

## **User charges or pricing: why and how? a critical assessment of Swiss practices in the last two decades**

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In Switzerland, public utilities (such as the delivery of drinking water and urban public transportation) have been traditionally financed with user charges; and administrative services with fees. In the seventies,<sup>1</sup> the introduction of new user charges to finance environmental services (solid waste collection and disposal, sewage and waste water treatment) was possible only where and when it was balanced with the equivalent reduction in personal income taxation. This rocker resulted into a new apportionment between individual taxpayers and service beneficiaries, without additional tax burden and no increase of resources in local budgets. It was a question of efficiency and equity, not an ideological issue of “how much - how less State”. In recent time, user charges and pricing have been introduced in education and social services partly to respond to the “politically correct” view of externalizing or privatizing services as much as possible, disregarding the joint collective nature of those services.

This paper looks at the political economy of this trend and its consequences. The first section examines the evolution of user charges and taxation during the last two decades. The second section analyses the “public-private” characteristics of services financed through user charges. The third section proposes a selection of laws that introduce user charges for social service and explains the case law of the Federal Court in this matter. Section four takes the accounting issue: user charges are correctly set only if the public accounts respect the rules of the game – which is not evident. Section five regards statistical problems which throw a veil on the adequate quantitative estimation of the described changes from taxation to user charges. Section six concludes: what next?

But first, we describe some characteristics of the fiscal institutions at the cantonal and local levels in Switzerland that have influenced the development and orientation of charging and pricing for local public services:

- ✓ Cantonal and local budgets have to be financed by own resources. At the cantonal level, grants-in-aid, revenue sharing and fiscal equalization represented 21% of total resources in 1990 (Table 1), 14% in 2000 and 7% in 2010 after the reform of equalization and the re-assignment of federal-cantonal functions introduced in 2008 (Dafflon, 2004). At the local level, these figures follow the same trend: 14% in 1990, 13% in 2000 and 8% in 2010 (Table 2).
- ✓ All (25) cantons, except Appenzell Rh. Int., have introduced in the 1990s budget constraints that limit deficits and debt brakes at the cantonal and local level (Novaresi, 2001; Kirchgässner, 2013; Yerly, 2013). In many cantons, these rules

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<sup>1</sup> Interesting enough, one of the seminal book on user charges is that of R. Bird, 1976. Part One on the benefit principle of taxation, earmarking and public pricing surveys the core theory of charging for public services. Economic novelties and econometric analyses have been produced since, but the essential issues analyzed there remain actual.

have been reinforced in the 2000s. At the federal level, the debt brake has been introduced in 2003.

- ✓ Direct popular rights in the form of financial referendum, mandatory or optional, on investment project and new recurrent expenditures above a certain level give the last word to the citizens. It can only be used to cut expenditure, not to increase it (Kirchgässner, 2013: 143). But it can also be used informally to put political pressure on projects that would need an increase in taxation.
- ✓ Tax competition limits the capacity of cantons and communes to resort to tax increases in order to balance their budgets and accounts (Feld and Kirchgässner, 2000; Feld and Reulier, 2005).
- ✓ Changes in individual cantonal tax legislation or local regulation for the implementation of the user-pays (or polluter-pays) principle require the popular vote.
- ✓ Finally, reforms in the existing functions and new ones in the social, health and education sectors at the cantonal-local level have require additional financial means – difficult to obtain within the institutional framework described above.

The consequences of these fiscal institutions have been that confronted with higher expenditure needs, under the constraint of balancing their budget, with reduced transfers and the difficulty to convince taxpayers to accept more taxation, and the fear that tax competition would price them out of the market, cantons and communes have resorted to other more discrete, step-by-step, increases in their financial resources. User charges and pricing would do the job.

### **1. Evolution of user charges and fees 1990-2010**

For the last twenty years, user charges and fees for public services provided to individual consumers have increased in proportion to the cantons' and communes' own tax revenues from 25.6% in 1990 to 31.7% in 2005.. Lower figures for 2010 are due to changes in the international accounting system. Sources of public revenues for the cantons are given in Table 1 and in Table 2 for local governments (communes). Table 3 summarizes the main results for the two government tiers, cantons and communes.

**Table 1 Revenues of the Cantons, 1990-2010, in 1'000 CHF**

Sources		1990	1995	2000	2005	2010
4	<b>Current revenues</b>					
40	Own taxation	21'120'065	24'736'383	28'511'515	33'650'644	39'353'699
400	<i>of which direct taxes on household</i>	13'995'287	17'573'286	19'536'314	23'689'650	27'881'670
401	<i>direct taxes on corporate firms</i>	3'317'314	3'430'893	4'741'618	5'531'581	6'291'176
402	<i>others (immovable property, capital gains, inheritance and gift taxes)</i>	2'594'738	2'247'252	2'493'083	2'467'043	3'033'029
403	<i>consumption taxes</i>	1'212'726	1'484'952	1'740'500	1'962'369	2'147'824
41	Patentes et concessions	462'449	729'356	1'702'789	2'721'216	2'527'343
42	<b>Fees and user charges</b>	<b>5'377'836</b>	<b>7'440'139</b>	<b>8'758'084</b>	<b>10'357'343</b>	<b>6'605'563</b>
420	Payment for services (also 424, 426)	1'530'159	2'002'016	2'454'961	2'814'656	3'080'025
421	Administrative fees	877'669	1'184'270	1'371'821	1'635'834	1'760'377
422	Hospital and home for elderly people	2'286'265	3'377'385	3'873'625	4'599'293	<b>264'068</b>
423	School fees	77'353	146'746	205'203	373'937	542'222
425	Sales	456'721	546'609	583'016	572'400	457'214
427	Miscellaneous	149'669	183'113	269'459	361'223	501'658
43	Various non classable revenues (incl. 48)	33'991	48'829	71'702	85'000	65'028
44	Revenues from financial assets	1'252'203	1'721'165	2'484'119	2'149'129	2'969'579
46	Grants, revenue-sharing, equalization	8'259'171	8'080'004	7'862'605	7'356'920	4'396'884
4	<b>TOTAL current revenues</b>	<b>36'505'715</b>	<b>42'755'876</b>	<b>49'390'814</b>	<b>56'320'253</b>	<b>55'918'095</b>
6	Revenues from investment	2'461'784	3'450'976	4'853'951	3'132'928	2'496'598
4+6	Total revenues, current and investment	38'967'499	46'206'852	54'244'765	59'453'180	58'414'693
	Total revenues in % GDP	11.5%	12.1%	12.5%	12.4%	10.1%
	<b>42 in proportion of 40</b>	<b>25.5%</b>	<b>30.1%</b>	<b>30.7%</b>	<b>30.8%</b>	<b>16.8%</b>
	<b>42 (-422) in proportion of 40</b>	<b>14.6%</b>	<b>16.4%</b>	<b>17.1%</b>	<b>17.1%</b>	<b>16.1%</b>

Source: Federal Administration of Finance, Bern; F40.7.4 \_Einnahmen\_Kantone\_KK\_insg\_f (refresh: 20.08.2012).  
Numbers in the first column correspond to the nomenclature of the Swiss Public Sector Accounting System

**Table 2 Revenues of Local Governments, 1990-2010, in 1'000 CHF**

Sources		1990	1995	2000	2005	2010
4	<b>Current revenues</b>					
40	Own taxation	14'763'647	18'052'913	20'225'698	21'089'313	24'324'958
400	<i>of which direct taxes on household</i>	11'274'893	14'518'288	16'006'477	16'975'922	19'030'831
401	<i>direct taxes on corporate firms</i>	1'925'930	2'110'830	2'835'613	2'756'746	3'631'947
402	<i>others (immovable property, capital gains, inheritance and gift taxes)</i>	1'489'649	1'352'602	1'322'968	1'307'525	1'594'882
403	<i>consumption taxes</i>	73'174	71'194	60'641	49'120	67'298
41	Patentes et concessions	70'107	98'882	124'977	126'662	289'651
42	<b>Fees and user charges</b>	<b>3'820'355</b>	<b>5'652'752</b>	<b>6'017'209</b>	<b>7'216'854</b>	<b>1'735'849</b>
420	Payment for services (also 424, 426)	2'731'600	4'192'320	4'743'114	5'625'630	6'225'367
421	administrative fees	246'630	351'651	390'164	532'916	513'651
422	Hospital and home for elderly people	2'962'772	4'625'790	4'841'483	5'836'903	<b>55'118</b>
423	School fees	69'449	111'865	136'042	130'003	140'732
425	Sales	470'219	473'016	478'071	505'244	811'348
427	Miscellaneous	71'285	90'431	171'449	211'787	214'999
43	Various non classable revenues (incl. 48)	21'640	26'310	36'331	45'675	55'329
44	Revenues from financial assets	1'881'730	2'581'810	3'000'435	3'046'255	3'167'279
46	Grants, revenue-sharing, equalization	3'713'681	4'194'027	4'717'261	5'404'046	2'915'804
4	<b>TOTAL current revenues</b>	<b>24'271'160</b>	<b>30'606'695</b>	<b>34'121'911</b>	<b>36'928'806</b>	<b>32'488'870</b>
6	Revenues from investment	1'656'718	1'776'127	1'566'901	1'358'500	1'387'782
4+6	Total revenues, current and investment	25'927'878	32'382'822	35'688'813	38'287'306	33'876'651
	Total revenues in % GDP	7.6%	8.5%	8.3%	8.0%	5.9%
	<b>42 in proportion of 40</b>	<b>25.9%</b>	<b>31.3%</b>	<b>29.8%</b>	<b>34.2%</b>	<b>7.1%</b>
	<b>42 (-422) in proportion of 40</b>	<b>5.8%</b>	<b>5.7%</b>	<b>5.8%</b>	<b>6.5%</b>	<b>6.9%</b>

Source: Federal Administration of Finance, Bern, F23.7.4 \_Einnahmen\_G\_insg (refresh: 20.08.2012).

**Table 3 Total revenues, Cantons and Local Governments, 1990-2010, in 1000 CHF**

4	TOTAL current revenues	60'776'876	73'362'571	83'512'726	93'249'058	88'406'965
6	Revenues from investment	4'118'502	5'227'103	6'420'853	4'491'428	3'884'379
4+6	Total revenues, current and investment	64'895'377	78'589'673	89'933'578	97'740'486	92'291'344
	(4+6) in % GDP	19.1%	20.5%	20.8%	20.4%	16.0%
	Public sector revenues* in % GDP	23.8%	26.8%	28.5%	26.8%	24.6%
	<i>42 in proportion of 40</i>	25.6%	30.6%	30.3%	32.1%	13.1%
	<i>42 (-422) in proportion of 40</i>	11.0%	11.9%	12.4%	13.0%	12.6%

Source: own calculation from Tables 1 and 2; \*Public sector includes Confederation, cantons, communes and social security (without illness and accident insurances)

Three items in the Tables are remarkable:

- First, the share of subnational public revenues in GDP has remained relatively stable and low in international comparison throughout the period: it was at 19.1% in 1990 and around 20-21% after.
- Second, the relative weight of user charges and fees in comparisons to own taxation follows a parallel way: it was 25.6% in 1990, increased to 30.1% in 1995 and 31.7% in 2005. These increasing percentages reveal that the rate of growth of revenues from user charges and fees is slightly higher than that of taxation. However, with 25.6% the proportion was already significant in the first reference year, 1990. This is due to the historical fact that public utilities were financed through user charges since the sixties for drinkable water, and since the eighties for environmental facilities such as sewage, waste water purification systems and household garbage collection and disposal. This is further detailed in section 4.
- Third, the percentages in year 2010 are not directly comparable in the statistical series due to changes in the public sector accounting system (from 2008 onwards in Switzerland). This is evidenced by lines 422 in Tables 1 and 2. Since those changes concern all European Union members, this issue is presented in section 5 below.

## 2. "Public-private" characteristics of services financed through user charges

Services financed through user charges and fees must have at the same time "public-private" characteristics of joint production. Each service must present one part which is collective with non rival non excludable qualities and another "marketable" part which is rival and excludable so that beneficiaries can be identified and the service can be individually billed.

One immediately sees the difficulty: how much of a marketable service is also "collective"? If only marketable, there would be no reason for the public sector to deliver the service; it could be left to the private sector. But once the collective part has been recognized and evaluated, then the remaining part of the cost must be paid through user charges. Based on the benefit principle, the current and capital costs of a public service must be apportioned among economic agents according to the benefit each of them receives from the consumption of the service (Buchanan, 1968; OCDE 1998, Dafflon, 1998). The remaining costs (total minus the collective part) of the service have to be totally financed by the yield of the charges (full cost coverage). Thus the more user charges finance specific public services, the less these services absorb ordinary tax resources.

Three categories of public services have at the same time collective and marketable characteristics: public utilities traditionally belong to the historical category, later followed by social and health services. Table 4 summarizes the three categories and outlines the collective and marketable part of each service. One example is detailed below in each category.

**Table 4 Domains of possible application of user charges (examples)**

1	public utilities	collective	marketable	References*
	drinkable water	general municipal development avoid disease due to bad water	private household or industrial consumption	Dafflon, 2010, 2013; Dafflon and Daguet, 2013
	sewage and waste water treatment	protection of the eco-system	production of household and industrial waste water	
	garbage collection and disposal	<ul style="list-style-type: none"> <li>• protection of the eco-system</li> <li>• clean air</li> </ul>	collection of individual household garbage	
	urban transport	<ul style="list-style-type: none"> <li>• less air pollution</li> <li>• less city traffic jam</li> </ul>	private travel from one place to another	
2	social services			
	nursery	enlarge the feminine labour market	freed time for individual professional work	Dafflon 2009
	kindergarten	<ul style="list-style-type: none"> <li>• feminine labour market</li> <li>• socialisation of children</li> </ul>	<ul style="list-style-type: none"> <li>• freed time for individual professional work</li> <li>• social insertion of one's child</li> </ul>	
	out-of-school services	<ul style="list-style-type: none"> <li>• school meals,</li> <li>• homework surveillance,</li> <li>• prevention of social disturbance</li> </ul>	individual service	
	family aid	insurance value against risk and temporary difficulties	individual service	Blum, 2008
	medical aid at home	insurance value against risk and temporary difficulties	individual service	
3	health care			
	hospital care	insurance value against risk and uncertainty	individual service	Blum, 2008 Dafflon and Vaillancourt, 2013
	home for ederly people	insurance value against risk and uncertainty	individual service	

Sources: author; \*the cited references give further bibliography for each of the function

Let us consider the case of drinkable water in the first category. The marketable part is clear and explicit: it is the consumption of water by households or enterprises that can be measured with meters. The collective dimension is given by the service to the local society: in Switzerland, land and urban planning, local development of housing and activity zones cannot be realized without road communication and the guarantee of access to clean water, sewage and waste water treatment, refuse collection and disposal. Clearly, local development – be it quantitative or qualitative – is a common good to the local society: it is non rival and no one can be excluded from

the consequences of local development. If a collective interest exists in development, then part of the investment infrastructures should be paid by local government out of its own tax revenues. In less developed economies, there is an additional public interest that each resident has access to clean drinking water in order to reduce health disease: this is also a collective good that should not be charged to individual consumers.<sup>2</sup>

In the second category, nursery school (daycare facility for preschool-aged children) and kindergarten (preschool institution for children) have characteristics of joint production. The marketable part is the services given to individual families who use the daily services for their children. Beneficiaries can be identified; the nature of the services can be determined and billed. The collective part is composite. First, the transmission of social rules and habits to the children facilitate their insertion into the civil local society; it is a private good in that “my” child can easily interiorize the local social rules and habits for better insertion, but it is also a collective good since the collectivity has an interest in well integrated youngsters. Second, it facilitates the return of women on the labor market – which is also collective in nature (non rival, non excludable).

In the third category, Dafflon and Vaillancourt (2013) considered that individual health is comprised of both universal access on demand and curative services. “On demand access means that potential users know that there is a network of (public) hospitals/clinics always available to them and ready to provide curative services in case of accidental or emergency need. It is a pure public good (non-rival and non-excludable): everyone benefits from the same quality and quantity of potential access to health (usually hospital) care. Curative individual health services are offered to specific sick individuals with the aim to restore or maintain the health of individuals through drugs, surgery and other interventions (speech therapy...). They are private or individual services (i.e. *private goods* rival and excludable). Decisions must be made on the quantity and quality of services provided including their accessibility (age, location...), on the quantity and quality of the human and physical capital inputs used to provide them and thus on their remuneration and on the financing of these services”. Note that the private portion of hospital care is difficult to measure and data often not accessible (see section 5).

For all joint “public-private” services enumerated in Table 4, the core difficulty is to give the monetary measure of its “public” portion, which has to be financed through taxation from the general budget, distinct from the private portion submitted to the user-pays principle. This apportionment requires a democratic debate for defining what and how much is public, transposed in clear and explicit legal rules. It also requires a precise public accounting system in order to inform who is paying for which service. These are discussed next.

### 3. User charges and fees in the law

In Switzerland, taxes and user charges must be decided by a legislative assembly, cantonal or local parliament or *landsgemeinde*, subject to referendum. For user charges, the service to be delivered and the tariff must be described in a law.

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<sup>2</sup> On the pricing of environmental services, and the apportionment between the collective and the marketable parts of production, see Dafflon 2013 and the references mentioned therein.

According to the constant view of the Federal Court, expressed in several decisions and case law, the local implementation ordinance must be based on a cantonal law and it must state explicitly (i) the service delivered, (ii) the circle of beneficiaries, (iii) the criteria for the calculation of the individual charges in the tariff; (iv) the maximum theoretical amount which would possibly be billed. (v) In addition, the criteria of full cost-coverage should (but must not: less is possible) be respected: that is if the annual yield of user charges for a specific service exceeds the total outlays of that service, the surplus has to be reserved in fund specific to this service; it cannot spill over into the general budget of a commune. If one of five criteria is not respected, the bill can be challenged in the administrative court.

Yet, several laws open the road for the privatization of services, which raises analytical difficulties. With public production, the local government bears full responsibility and can be easily controlled since public accounts contain all functional details about expenditures and receipts. But not with privatization. In this case, the organization of the law is that the public sector retains the responsibility of the offer, but can externalize the production and delivery of a service. In this event, it will subsidize the collective part of it, but no longer control the private part. Expenditures and receipts, including “user charges”, of the service provider are not consolidated into the public account.

Besides the usual “principal-agent” problems, it will not be possible to evaluate how important is the move toward the user-pays system since individual payments to external provider are no longer traced. This explains in Table 2 the low ratio of user charges relative to taxation from 5.8% in 1990 to 6.9% in 2010 (bottom line). It concerns mainly public utilities and environmental services already in place prior to 1990 and not so much social services, which have been largely externalized.

Boxes 5 and 6 illustrate the discussion above with two recent cantonal laws (canton of Fribourg). The first one relates to the production and delivery of drinking water, which is almost exclusively communal throughout the nation. The other law concerns the provision of daycare facilities for preschool and primary school children outside the family, which can be externalized and too a large extend is. In this case, we call “pricing” the payment of users to external institutions, and not “user charge”. “Pricing” can take the form of “administrative prices” when the institution has to submit its tariff to a public authority and obtain its authorization.

#### *Production and delivery of drinking water*

The historical sequence of cantonal laws governing the production and delivery of drinking water points out successive objectives. The 1943 law on public health fixed sanitary norms for the delivery of drinking water: there was no question of water property or production. Current water in urban houses was not common at the time; water networks were organized in “consortage” or private cooperative association, usually for agricultural purposes, much later for households. This organization exactly corresponded to a joint production of a club good for water<sup>3</sup> and to a larger collective good (in the form of positive externality) for the quality requirement aiming at promoting better general health. The 1979 first cantonal law on drinking water took up the two issues: it replaced and updated the articles about water from the 1943 health law, and fixed basic requirements in the management of water resources. Health and

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<sup>3</sup> On this, Ostrom Elinor (1990), Nobel Price in Economy, 2009. *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, 1990

management rules were extended to all producers, without changing the actors (private, consortage and later communes, Art. 2). It gave to the communes only the possibility to introduce a unique connection charge (Art. 13). Water delivery could be “free or charged” (Art. 1) without detail. Articles 1 and 13 were insufficiently detailed in the eyes of the Federal Court, so that in 1981 the organizational law on the commune took up the issue again and fixed that the five obligations mentioned above should be detailed in a local regulation act approved by the local legislative or the direct assembly of citizens. The 2011 law changes the objectives: health is no longer a problem so that this point is left out – except that the water should be drinkable. The collective good is the preservation of source and the quality of water, inclusive of priorities in the access to water, which needed at the federal and cantonal level an arbitrage between drinking water, water for agriculture, hydraulic energy, industries and leisure. At the local level, there are two public goods. One is fire defense which is a joint production: with sufficient pressure, the water distribution network also serves for fire defense – which has characteristics of no-rivalry and no-exclusion within the service precinct. Thus, part of the investment costs must be assigned to this function and not paid through the water tariff. The other is the reserve of capacity: potential communal development is taken into account when the investment in the water network is planned. Village or urban development is a collective good. In the 2011 law, potential beneficiaries (owners of the land in the zone reserved for development) pay up to 70% of their share of the investment costs. The commune has to support 30% in the meantime (mainly the interest of the capital or the loan that served for financing the investment). The 30% portion will be repaid step by step by owner with the realization of the zone. The law also distinguishes the financial costs of investment (or servicing the debt) from the current production cost: the tariff is binomial owing to the fact that effective consumption can be different from the potential capacity of access.

**Box 5 Cantonal Law October 6, 2011 on the production and delivery of drinking water (Law 821.32.1 introduced January 1, 2012)**

**Objective:** production and delivery of drinking water to households in sufficient quantity and quality, in respect of a sustainable development, the rational use of water resources and the preservation of the environment (art. 1).

**Supply:** is the responsibility of the communes. The cantons act as watchdogs (Art. 3). The federal law fixes the property of the water resources, the priority of uses (drinking water, agriculture, energy, industries, leisure) and for drinking water the sanitary conditions of production and delivery and the required norms of quality (Art. 11).

**Demand:** all buildings in housing zones must have access to the water network (art. 13). Exception: If a private household has sufficient own water source on his property respecting the quality standards (art. 14).

**Production:** the communes bear the responsibility of the production and distribution of water (Art. 3 and 15). They can externalize the production but only to corporate entities that are totally in the public hands (Art. 4). The infrastructure network must remain in public hands (Art. 5). The water network must take into consideration the needs for fire defense (Art. 8).

**Finance:**

The law distinguishes between investment and current costs.

Investments are financed with a unique connection charge (“taxe de raccordement”) for those who can effectively use the service, and an potential access charge (maximum 70% of the connection charge) for land owners who are in the housing zone but without yet a house on the plot (Art. 27 – 31).

Residual financial costs of existing investment (interest and amortization) are financed with an annual basic charge (lump-sum) (Art. 32). The 2011 law introduces novelty: once all historical investments

are amortized, the basis charge remains and is earmarked for infrastructure replacement (Art. 32). Variable current costs are financed through annual user charges proportional to the metered individual consumption (Art. 33).

#### *Daycare facilities for preschool and school outside the family*

The first law on daily care for children was introduced in 1995. It contains the obligation for communes to offer access to daily care facilities to the parents who demanded an aid. Communes had the choice to provide themselves or to externalize the service. The service is paid by the parents, but communes have the obligation to subsidize the beneficiaries with low financial capacities. How to decide the capacity threshold is left to the communal legislative, including the result of negotiation with private institutions. These points remain in the 2011 law. In the 1995 law, the collective part of the function was not identified.

#### **Box 6 Cantonal law of June 9, 2011 on daycare facilities for preschool and school outside the family (Law 835.1, introduced January 1, 2013) and Implementation Act of September 27, 2011.**

**Objective:** the harmonization of family life and professional activity (Art. 1 of the law) and the socialization of preschool children (Art. 4 of the implementation act).

**Supply:** the enumerated services are: care before and after school hours, school meals, homework guidance, social activities in schooldays outside the school hours (Art. 4)

**Demand:** the communes have to evaluate each four years how many places are needed and are responsible to provide, encourage or subsidize them (Art. 6). It concerns all the children up to the last year of primary school, aged 1 to 12 years (Art.2). No discrimination of children (Art. 12).

**Production:** the communes can externalize the service (production and delivery – not the responsibility of the offer) (Art. 6). If the service is externalized, it should be to a Non Profit Organization (Art. 12). The law and the Implementation Act contain a number of conditions and restriction in order for the (private or public) institution to obtain the official recognition and benefit from the public grant and employers' contribution. These conditions concern the professional qualification of the staff (art. 14 and 15), the use of an harmonized accounting system (art. 12) and a minimum occupation rate of 85% (Art. 10 IA).

#### **Finance:**

Art. 8.- the parents contribute to the residual average cost of the services ( AC minus grant and contribution – below art. 9 and 10) according to their economic capacity. A digressive tariff must be decided in agreement with the commune(s) within the service precinct.

Art. 9.- the cantonal grant-in-aid corresponds to 10% of the average cost of one place in the aided institutions, public or private.

Art. 10.- the employers: the employers' contribution is equal to 0.4% of the total wage bill subject to contribution to family allowances.

Art. 11 the communes pay the difference between the residual average cost and what the parents can pay according to the digressive tariff (art. 8).

Source: <http://bdlf.ch.fr> updated August 15.2013; author's selection and translation.

Remarkable points in the 2011 law are the recognition of the joint public-private nature of the service delivered and the funding arrangement. The conciliation of family life and professional activities (recognized in the law and in the implementation act)

and the socialization of pre-school children (mentioned in the implementation act only) qualify the collective part of the service.<sup>4</sup>

Neither the explicative message of the government, which accompany the draft law, nor the discussion in Parliament or the final version of the law give any information how to measure the collective part of the service. Our estimation is that the political (direct) monetary valuation of the collective part in the 2013 current budget (first implementation year) is approximately 17%,<sup>5</sup> which leaves to the parents to finance 83% of the services. Communes have to subsidize families with low economic capacity, but this relates to the public redistributive policy and not to the allocation Branch, according to Musgrave classification. Also the value of the two collective parts is much differentiated: if we admit that the Canton has the same interest as employers in conciliating family life and professional activity, the total aid would be distributed at 80% for this collective part and 20% for the socialization part.<sup>6</sup>

## 5. Accounting problem

The two previous analytical pieces can now be brought together. On the one side, the user-pays principle commands that services should be paid by beneficiaries in proportion to the services obtained. On the other hand, the rules given by the Federal Court and the (cantonal) laws ensure fairness and accountability in the financial management of functions paid according to the benefit principle. Yet, these are just nice announcements of what should be done for the "efficient and equitable" delivery of local public services according to the benefit principle. But what next: how do we go from principle to tariffs? Past experiences and the author's expertise<sup>7</sup> in the practice of the user-pays principle and tariffs show that the following sequence is unavoidable:

- A. Determine the inclusive total capital costs of the investment: gross expenditure, subsidies if any, net expenditure.
- B. In case of joint production (drinking water and fire defense, for example), distribute A accordingly.
- C. Calculation of the "collective" part of the production capital in order to differentiate the pricing: general budget for the collective part, user-pays for the marketable part.
- D. Calculation of financial costs (interest and amortization). This must be done whether the investment is financed by own capital or by loan. It implies that the

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<sup>4</sup> The "Message Nr 238, March 1, 2011" of the cantonal executive to the Parliament focuses on the family-profession argument (6 pages) and marginally only on the socialization argument (7 lines) as if this argument was self-evident. [www.fr.ch/sej/files/pdf36/Message\\_mars\\_2011\\_f.pdf](http://www.fr.ch/sej/files/pdf36/Message_mars_2011_f.pdf)

<sup>5</sup> The estimation is the following. The cantonal contribution is 3'850'000 CHF (2013 Budget, pos. 3665.3636.117). It corresponds to 10% of the average cost for recognized (public or private) institution (art. 9 of the law). Thus the total accepted expenditure is 38'500'000 CHF. The employers' contribution (0.4% of the wage bill – art. 10) is estimated at 2'550'000 CHF (2013 Budget pos. 3665.3706.010). Total cantonal and employers' money: 6'400'000 CHF. That is  $6400/38500 = 16,62\%$ . [www.fr.ch/AFin](http://www.fr.ch/AFin) > Publications > Budget 2013, consulted August 31, 2103.

<sup>6</sup> For the canton: 2'550'000 CHF out of 3'850'000 CHF. This makes a total of 5'100'000 CHF for the first collective part and leaves 1'300'000 for the second part of the collective goods; thus the 80-20% proportions in the total external funding of these facilities. Do these proportions mirror the importance of the two as evidenced in the Message (see footnote 3)?

<sup>7</sup> Domains in which we have been active in effective multi-tariff systems : drinking water, sewage and wastewater treatment, household solid waste collection and disposal, preschool daily care, kindergarden, preschool care, school meals.

amortization policy is set out clearly: amortization based on the probable duration of the infrastructure, amortization on the gross value if the external source of finance (for example an incentive grant from the higher government level) will be paid once only, reimbursement of the debt or restoration of capital parallel to amortization in the book.

- E. In the presence of a physical network for the delivery of the service, such as water and wastewater, decision on the financing policy: unique connection charges and /or annual payment for interest and amortization.
- F. Budgeting current production cost is such a way that fixed and variable costs may be distinguished.

Clearly, it is not pertinent to debate about the divisors (which determine “who pays”?) so long that the various sums to be divided are not clearly first estimated, then calculated in the accounts (how much?). Also, when deciding the divisors, one has to consider that access to a service and effective use of the service may not be symmetric so that a multi-part tariff is necessary. In practice, this means that clear accounting rules have to guarantee the correspondence between payments and expenditures. It is absolutely necessary to establish the true costs of the production functions, with the distinction between its collective and private parts, to calculate the true activity-based costs, the average and marginal costs, and to distinguish between fixed and variable costs (Dafflon, 1998 and 2010; Cokins, 2007).

Accounting rules are not often discussed in political economy; yet in the present exercise, understanding local public sector accounts is essential. Calculating the sums of capital or current costs to be covered through user charges, the analyst faces three difficulties:

- Does the chapter for one specific function in the account include all entries, that is all expenditures and revenues that pertain to the function; including subhead of that function in case of joint production;
- How does one calculate the cost-coverage ratio, ideally 1 if total accounted expenditures are financed through user charges;
- What is the time horizon for this calculation? One understands that current production costs should be covered through revenues during the same exercise; but what for investment?
- Owing to the fact that user charges cannot fuel the general local public budget but must be strictly earmarked to the specific function they finance, and owing to the fact that annual imbalances may occur, how to smooth the balance over a longer period, and how long?

These are not trivial issues. In political economy, efficiency in the production and delivery of services financed by user charges, and equity in the distribution of the costs are the explicit objectives. Only a proper accounting gives the information: there is no theory or econometrics about the issues. In Switzerland, in addition, fiscal institutions give users the possibility to contest the bill if they believe that it is not equitable or not proportional to their individual benefit. Court decisions are taken on the base of principles and are informed through figures and data in the accounts – nowhere else.

On the accounting issue, Dafflon and Daguët (2012) verified in two steps the implementation of the user-pays principle at the local level in the 168 communes of

canton Fribourg for three specific environmental functions: clean water supply, sewage and wastewater treatment, and household solid waste collection and treatment.

First, they controlled accounting criteria, that is whether the following items were correctly recorded in the relevant heads: (A) with spending, *a* wages and social insurance contributions, *b* interests for capital investment written in the balance sheet, *c* amortization; (B) in the balance sheet, *d* record of a productive asset in the balance sheet when interests and/or amortization are recorded in the current account; and (C) for revenues, *e* recording of the yield of interests for earmarked reserve if any exists in the balance sheet.

**Table 7 Percentage of virtuous communes (168 communes)**

Function = main head	Control criteria	Average						
		2005- 2009	2005	2006	2007	2008	2009	
clean water supply	a wage	90%	88%	88%	92%	88%	92%	
	b interests	88%	92%	85%	88%	88%	85%	
	c amortization	83%	77%	77%	88%	85%	88%	
	e interests of the reserve fund	29%	19%	23%	31%	38%	35%	
sewage and wastewater treatment	a wage	63%	62%	65%	65%	62%	62%	
	b interests	83%	85%	81%	85%	85%	81%	
	c amortization	78%	85%	69%	73%	81%	81%	
	e interests of the reserve fund	45%	38%	42%	46%	50%	50%	
solid waste collection and disposal	a wage	79%	73%	77%	77%	85%	85%	
	b interests	86%	88%	88%	85%	85%	85%	
	c amortization	87%	92%	88%	88%	81%	85%	
	e interests of the reserve fund	66%	62%	65%	62%	69%	73%	

Source: Dafflon and Daguet, 2012: 80

We call “virtuous communes” those which have included in their account the control criteria for the relevant year. Take the first figure top left: 90% of virtuous commune means that, inversely, 10% or 17 communes have not recorded labor costs under this head whereas they used manpower for that function. The reason is mainly that labor forces are time-sharing their activities in various functions and labor costs are recorded in the principal one without internal accounting apportionment. In terms of accounting accuracy, clean water supply comes first, then solid waste collection and in third place sewage and wastewater treatment. A second remark is that in the three functions, the interest yield of the reserve fund is not attributed to the specific function (only 29%, respectively 45% and 66% on average over five recent years); which signifies *a contrario* that it falls into the general budget – which is not correct.

They also measured the performance: the benefit principle is correctly applied if the cost coverage ratio = 1 for each of the three functions [CCR = revenues / expenditures; without internal double accounting entries]. With CCR=1, the proceeds exactly cover the spending: the function is self-financing via the corresponding user charges. The requirement of cost coverage corresponds to the logic of the user-pays principle in political economy and to the legal requirement. Figure 8 illustrates the point.

Figure 8 CCR for functions [71], [72], [73] in 168 communes, 1996-2009

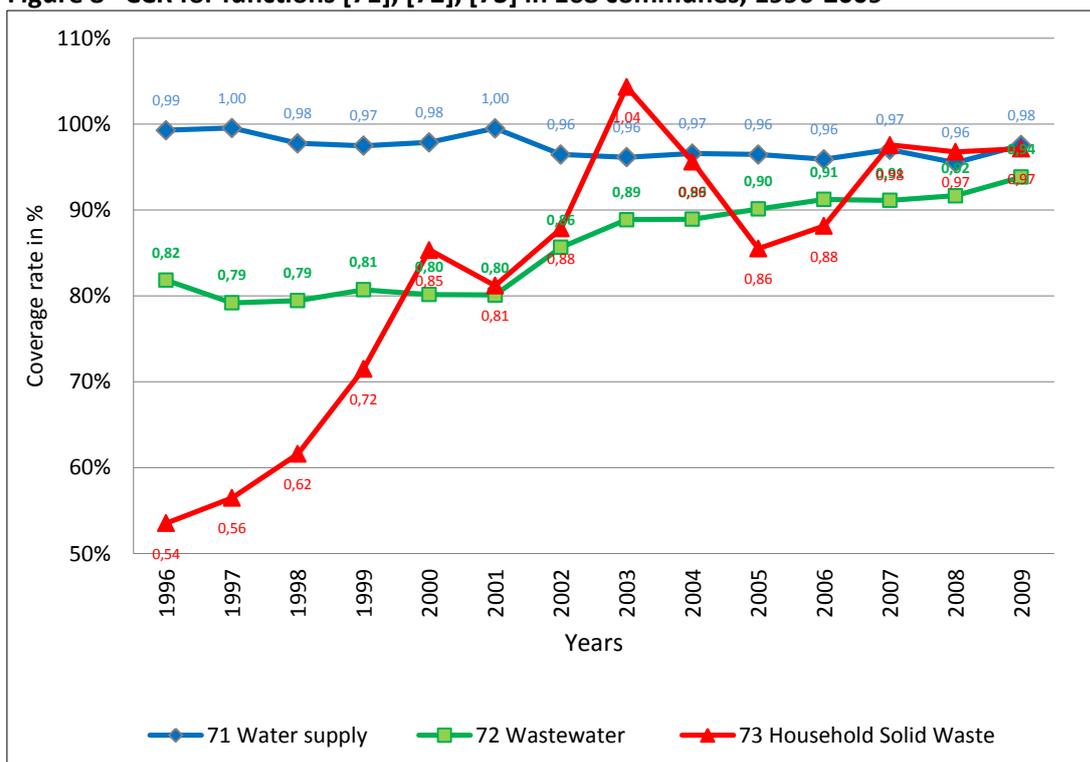


Figure 8 shows that, as we wrote in the introduction, water supply has been traditionally financed with user charges. The main reason is historical: water supply was organized in club, or consortage, without external finance. Beneficiaries had to share the costs. The practice remained when communes replaced private forms of organization. Not so for the other two functions: in the late 1970s, federal laws fixed the objective and organizational forms of several environmental policies. Wastewater treatment and solid waste collection and disposal were assigned to the cantons for the coordination and fine tuning, and to the local level for implementation and financing.

The overall results approximate the objective set by law. In the first control, 80% or more of the communes record adequately environmental costs that result in user charges. In the large majority of communes, environmental services are not underpriced. Percentages are stable over the five years period: our interpretation is that the missing percentage are more a question of information about the accounting system to be delivered to the communes, that behavioral strategies of underpricing. The second test, over the period 1996-2009, illustrate the fact that under fiscal stress, a budget constraint and tax competition, communes are looking for alternative finances. One is to approach full cost coverage in public utilities through user charges<sup>8</sup>.

<sup>8</sup> In 2010, environmental expenditures in the three functions, water, waste water and solid waste represented 8% of total local expenditures, but to 21 points of income taxation. The average tax coefficient in the communes was just below 90 points (the tax rate schedule in the law is given at 100 points). In other word, a commune with a tax coefficient of 75 and full cost-coverage through user charges in the three functions, would have to increase its coefficient to 96 if it would finance these functions through taxation. One sees the importance of a CCR =1 to alleviate the tax burden in a commune.

## 6. Statistical problem

Tables 1 and 2, line 422 “Hospital and home for elderly people” show an important fall in the amount of user charges in the 2010 column. This is due to changes in the way the international public sector accounting system records statistical data for the public sector. This measurement issue makes international - in our case inter-cantonal - and inter-temporal comparisons difficult. Box 9 summarizes the problem which is of a much larger concern than the present case study.

### Box 9 Eurostat and the definition of the public sector\*

The European System of Integrated Economic Accounts, in short ESA, serves to determine the respect of the Maastricht criteria. It lies on a logic initially developed by the IMF in the mid 1980s, which led first to the development of the international system of national accounts (SNA 93), implemented worldwide and published jointly by the European Commission, the IMF, the OECD, the UN and the WB. Basically it consists in a global statistical system which divided each national economy into six institutional sectors. The “general government” is one of them (S.13), divided in central (S.1311), State (S.1312), local government (S.1313) and social security funds (S.1314), which include at their respective level all administrative departments and other public agencies. The public sector is defined by the enumeration of the institutional units constituting it.

There starts the difficulty of drawing the line. ESA 95 considers an institutional unit as “public” as long as the unit is under the control of the public sector. The notion of “control” is specified as the power of deciding the general, as well as the corporate policy of the unit, for example in the form of special legislation that empowers the government to determine the corporate policy or to appoint the directors. In order to clarify the notion of “control” Eurostat illustrate its point with the example of two schools: one under control of the general government, the other not. The general government controls the school if its approval is needed to create new classes, make significant investment or borrow. On the contrary, the school does not belong to S.13 if the general government just finances the school or supervises the general quality standards or the teaching programmes.

The institutional unit must also satisfy the so-called “non-market rule” in order to belong to S.13. The respect of this criterion requires the assessment of the main functions exercised by the entity. When the entity exercises the function of income or wealth redistribution, which comprises levying taxes, paying grants or providing social benefits, the unit is classified under S.13. When a public entity performs mainly the function of financial intermediation, such as health insurers or some pension funds, the unit does not belong to the public sector since, in the sense of ESA 95, they are market oriented. If the function of the unit is neither redistribution nor intermediation, it is then necessary to determine if its output is being sold for “*economically significant prices*”. The border between market and non-market producer being potentially thin, Eurostat calls for the implementation of the so-called “*50 percent criterion*”. In clear it means that the output is sold at economically significant prices when more than 50 percent of the production costs are covered by sales. Eurostat defines sales as: “all payments linked to the volume of output are included, but payments to cover overall deficit are excluded.”

Sources: SCN 2008, p.640, paragraphs 22.28 et 22.29 ; also IMF 2001, p.12 ; Eurostat 2013, p.14; *Manual of Government Deficit and Debt, Implementation of ESA95*, Eurostat Methodologies and Working Papers, European Commission, Luxembourg, 2013, 5th edition, pages 14-16.)

\* This box is based on Berset S., 2013, pages 93-99

EEurostat classifies hospitals that obtain more than 50 percent of their revenues from billing their patients as market enterprises and not as part of the public sector even if they are publicly owned, see their deficits paid for by the government while their patients’ bills are covered by insurance schemes mandated by the government. Hence in 2009 and 2010, public hospitals of five Swiss cantons (Basel-

Stadt, Basel-Land, Fribourg, Glarus and Zürich) were classified as belonging to the private sector.<sup>9</sup>

By extension, when services which are in the responsibility of local governments are externalized and produced by private institutions and NPOs, the total cost of the function is no longer recorded in the public accounts and, in consequence, neither the service pricing. Return to Box 6. Once the collective part of the service (estimated 17%) is paid through public funds and the firms' contributions, the rest of the costs (83 %) is paid by the parents but the information does not appear in the public accounts. The sequence is that specific functions can be assigned to the local government → local government units may decide to externalise the production and delivery of the service → the collective part of the joint production is estimated below 50% of the total cost, say 20% → the remaining part is admittedly rival and excludable, thus it is priced. In these circumstances, statistical data of local public finance do no longer indicate how much the private users pay through pricing. This is not so when the production remains in public hands and financed through user charges.

## 7. Conclusion: what next ?

The conclusions of this essay can be summarized in a few points open to debate. The fiscal institutions and architecture of cantonal and local public finance are characterized by low dependence on financial transfers: fiscal choices, expenditures and taxation, must be totally assumed by local actors. Debt brakes and rules of balancing the budgets and accounts do not allow transferring the fiscal burden on future generation. Under fiscal pressure, cantons and communes must find own solution. Local tax coefficient cannot be increased for fear of tax competition. Over the last twenty years, a clear trend has been to resort to the direct financing of specific functions when these functions include a marketable component. The user-pays principle was first adopted for public utilities, and later extended to social services. More recently, new laws admit that production and service delivery be externalized to private institutional units and NPOs and priced to beneficiaries.

In the paper, we distinguish between user charges when the supply and production are in public hands, and pricing when the production and delivery are externalized. With user charges, it is possible to measure efficiency and equity. Accounting problems exist but can be corrected. Efficiency can be measured with the respect to the cost-covering ratio. We can assume, as for any marketable service, that beneficiaries will be sensitive to the "price" they are charged for the service and, thanks to the Swiss fiscal institution, react in consequence. The equity objective can be assumed to be accepted because the details of the local regulation and tariff are debated in local assemblies and must be accepted by majority. Also, a majority cannot impose unconsidered rules of game since individual beneficiaries can contest the bill.

Our conclusion is quite different for externalized services and those which are no longer in the S.13 general government statistical category. We simply do not know.

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<sup>9</sup>. Source: *Statistique financières 2010 de la Suisse*, Rapport Annuel, Administration fédérale des Finances, OFS, Neuchâtel 2012, Série 18, pages 17-19. [www.bfs.admin.ch](http://www.bfs.admin.ch/office_federal_de_la_statistique/themes/18/finances_publicques/publications)>office fédéral de la statistique>thèmes>18>finances publiques>publications. Despite the fact that the all cantons have hospital networks, some publicly-owned hospitals are taken out of the public sector statistical data, in compliance with the SEC95 statistical system.

Our intuition is that this part is rapidly increasing, but no one really knows how rapidly. There is surprisingly not much public resistance to this trend despite the fact that it corresponds to the privatization of education and social services that were traditionally in the public hands in order to promote equal access to all and quality delivery without regarding the financial capacity of the beneficiaries. Local government seems satisfy that some services be produced somewhere somehow and are accessible, even if not in adequate quantity, without charging their public budget. The private sector is happy to developed activities promised to big business, notably in health and education. The ESA is supporting this position. What next? Just consider and admit the number of difficulties that go with private clean water distribution. My contention is that with clearly stated objectives and well-designed accounting system, the responsibility, production and delivery of such services could be left in public hand and correctly financed with user charges. This would also leave to the democratic debate the equity issue.

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