268
Glarus	2006	25	3	3	Ok
Jura	2007	83	29	64	- 35
Aargau	2007	229	17	220	-203
Solothurn	2008	125	Concept to be studied by the department of local affairs	121	?

Sources : Fribourg Dafflon 2000; Ticino Il cantone e I suoi comuni, Dipartimento delle Istituzioni Sezione Enti Locali, Bellinzona, 1998, vol. 2b ; Luzern Regierungsrat "Luzern 99" Massnahmen für eine Strukturreform im Kanton Luzern, 17 Januar 1997 ; Valais Commission paritaire pour les relations canton-communes, 4^{ème} rapport relatif aux fusions de communes, Canton du Valais, Sion, décembre 2000 ; Neuchâtel, Rapport 06.014 du 8 février 2006 du Conseil d'Etat au Grand Conseil à l'appui d'un projet de décret relatif à l'utilisation du solde du fonds destiné aux réformes de structures des communes ; Vaud Golaz, 2006 ; Solothurn <http://www.so.ch/fileadmin/internet/vwd/vdgem/pdf/gemeindeorganisation/> Glarus see below in the text; Jura Chappuis, 2007 ; Aargau "Unterstützung von Gemeindefusionen", Botschaft des Regierungsrats des Kantons Aargau an den Grossen Rat vom 19. Januar 2011.

Fribourg

The history of amalgamation in the canton of Fribourg (with three key dates: 1974, 2000 and 2011) is synthetic of the European debate in time and content. One cannot understand the whole process of voluntary amalgamation in Switzerland without reference to this case study because the canton of Fribourg has been a key player and leader in this policy for the last forty years (Dafflon, 1998, 2000 and 2003).

✓ In the early 70s the Canton's Executive mandated a study on the "efficient size of the communes". The "Gaudard-Piveteau" Report (1971) examined five functions and proposed two thresholds: communes should count at least 1000 residents for an efficient local administration, for primary education (with two-degree classes), sport centre and robust tax resources, and at least 5000 beneficiaries for clean water networks. The study was not based on theoretical criteria but on cross-section panel data observation of the actual public expenditures in the communes, which gave some kind of admitted U-shape average cost curves. The result was a proposal to reduce the number of communes from 284 to around 90. Following the Report, the cantonal Executive decided a "Nordist" approach⁵ with a draft law on the compulsory amalgamation of communes. The law was accepted on May 21, 1973, in Parliament with an "87 for - 9 against" vote. The referendum was demanded by a group of citizens residents in small communes, who finally got the last word. The law was refused in cantonal vote on May 26, 1974 by 60% of the voters.

The Government's Message and the minutes of the Parliamentary debates contain all the pros and cons that were discussed in Europe at the time (Canton of Fribourg, BCG, 1973: 333-369): small is beautiful but expensive, larger would be better which permit administrative economies, economies of scale and improved efficiency in the production of local public services, internalization of spillovers, more robust tax bases. Compulsory amalgamation was justified mainly for economic reasons. Opponents justified their position on democratic arguments: "voice" and free democratic choice at the grass root level, no top-down administrative and technocratic process. At the same time, started a successful campaign for the voluntary amalgamation of communes, which has reduced their number from 284 (1974) to 167 (2011).

✓ The amalgamation policy initiated in 2000 for six years was the last, in the cantonal Executive's view, to obtain a financial aid. It introduced a substantial change in the grant system (see below, section 4) aiming at giving a new incentive to the voluntary amalgamation policy. It was based on a territorial map of voluntary amalgamation using the new concept of "noyaux forts" (Dafflon, 2000), which would reduce the number of communes from 245 (1999) to 89.

✓ In 2006, a Parliamentary motion commanded the Executive to present a "third phase" law on amalgamation (BGC, 2010: 2252). The objective is to attain less than 100 communes, with an adaptation of the financial incentive. The law was submitted to compulsory referendum and accepted on May 15, 2011, by 73% of the voters. It will come into force on January 2012.

⁵ Fribourg is on the language border between French and German. The canton is official bilingual, as also is its capital city. The language distribution is around 2/3 French speaking and 1/3 German speaking, with German speaking communes in the North and North-West of the cantonal territory.

The 1974-199 voluntary amalgamation policy aimed at merging very small communes (to a larger neighbour LGU) which had financial problems, mainly insufficient tax base owing to the new (unfunded) mandated functions assigned to communes (environmental policy, reform of the hospital network, residences for elderly disabled persons). In fact, behind the words, it was bail-out policy. The 2000-2005 sequence aimed at increasing LGUs' size (number of residents) in order to reinforce their budget position and financial capacity with tax pooling on a larger base. With the 2012 new incitative policy, the target is the amalgamation of larger municipalities in urban areas in order to solve the problems of land zoning, common infrastructures for clusters and to reduce tax competition within the same (but at the moment "inter-communal") development zone – though this is not officially expressed in these terms.

Glarus

The recent history of amalgamation in canton Glarus is also very informative of the debate around voluntary versus compulsory amalgamation of LGUs.⁶ In 2005, the canton was divided in 27 communes, 18 school districts, 16 social aid service precincts and 9 Bürgengemeinde. The cantonal executive proposed a territorial reform to reduce these four territorial mapping to 10 communes in charge of all these functions. Since the proposal needed a constitutional change, the Landsgemeinde of November 3, 2006 - in Glarus, the direct assembly of citizens – was to vote the issue. But a citizen's proposal that 10 were too much and 3 would be better (which correspond to the natural geography of the canton) obtained a short majority to the surprise of both the cantonal executive and the assembly.

The Landsgemeinde decision was challenged, first in the cantonal Court, then in the Federal Supreme Court of Justice, with the argument that the proposal for 3 communes was not made in advance and not written in the calling of the assembly. Thus decision was not taken with full knowledge of the consequences. Eventually the Federal Court confirmed on November 3, 2006 the validity of the proposal and the legal obligation for the cantonal executive to re-study a new territorial map with 3 and not 10 communes. Soon, an initiative was launched by a group of citizens under the motto "a reform for efficient, democratic and fair LGUs in a dynamic cantonal setting" in order to return to 10 communes. The initiative succeeded and, for the first time since the 1887 cantonal Constitution, an extraordinary Landsgemeinde was to debate the issue on November 25, 2007. The reform with three new communes was confirmed. The new communes have been enforced on January 1, 2011.

In both cases (10 or 3 LGUs), the government's arguments were that the reform should simplify the territorial mapping, regroup functions under a unique local institution in order to increase efficiency in the production and delivery of local public services, administrative simplicity and better management, political accountability, enlarged financial and political powers vis-à-vis the canton and increased autonomy of decision.

⁶ Web page of canton Glarus, www.gl.ch/xml_1/internet/de/application/d578/f598.cfm "Gemeinde-reformen". Also http://de.wikipedia.org/wiki/Glarner_Gemeindereform

2 Too many too small LGUs ?

The usual argument for the amalgamation of LGUs is that many of them are too small to perform economically and efficiently the functions assigned to them. The assumption is that for a large proportion of local collective service the production function takes a U-shape curve with decreasing average costs, mainly due to the importance of infrastructure and fixed operating costs. In other words, the “size” of the political territory is smaller than the “optimal functional” size of the producing jurisdiction, service per service. Thus it would be sound economic management to enlarge the former to coincide with the latter. This argumentation runs along the traditional fiscal federalism theory of the optimal size of service precincts. But, this assertion raises two questions in practice: what is too small and why?

What is too small?

When the “size” of LGUs is not adequate, what is the reference: the number of residents in a commune, the number of beneficiaries of local public services, the population density or the area to be covered? The usual theoretical answer is the number of service users or beneficiaries; and the geographical landscape of the model is flat. But this is not so in practice.

Take the example of primary school. Beneficiaries are the school-aged children, neither the residents nor the voters. Yet the number of beneficiaries (the “optimal” N in the U-curve) cannot be counted as a direct reference because school-aged children are distributed in level-classes: thus the “optimal” size does not simply depend on the number, but also on the preferred organisation of level-classes. And it may well be that a LGU accepts (prefers) three classes with two levels each in its own school building rather than a school with six one level-classes in a larger school district. In this case, the medium term demography of LGUs (actual and future proportion of school-aged children to population) and the school organisation are additional variables. And since the map is no flat, distance and topography may also play a crucial role. Therefore there is no general answer to this example which needs case to case analysis – even though the economic arguments of economies of scale, decision costs and local preferences partly hold in all circumstances.

Another difficulty appears when local services are partially substitutes. Take the example of family and medical home care versus residential houses for elderly people. In the aging process, the need for one service or the other is not edge cut, but a grey zone leaving place for appreciation. Yet the production functions are clearly different, almost constant average costs for care at home, and U-shaped with a limit of capacity for residence (Blum, 2008: 97-99). Up to a certain point, the need for a larger functional jurisdiction will clearly depends on local preference for one type of care or the other, proximity and the demographic distribution in the concerned LGUs. The debate for the centralization of maternity is of the same vein: proximity, quality of the service, professional ability of the doctors and nurses, sophistication of the technical equipment are most often mentioned. Answers are various and do not stem from financial and managerial arguments only.

Yet, even if one accepts that in the three above examples, the functional dimensions exceed the institutional territories and enlargement is appropriate, the new functional

perimeters needs not be the same. The open question is thus what could be the adequate size of the new enlarged political jurisdiction for a functional “basket” with the three functions?

Why too small?

In textbook fiscal federalism, the traditional explicative variables around the issue are: the homogeneity /heterogeneity of individual preferences for local public goods and services, possible economies of scale, geographical externalities (positive) and congestion costs due to commuters, information and decision costs (Oates, 1972: 38-53; King, 1996: 55-76; Swianiewicz, 2002: 10-11). The question is whether empirical studies confirmed this approach, or add other additional criteria. Table 4 summarizes the methods and results for the canton of Fribourg. Focusing on one canton is interesting for four reasons: (i) the institutional environment is homogenous through time; (ii) the period considered (1967-2010) is long enough to present robust results; (iii) the amalgamation policy in this canton has developed in three phases: 1974-1999, 2000-2005 and 2011-2018, with specific changes in the financial incitation of the canton to encourage voluntary merging of LGUs; (iv) two documents from the cantonal Executive (1999 and 2010) allow to confront the respective arguments of the canton and its communes.

Four categories of reasons can be observed: financial arguments, efficiency in the production and delivery of local public services, political institution and participative democracy. The first two categories appear throughout the reference periods and sound familiar: LGUs should offer local public services, efficiently produced and delivered [2 below] under the budget constraint [1] with a view to maximising the fiscal differential if they want to remain attractive in fiscal competition. Categories [3] and [4] relate to the institutional position of local elected executive and, more recently, to participative democracy – two outsiders in the fiscal federalism literature.

Table 4 Main reasons advocated for amalgamations of LGUs, canton of Fribourg

Case study	Dafflon	Cantonal Executive	Zbinden	Guerry-Berchier	Cantonal Executive	
	1998	1999	2008	2009	2010	
canton	Fribourg	Fribourg	Fribourg	Fribourg	Fribourg	
N of amalgamation	32	decret	56	37	law	
period	1967-1999	2000 - 2005	1999-2006	2000-2006	2012-2018	
method	text analysis 1)	text analysis 2)	author's appreciation	questionnaire (52 returned)	questionnaire (31 returned)	text analysis 3)
Financial argument						
1	the negative fiscal position under a hard budget constraint;	28		x	42	
2	weak financial position prior to amalgamation				35	
3	increase tax potential or lower fiscal stress		X	x	36	
4	increase financial or investment capacity			x	35	21 equal; 3 increased; 4 decreased
5	financial aid of the canton				44	7
6	too much reliance on fiscal equalization		X			
7	cantonal pressure					2
Production and delivery of services						
8	economies of scale		X		48	
9	increased efficiency in the production of services					X
10	new demands from residents			x		
11	the possibility for the recipient municipality to extend its development zone	13				
12	the need for coordination in the technical provision of local public services	4				
13	increasing complexity in existing function			x		
14	better vertical assignment of functions between the canton and the communes		X			
Political institution, executive						
15	the difficulty to find candidate for the local executive	14	X	x		3
16	better efficacy of elected				35	
17	the rationalization of municipal management and mutual interest in administrative efficiency,	15			36	"central"
participative democracy						
18	increased autonomy				40	24 equal ; 8 better
19	political weight in horizontal and vertical negotiations					11

1) Minutes of the meetings of local executives and local citizens' assemblies ; 2) Message du 12 octobre 1999 relatif à l'encouragement aux fusions de communes ; 3) Message du 21 septembre 2010 accompagnant le projet de loi sur l'encouragement aux fusions de communes.

[1] On local public finances, the “hard” budget constraint is an essential explicative variable for pushing LGUs towards amalgamation. It must be noted that the cantonal legislation on the organisation and functioning of local government requires a balanced current budget, including amortization of the debt respecting the pay-as-you-use principle.⁷ If this is not respected, taxation must be increased. Two correlated arguments are the necessity to reduce the tax stress – partly with regard to horizontal tax competition – and the need for LGUs to propose new investment projects for maintaining or increasing the “attractiveness” for residents or activities. One interesting argument is the need to pool the tax bases for reasons of risk aversion and sustainability in the local budgets.

[2] Gaining efficiency in the production and delivery of local public service corresponds to the textbook arguments: economies of scales, local preferences (“new demands”) and horizontal coordination (a term which probably corresponds to geographical externalities or spillovers rather to congestion costs – owing to the small size of LGUs in the canton).

[3] The institutional category relates to the position of the elected executive, on one side, and the general administrative management of LGUs. The first argument is the difficulty of finding a sufficient number of good candidates for local executives in a system where this position is exercised by non-professional politicians, besides their own professional activities.⁸ This situation already existed prior to 2000, but the stress appears to have increased more recently. Second, larger local government can provide better qualified professional profiles to unload elected executives from managerial and pure administrative tasks - a situation that may lead to more public interest and participation in local politics.

[4] The last group of reasons for amalgamation corresponds to participative democracy. It can be explained in the following way (Dafflon, 2000: 846-850 ; Perritaz, 2003b: 265-271). Swiss LGUs have a long tradition in the search for productive efficiency and minimum average unit cost in the production and delivery of local public services. If “small is beautiful”, one also knows that it can be expensive. Thus for decades, LGUs have engaged in horizontal cooperation in order to minimize costs, size economies of scales and internalize geographical externalities. Based on a questionnaire to which 2391 LGUs answered (82% return), Ladner et al. (2000: 71)

⁷ This corresponds to the revisited ‘golden rule’ that requires balance or surplus on the current budget and accepts borrowing only for investment purposes. “Revisited” because the debt resulting from investment must be reimbursed on the pay-as-you-use basis, that is on a linear basis within a period of time that corresponds to the effective use of the infrastructure (33 years for a school building = 3% annual amortization), with the argument that after the referred period of time, rehabilitation of the property will be costly despite correct annual maintenance expenditures.

In the canton of Fribourg, if current expenditures including interest and debt installment exceed revenues (2% at the cantonal level, 5% at the local level in the budget as well as in the account balance), taxation on income and business profit must be increased to restore balance. The constraint is “hard” not only with regard to this rule but also because more than 95 per cent of local revenues are own revenues for mandated functions as well as for own expenditure choices.

⁸ In Switzerland, except in large cities and urban areas, most members of LGUs’ executives are not professional. They often not only bear political responsibilities but also accomplish administrative and managerial tasks. Resignations during the legislative period (4 or 5 years depending of the canton) for professional reasons and too much work load in the commune is frequent.

estimated at 21 697 the number of LGUs' engagements in horizontal cooperation in 33 local functions. The six functions at the top were primary school (76% of the communes), medical care (70%); waste water treatment (66%); drinking water (63%); civil defence (62%) and care to elderly people (58%). Decisions in specific service precincts organised under public administrative law are in the hand of delegates who are appointed by LGUs' executive (only in a few cantons, designated by the LGU's local assembly), and vote freely. With the multiplicity of special service precincts, which cover different functional territories (each corresponding to another club of LGUs), transparency is questioned and direct democratic decisions at the local level – citizens' assemblies and local parliaments – are fading away. The amalgamation of LGUs that all belong to several same service precincts could internalize horizontal cooperation and restore direct decision of local voters. This argument is at the core of the concept of "noyaux forts" developed by Dafflon (2000).

The cantonal arguments

The cantonal interest in voluntary amalgamation of LGUs (yellow shaded in Table 4) is indirect in comparison to those related in textbook fiscal federalism. Access to economies of scale (productive efficiency and cost saving) and increased tax potential will produce better financial results of the communes, which in turn will facilitate the vertical re-assignment of functions between the canton and LGUs (larger and financially healthier communes can do more), which will in turn reduce the need for fiscal equalization.⁹ Of course, the cantons also provide arguments which appeal to LGUs: it would be easier to find candidates for the executive because the tasks would be more interesting, autonomy is increased. In the 2010 message (BCG, 2010: 2146 and 2260) the arguments are given without detail: amalgamation would increase productive efficiency, financial and investment capacity and restore local autonomy!

3 Five problems with horizontal cooperation

Whereas horizontal cooperation at the local level in the form of functional jurisdictions and ad hoc service precincts resolve the economic problem of too small municipalities, it also creates a new situation and the emergence of new difficulties. One category of difficulties arises because of the institutional arrangement. The other big problem is the lack of transparency due to the multiplication of territorial divisions, possibly one for each local responsibility. All these problems, latent in the late 1980s and left aside because priority was given to economic efficiency and to the need of accessing to new services, became evident in the last decade. They can be explained under the five following caps: (i) the principal – agent problem; (ii) Information asymmetry; (iii) moral hazard; (iv) the lack of transparency resulting from the excessive complication in the territorial organization of local public services and (v) less participative democracy.

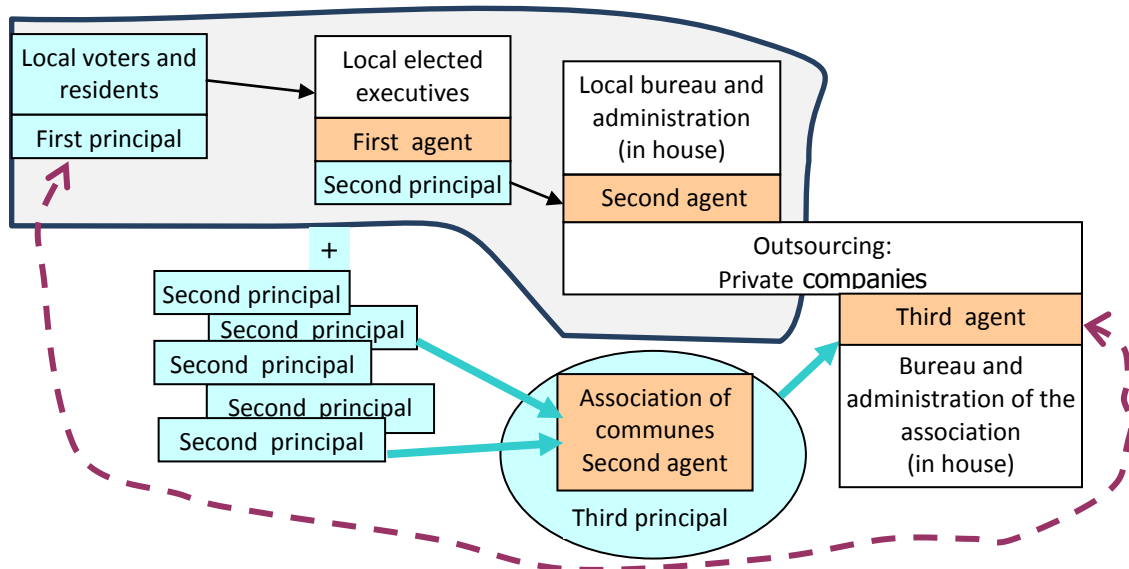
The principal – agent problem

In a local parliamentary democracy, resident voters are principals who elect the LGU's executive. Local elected (acting as first agent) are responsible for the provision of

⁹ In Fribourg, revenue equalization, based on RTS (eight tax sources) and LGUs' potential tax capacity is horizontal. Expenditure needs equalization is vertical, funded by the canton, and correspond to 50% of the revenue equalization annual fund. Thus, better tax potential reduces the need for revenue equalization and in a domino effect the amount that the canton will pay for expenditure needs equalization. See Dafflon 2010.

(offer) but do not produce themselves local public services. In turn the LGU's executives (in the role of second principal) contract out the production of local public services either directly to local civil servants (in house production) or indirectly to private enterprises (second agents). From the point of view of the production of local public service, this process is characterised by a chain of "principal – agent" relations.

Figure 5 The "principal-agent" chain in horizontal cooperation



With inter-communal horizontal cooperation, the problem is more intricate since "the second" principal is no longer unique: several LGUs have to accord each other and share the same policy approach and to associate – which is not evident – in order to produce more efficiently (economies of scale, spillovers and the like) a local service. But the communal executives (who are second principals with regard to their own residents) will delegate representatives in the association. The association executive becomes responsible for the offer, but will not execute itself the demand. It will command the production and organise the delivery of the service either through its own production facilities or through outsourcing. In this situation the association becomes at the same time the agent of the cooperating communes (it receives the task to offer the service) and the third principal vis-à-vis the producing unit (public or private) which is the third agent in the chain.

Information asymmetry

Information asymmetry arises before and after association with different degrees. First, during the negotiation to form the association, the "first" and "second" principals try to obtain as much information as possible about the agent before the contract is signed or before the cooperative institution is created. Normally the agent is not ready to depart from strategic information he might have and behaves consequently. At this stage, however, the room for manoeuvre of the agent is not as large as it is in the

subsequent phases: the principal can always refuse to associate if he feel that the information is insufficient of biased.

But the situation changes considerably in production and delivery of the local service, once the association exists – if only because then “exit” is expensive. The agent can use his competencies, his managerial capacity and his knowledge of the production function in order to reach his own targets. He can introduce innovative procedure without transferring his knowledge to the principal. He can also attract part of the economies of scale for his own benefit (rent seeking from his point of view; X-inefficiencies from the point of view of the local residents: they do not obtain the full economies of scale in lower tax prices).

The first problem (represented with the dotted arrow in figure 5) is how the information circulates from the production unit to the residents in the communes, and how the residents can control the production unit so that the service corresponds to their preference (in the alternative “voice” rather than “exit”). The second problem is that this model must be duplicated for all local public services which need horizontal cooperation.

Moral hazard

In the principal-agent chain, the moral hazard comes from the fact that once he is chosen, the agent who becomes the second principal will not necessarily defend the interest of the residents (first principal). He may not engage in exactly the same provision of local public services. The agent uses the room of manoeuvre that his knowledge of the production function gives him, his managerial capacities, uncertainty and the principal's lack of information to fulfil his own internal requirements. And this is duplicated in the third chain, between the association and the production unit. Therefore, in addition to uncertainty, the principal does not know how his agent will behave strategically (in the worst case, there is a problem of adverse selection). With many local public services, the same problem repeats itself as many times.

Excessive complication in the territorial organization

With the system of inter-communal functional jurisdictions, and in reference to Oates' model, any resident would belong to and participate to as many jurisdictions as the number of local public service he requires. Moreover, since the special dimension of the production functions differs from one service to the other, there is the additional difficulty to understand a multitude of different service boundaries and territorial organization. There is no reason to believe that the territorial map of primary school districts should overlap exactly the territorial map of individual social aid or the distribution of water, for example. The consequences are both higher information costs and lack of transparency in the general territorial mapping of services.

Less participative democracy

In terms of participative democracy, the production and delivery of local services in intercommunal association mean that citizens (residents, beneficiaries) cannot obtain informed and accountable answers for their questions from the local councillors about these service deliveries since the latter have no direct access to these functions. Or one would have to involve oneself in understanding the functioning and management

of as many service precincts as the number of local services he would use. The option “voice” is considerably degraded: this situation is named "democratic deficit".

In most Swiss cantons the rules that apply to special districts or functional jurisdictions are not the same than the rules that apply to single municipalities. Box 6 summarizes the differences. The discussion usually focuses on two dimensions:

- democracy: what institutional structure can best secure the citizens’ control over local government and over the management of the functional jurisdiction providing the local public service?
- accountability: how to secure the fiscal and budget responsibility of the functional jurisdiction?

Box 6 points out the relative differences in participative democracy for local residents in the canton of Fribourg, when decision for the provision of local public services are taken in the municipality of residence (left column) or within special service precinct of which the municipality of residence is a member (right column). Similar reasoning must be provided for each canton to adapt to its specific democratic rules.

Box 6 Comparative institutional characteristics (canton of Fribourg)

Single municipality	Special district or functional jurisdiction or association of communes
in direct democracy, residents are members of the local assembly; in local parliamentary democracy, members of the local parliament are <i>elected</i>	no direct democracy; the local representatives in the jurisdiction's assembly of delegates are <i>designated</i> by the local executives
executive councillors are <i>elected</i>	the management board is <i>designated</i> by the assembly of delegates
the assignment of functions respects the principle of subsidiarity [devolution]	authority is <i>delegated</i> [the statutes of the functional jurisdiction must list explicitly the domains of activities]
tax capacity	<i>No tax capacity</i> . Funding is guaranteed through financial transfers from member municipalities.
fiscal responsibility and accountability	no financial and budgetary accountability: excess of current expenditures over finance are covered according to a <i>share that has to figure in the statutes and can neither be disputed nor escaped; deficit bail out and borrowing limits are written in the statutes</i> .
Facultative referendum In direct democracy: none, decisions can be challenged within the assembly; In local parliamentary democracy: new investment, taxes, user charges, general regulation, horizontal cooperation; the number of members in the executive or in the legislative assembly.	Referendum on the communes' adhesion to the jurisdiction, but <i>none thereafter on the jurisdiction's current business</i> . New functions must be decided by vote in the individual communes and need the unanimity of the communes
Initiative In direct democracy, on all items in the competence of the assembly; In local parliamentary democracy: new investments, general communal regulation and horizontal cooperation in the form of	New investments within the statutory task(s) of the association; general regulation; financial guarantee; PPP participation; changes in the statutes.

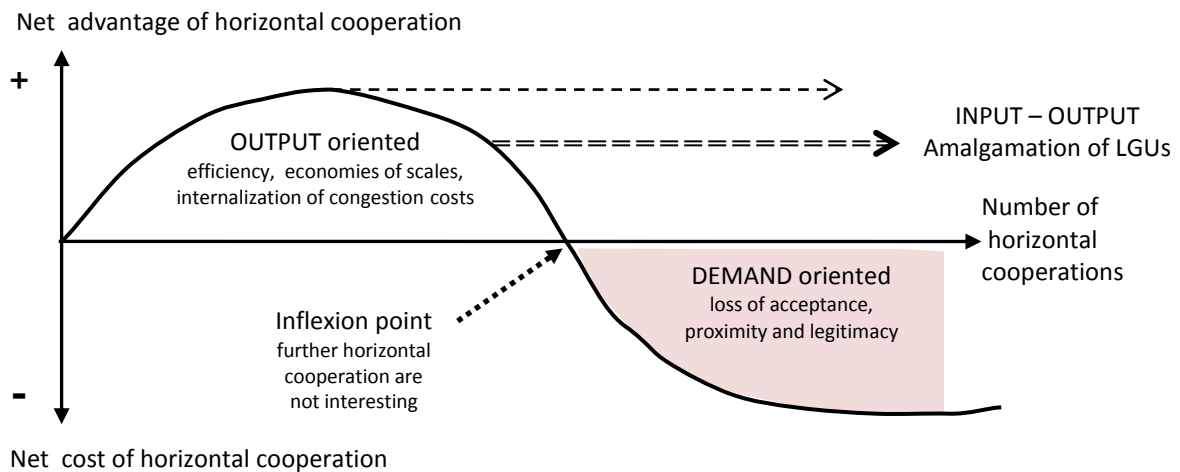
association and functional jurisdiction.	
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Source: Fribourg cantonal law of September 25, 1980 on the organization and function of local governments (as on September 21, 2011; web page of Canton of Fribourg, > legislation)

At this point, the global policy problem can be formulated in the following way. If one accepts that there are too many too small LGUs in terms of population and service beneficiaries, the necessity for enlarging institutional jurisdictions into larger functional service precincts is evident for reason of managerial capacity, efficiency and economies of scales in the production of local public service, internalization of spillovers and the like. The arguments correspond largely to what fiscal federalism says. There is no need to amalgamate: there exists a large variety of legal form for horizontal cooperation which can serve, including outsourcing. The problem arises with the multiplicity of territorial mappings of service precincts, with different limits each for a specific service. The complex overlapping network of service precincts does not respect the criteria of transparency, accountability, participative democracy.

In other words, if the residents' preferences are homogeneous for the service provided in association, if the "distance" between the beneficiaries' demand and the actual production and delivery of the service is "short", and if residents and beneficiaries consider only the utility of the specific service obtained, then the "democratic deficit" will remain low and the multiple mapping of functional jurisdictions can be maintained. Yet if citizens consider that LGUs are more than some kind of "supermarket" for delivering services, but are locus where social life must be organized and (the basket of) local public services are part of this design, then the need to restore voice and participative democracy will drive to the need for a unique, yet enlarged locus. Amalgamation provides a possible answer. The resulting situation becomes complex because the analysis leaves the realm of economic and managerial arguments for social consideration and citizenship, variables that are far more difficult to isolate and measure.

This can be represented in Figure 7. Economic arguments are output-oriented: how to produce local public services at the lowest possible cost. The net benefits of horizontal cooperation first increase; but with the multiplication of service mapping, problems of institutional democracy, accountability and transparency appear and become more and more significant. The "voice" alternative (information, expression of preferences, accountability and control) is fading away. Amalgamation of LGUs would save both situations: remaining large to maintain efficiency, internalizing in the new enlarged institutional border as many functional entities as possible, so that the exercise of "voice" would be possible again. However the total efficiency gain cannot be internalized after amalgamation: in a dynamic setting, horizontal cooperation will remain necessary for some functions.

Figure 7 The cost-benefit line of horizontal cooperation and amalgamation

4 What next ? The “noyaux forts”

The concept of “noyaux forts” is based on the observation of actual institutions and various mappings of horizontal cooperation per function with the idea of consolidating several functional territories in one new enlarged LGU. Starting from existing cooperation agreements between LGUs, the concept distinguishes first the production of public utilities from local collective services.

For public utilities (drinking water, waste water treatment, solid waste collection and treatment, public transports, and the like), efficiency and managerial argument are essential. Case studies and field observations reveal that there is no ethical and social issues in provision and production. The functional size should optimize productive efficiency. In addition, since these services being financed according to the user-pays and polluter-pays principles, there are less problem of rent-seeking or X-inefficiency, information costs, accountability and control. Beneficiaries pay the service according to their individual demand; benchmarking between neighbouring service precincts facilitates performance measurement and control.

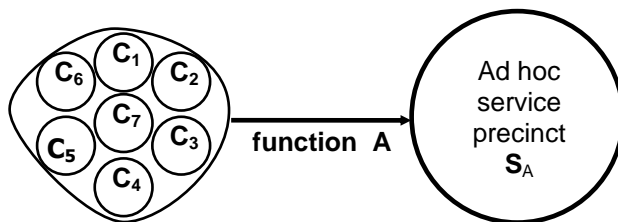
For local service using human resources or which social content counts (first instance civil justice, civil protection, proximity police, sport centre, kindergarten, primary school, leisure and social activities, public libraries, parish, home care), the existing interaction between people from neighbouring communes is central; human contact and distance play key roles. The concept is to reorganise the political communes which already cooperate in several of the listed domains in a new enlarged political entity which approximates as much as possible the functional limits.

Starting from the territorial divisions of existing inter-communal cooperative arrangements for various functions [S_A in Figure 8 Phase 1, and similar for S_B , S_D , S_E , S_F], this approach examines if and how a new unique, enlarged, multifunctional territorial can be constructed. This would create a new commune. In a first experimentation in the canton of Fribourg (Dafflon, 2000), the functional jurisdictions that were selected were: (i) micro regions which received federal and cantonal development grants; (ii)

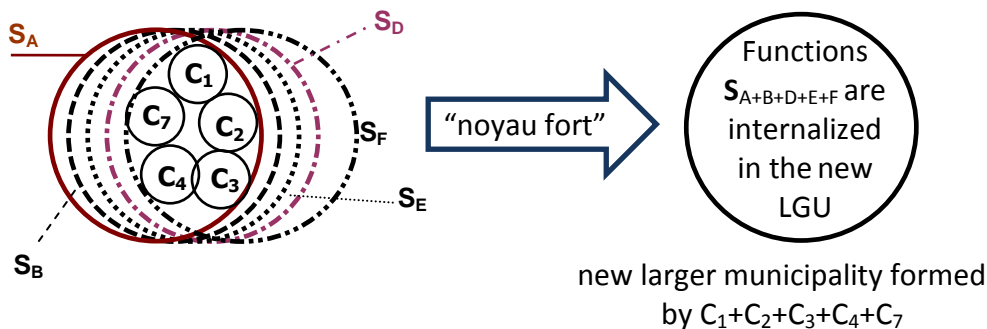
judicial courts of first instance; (iii) fire defence units; (iv) civil defence special districts; (v) sectors with sport facilities; (vi) primary school districts; (vii) 300-meters shooting associations; (viii) parishes. If and where LGs cooperate in at least five out of these eight functions, then it would be possible to create a "noyaux forts" (Phase 2 in Figure 8), institutionalised in a new and larger municipality. The concept is simple on first sight, but it hides redoubtable institutional problems in order to restore "voice" of the residents citizens and dissolve certain political advantages and bureaucratic cushions

Figure 8 The creation of new enlarged LGUs with the method of "noyaux forts"

Phase 1 The constitution of a functional service precinct S_A with seven communes $C_i, i = 1$ to 7



Phase 2 When several functional jurisdictions overlap, it should be possible to consolidate the members LGUs in a new larger commune



In Figure 8 Phase 2, five communes $[C_1, C_2, C_3, C_4$ and $C_7]$ share the same five functions $[S_{A+B+D+E+F}]$. They could amalgamate in one new larger LGU. C_5 and C_6 do not share all these functions. They may nevertheless merge. If not, the new LGU must accept to deliver the services to them on a contractual basis, with due contributions by the client LGUs. In this new "territorial = functional" configuration, residents of five LGUs will regain direct command ("voice") over five functions, a situation which improves participative democracy, reduces administrative costs (the five administration of the service precincts can be exercised in the new LGU) without any hindrance on the economies of scale which existed in the service precincts (the beneficiaries have not changed with the amalgamation). Of course, the selected functions which are referred in this first experiment must be adapted from one canton to another according to the functions assigned at the local level. But the concept remains unchanged: public utilities are not considered; labor intensive service and services with social sensitive outcome serve.

When implemented in Fribourg, the method would reduce the number of LGUs from 245 to 89 (Dafflon, 2000: 855). Only 30 communes would not be concerned.¹⁰ Under this new concept, from 2000 to 2011, 44 voluntary amalgamations were decided, concerning 122 LGUs and reducing their number from 245 (1999) to 167 (2011). Eleven amalgamations exactly correspond to the planned “noyaux forts”; 32 partially correspond (which means that not all LGUs in the given “noyau fort” merged); one amalgamation is outside the proposal. Only 12 LGUs did merge within a “noyau fort” different from the one proposed through the method.

5 Financial support from the cantons

The cantonal supports to LGUs’ voluntary amalgamation take three forms:

(1) A general indicative planning for a voluntary amalgamation policy in the canton (see Table 3 above). This helps in the sense that the cantonal policy is founded on pre-studies of the LGUs general public finance situation (time series data on expenditures, taxation, existing horizontal coordination), in some cases in relation with other policies (balanced budget constraint, investment policy, fiscal equalization, tax apportionment, for example). These preparative studies help in assessing the LGUs’ financial positions on comparative bases (cantonal benchmarks).

(2) Technical and administrative support to LGUs which engage in an amalgamation process; also financial support in Luzern, Neuchâtel and Sankt-Gall in form of participation to the costs of the amalgamation study and process. The technical support consists of preparing the agenda for amalgamation: what to do, when, in which sequence; and also in analysing the public finance situation of the LGUs candidates to amalgamation and the prospects in case of amalgamation. The technical support can be full (the cantonal department of municipal affair takes the technical leads) or takes the form of ad hoc contribution in the process (normally the communes will outsource the study).

(3) Direct unconditional block grants paid to the new amalgamated commune. This is usually the main cantonal policy incentive. There are two ways for calculating the cantonal financial aid: ad hoc in five cantons (Aargau, Graubünden, Luzern, Sankt-Gall and Ticino); formula based (all the other cantons).

Ad hoc financial support

Ad hoc financial support means that there are variables enumerated in the cantonal law on the encouragement to LGUs amalgamation which needs calculations or estimations (normally by the canton) to obtain the amount to be paid.

The incitation consist in (i) calculating the financial and structural disabilities which exist between the poorest or the less developed LGU in the amalgamation and a benchmark detailed in the law and (ii) compensate for the differences. Usual benchmarks are either the variable average for the LGUs engaged in the amalgamation or the “best” position for each variable. It is never some sort of “cantonal average” for

¹⁰ Details of the study can be obtained with the author. The same method was applied for the cantons of Vaud, Jura and Ticino. See Table 3 above.

the relevant variables. Thus the financial aid is relative to the group of LGUs candidates for amalgamation within a delimited territory.

The most common variables are:

- public indebtedness per capita;
- tax effort (considering the surtax on direct taxation, sometimes also user charges);
- differences in the infrastructures and equipment of the communes;
- exceptional needs, considering that certain investment are necessary for the viability of the new commune, which costs cannot be left to the new LGU after amalgamation.

The basic hypothesis is that despite all economic or democratic arguments for amalgamation, disparities in the financial position of the candidate LGUs can be an obstacle to amalgamation. No voter will happily accept a higher tax burden in order to “bail out” neighbouring communes in the process.

The cantons have an interest in the success of amalgamation: the re-assignment of functions can be eased; the LGUs’ balanced budget constraint is more easily respected; risk-sharing through a larger local tax base increases fiscal sustainability; the necessity of an equalization policy is reduced.

Formula based

Formula base incentive grants can be expressed with the following general formula:

-
- IG* incentive grant
 - CHF* the amount of grant per capita
 - H* the number of residents
 - i* for LGU candidate to amalgamation
 - n* the number of LGUs in the referred amalgamation
 - IFC* indicator of financial capacity
 - m* encouragement factor that increases with *n*

Most cantonal formulas are lump sum and use only the two first terms within [...] in the equation above. Actually, the amount per capita varies from 100 to 600 CHF (see Table 9). Multiplied by the number of resident, it simply means that the relative disabilities of the LGUs engaged in amalgamation are not taken into consideration. This implies homogeneity of the financial and structural positions of the LGUs engaged in the process of amalgamation. If not, large non-compensated disparities would most certainly conduce to negative votes in the better-off LGUs.

Table 9 Amounts of financial incentives in selected cantons

Canton	Solothurn	Vaud	Fribourg	Neuchâtel	Bern	Jura	Valais
Per capita amount in CHF	100	250	400	400	400	500	600
Year of implementation	2005	2004	1999	2003	2004	2004	2005
Number of (-) LGUs (from the following year to 2011)	-4	-6	-75	-9	-15	-19	-8

Three cantons (Neuchâtel and Jura, Fribourg between 2000 and 2005) are weighting the population number with an inverse index of a financial (tax) capacity. Tax capacity indices are generally used in revenue equalization. The assertion, in the formula, is that “rich” LGUs participating into the amalgamation process should not receive the full per capita incentive grant because their financial position is already comfortable. This variable has been debated in many cantons and abandoned because it mixes equalization with the amalgamation policy, something which goes against the Tinbergen “one goal on instrument” rule in policy implementation.¹¹ It could also induce wealthier LGUs not to engage in amalgamation because the aid received is judged insufficient.

Finally, the variable **m** tries to influence the size of the new LGU in increasing the per capita grant in function of the number of communes finally merged. Here the incentive from the cantonal point of view is to obtain in each amalgamation the number of LGUs according to the concept of “noyaux forts” – a situation which is not yet realised (see Table 3, last column right). The **m** values are:

n	1	2	3	4	5	...	
m	1	1	1.1	1.2	1.3	+ 0.1	Berne, Fribourg, Vaud
m	1	1	1.25	1.50	1.75	+0.25	Valais

The advantage of the formula based incentive grant is that it is transparent from the outset and not negotiable. The canton has no room of manoeuvre; but it is easy to manage. The hidden inconvenient is that it does not take into consideration LGUs’ disabilities in the amalgamation process. Whatever the formula is, wealthier LGUs can always calculate the amount that would be necessary to compensate financial disabilities: comparing debt per capita, the surtax on direct taxation or the performance of the user-pays and polluter-pays principles in specific environmental functions is not too difficult. Measuring differences in the infrastructure equipment is more intricate. But, suppose this calculation is possible: if [\sum disabilities > IG_N] then the risk is high that taxpayers and voters in the richer LGUs will not accept the amalgamation.

6 Conclusion

What can be concluded from the Swiss debate and practices in LGUs amalgamation cantonal policies?

- ✓ The policy path does only and very partially coincide with the textbook fiscal federalism arguments on the optimal size of “government” (which are in fact “service precinct”).
- ✓ Voluntary LGUs’ amalgamation is feasible, but need guidance and strong commitment from the higher government layer.
- ✓ An explicit policy programme is necessary, with the indication of the relevant variables which are important for the canton and for the LGUs. These variables are not only economic, but also institutional, and democratic.

¹¹ According to Tinbergen, the number of achievable policy goals cannot exceed the number of policy instruments. This is nowadays known as the Tinbergen Rule. Tinbergen J., 1952, *On the Theory of Economic Policy*, Amsterdam: North Holland, 2nd edition.

The inverse argument can also be found: equalization objectives can be so generous that there is no incentive for beneficiary LGUs to find efficient solutions in horizontal cooperation or amalgamation.

- ✓ There needs to be a proposal with a tentative new territorial design after implementation of the policy agenda mentioned above.
- ✓ A large consultation of local actors about the canton's proposals must be organised. Local stakeholders have to appropriate the policy proposals since the final decision belongs to the local level.
- ✓ Cantonal technical and financial support for and during the process of amalgamation would be opportune.
- ✓ Financial incentive in the form of unconditional block grant should be paid to the amalgamated units in order to compensate (partly) LGUs' relative disabilities. Calculation criteria must be explicit, fixed in the law and known in advance.

Finally, one last word is needed on measuring the performance of the cantonal amalgamation policies. In my experience, this is impossible mission. There are a number of reasons. First, for the moment (but further research on this theme is pursued), it is not possible to establish a significant and robust relation between the per capita amount of the cantonal aids and the number of amalgamation (see Table 9).

The second argument is that if the main reasons for amalgamation are related to the recovery of participative democracy at the grass roots level and a regain of LGUs autonomy, the measure of the performance becomes highly subjective and controversial. It can be evaluated through surveys and questionnaires, but who will be questioned: residents, voters, beneficiaries, taxpayers, the electorate, elected members of local parliament, elected executive members, administrative personal? Existing surveys of this sort show as large and disparate answers as possible. How do we measure "voice" and political autonomy, or simply financial autonomy (Blöchliger and King, 2006; Dafflon and Madies, 2009: 61-69)? The only undisputable quantitative answer would be to count how many horizontal inter-communal cooperation contracts and arrangements would be internalised after amalgamation.

Economic objectives (economies of scale, productive efficiency, spillovers, congestion costs) would be difficult to measure because the other environmental variables are dominant. In the Swiss case, since the mid 1990ies there has been a number of re-assignment of functions between cantons and the communes; since 2008, this has been exacerbated through a domino effect by the re-assignment of function between the federal layer and the cantons. Also expenditure data would not give the answer since in most cantons, equalization contributions and payments based on expenditure needs modify the communal outlays: one would have to clean expenditure data from the equalising component in order to trace the real expenditures based on causality and, thus, construct the production functions – the only way to trace efficiency variation in production and delivery of the local public services. In so doing, beside the technical problems, it would be difficult to isolate the incidence due to amalgamation alone. Analogous reasoning can be proposed on the tax side. Amalgamation as such does not increase the tax base: in the new LGUs it will be the sheer addition of previous LGUs' tax base. The argument is that the enlarge tax base somehow reduces the risk of economic downturns on the tax yield: but this depends on the distribution of the tax bases in the different economic activities and cannot be assessed in general. Again, the only firm calculation which can be proposed in the budgetary context is to assess the possible economies in regrouping several communal administrative units in one because it reduces the administrative costs of cooperation units that are

internalised in the new LGU with amalgamation. This is not an easy task if the amalgamation gives at the same time an opportunity to increase the technical capacity and abilities of the new LGU's bureaux.

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