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Oesch, Daniel

University of Lausanne

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Explaining union growth and decline with flows in and out of membership. An analysis of Swiss union locals

Daniel Oesch (<u>daniel.oesch@unil.ch</u>)
University of Lausanne

Abstract

This paper enquires into the causes of union growth and decline by analysing flows in and out of membership. It does so at the level of 70 Swiss union locals over the period 2006-08. Gross flows in union membership are found to be much larger than the resulting net changes: turnover of annually 10 per cent thus is a surprisingly constant feature across unions. Net changes in membership are primarily determined by inflows: successful union locals differ from languishing ones with respect to their entry rates, whereas exit rates are similar. There is large variance in union locals' entry rates that is not accounted for by the labour market context. Rather, it seems attributable to differences in union organization and strategy.

Keywords: trade unions, membership, strategic choice, turnover, recruitment

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1. Introduction

Trade unions play an essential role in determining the level of wage inequality or welfare state spending in Western European economies. In doing so, unions draw their influence and legitimacy, to a large extent, from their membership basis. Growth and decline in union membership is thus not only consequential for unions themselves, but also affects countries' pattern of economic development and social cohesion. Accordingly, this paper enquires into determinants of unions' success and failure in increasing their membership. In this undertaking, we diverge in two aspects from the bulk of earlier research on union growth and decline.

Firstly, we select a different *unit of analysis*: there is an abundance of empirical enquiries into both micro- and macro-determinants of union growth and decline in Western Europe. While micro-level research typically uses individual-level surveys and enquires into members' characteristics and motivations to join a union (e.g. Schnabel and Wagner 2005, Visser 2002; Waddington and Whitston 1997), macro-level research analyzes union membership on a country level and tries to explain variation in union density with institutions, employment composition across sectors or the business cycle (e. g. Checchi and Visser 2005; Ebbinghaus and Visser 1999; Western 1995). With a few notable exceptions (Undy *et al.* 1981; Hancké 1993), a third level of analysis has received surprisingly little attention: the meso-level of the union local – the place where recruitment and retention activities take place and where members are actually organized.

From a methodological point of view, the local union may well offer a more useful perspective to explain variation in union membership (Hancké 1993). The idea is that workers make their decision to join a union on the basis of their experience at the workplace – depending on how easy the access is to a local union and how well the local union deals with their grievances and provides them with services. Union locals are thus the primary recruitment centres (Hancké 1993: 596). At the same time, union locals differ significantly in their ability to recruit and retain members – depending on their strategic choices and organizational priorities. An illustration is provided by Undy et al.'s (1981) large British study, which shows strong variation in membership evolution among unions of the same sector as well as among union locals pertaining to the same union. These findings point to the crucial importance of local union leaderships. Moreover, they also suggest that the variation in membership evolution within countries and within industrial sectors may be as large as that between industries

and countries (Hancké 1993: 606). By focusing on the union local, this paper thus adopts a perspective of union density where actors' choices matter (Baccaro *et al.* 2003; Frege and Kelly 2003). The relevance of strategic choice is widely acknowledged in research into political parties' fortune (e.g. Scharpf 1991; Kitschelt 1994). In contrast, union growth and decline is still commonly explained with the sole reference to institutions and economic conditions, whereas the actors themselves – unions – are treated as a black box and their strategic choices largely deemed irrelevant.

Secondly, we partially diverge from earlier research with respect to the dependent variable. The literature on union membership typically focuses on annual *net* growth or decline in membership figures. However, annual *net* flows hide interesting dynamics of *gross* flows, that is entries into and exits out of union membership. Since duration of union membership is on average only a few years (Vaona 2008; Visser 2002), there is constant turnover of union members. Hence, even for stagnating membership figures, unions need to renew every year a substantial share of their membership in order to compensate for outflows. In other words, for unions 'it takes all the running you can do to keep in the same place' (Freeman 1988: 73). Accordingly, we focus on gross flows in and out of union locals to get a better understanding of net change in union membership.

We do so for Switzerland – a country where the trade union movement has adopted a type of industrial unionism and sectoral bargaining similar to that of Germany and the Netherlands, but where the decentralized political system affords local unions with greater autonomy. Yet as we will show below, the size of union entry and exit rates are surprisingly similar across West European countries. Therefore, we probably deal here with mechanisms that are not specific to Switzerland's unions. Our analysis is based on tailor-made register data stemming from 70 Swiss union locals, for which membership movements are observed over the three-year period 2006-08. Union locals are either part of *Unia*, Switzerland's by far largest private sector union (56 union locals) or *vpod*, one of Switzerland's largest public sector union (14 union locals).

Our findings suggest that changes in union membership are primarily determined by inflows. Successful union locals differ from languishing locals with respect to their entry rates, whereas exit rates show less variance. They are largely given by the labour market context and follow, to some extent, entry rates: a period of successful recruitment and large inflows goes along with higher outflows. Moreover, we observe large variance in union locals' in- and outflows that is neither accounted for by

employment evolution nor by the demographic composition of the recruitment area. In contrast, we find inflows and outflows to be strongly affected by sector and region differences. Consistent with a perspective of strategic choice, these differences appear largely attributable to union organization and strategy.

Our paper is organized as follows. Section 2 takes up a series of conceptual issues linked to flows in and out of union membership and compares two different strategies of union organization: a retention-centred and a recruitment-centred strategy. Section 3 discusses the institutional specificities of Swiss industrial relations, presents the data on union locals and shows how labour market controls are measured. Section 4 provides descriptive evidence for the extent of flows in and out of union membership by sector and region. Section 5 first analyzes the relationship between gross flows and net change in membership and then enquires into the determinants of inflows and outflows. Section 6 then examines the robustness of our results by doing a series of plausibility checks, while the concluding section 7 discusses the policy implications of our findings.

2. Linking gross flows to net change in union membership

Our analysis of unions' success in recruiting and retaining members at the local level does not primarly look at *net change* in union density, but focuses on *gross flows* in and out of membership. The idea is that what may appear as languishing dinosaurs (Schnabel and Wagner 2008: 16) are in reality organizations recruiting annually over ten per cent of new members. However, if exit rates out of membership equal this percentage, net change in union density may still be zero – and leave unions languishing.

In theory, growth in union membership can be obtained through two channels: through an increase in the *entry rate* while keeping the exit rate constant, or through a decrease in the *exit rate* for an unchanged entry rate. Like every economic actor, trade unions are confronted with opportunity costs, which constrain them to focus resources on some activities at the expense of others. In the case of unions, resources primarily consist of the working time officials are able to allocate to different activities. Hence, in the presence of opportunity costs, two organizational strategies to increase membership can be distinguished. A first strategy consists in *minimizing outflows*, where unions try to reduce turnover by focusing their resources on the strengthening of member loyalty. This goal may be achieved through either an organizing or a servicing model. The organizing model implies the set-up of participatory opportunities and the organization

of collective member activities in order to involve members into union affairs and thus foster union commitment. In contrast, the servicing model implies a stronger focus on the professional handling of members' individual queries and the continuous investment in selective rewards such as financial packages and further education offers, closely targeting members' needs. Particularly in servicing, great emphasis is put on 'customercare' and hence the retention of already affiliated members.

A second strategy is concerned less about avoiding outflows and more about maximizing inflows of new members. This is done by channelling resources into recruitment activities. Such a strategy implies that union representatives spend most of their time preparing recruitment campaigns and organizing new members at workplaces, at the expense of spending long hours in the union local handling individual queries or organizing assemblies – two activities that primarily cater to already affiliated members. Thus, the decision to spend time and resources on the recruitment of new members is likely to conflict with unions' responsibility to service existing members (Towers 1997: 96).

Already in the 1950, it was argued that a high degree of member turnover creates apathy and that, as a consequence, unions should redirect their energies from the task of getting new members to that of more effectively retaining those already affiliated (Goldstein 1952). Likewise, in recent years, studies on union organization have repeatedly emphasized the importance of reducing membership turnover (Waddington and Kerr 1999; Waddington 2006; Jodár *et al.* 2009). While a coherent retention strategy is clearly integral to union growth, our hypothesis is that trade unions have much greater influence on inflows than on outflows. In other terms, we expect differences in unions' membership evolution to be affected more strongly by the entry than the exit rate. The reason has to do with the determinants of inflows and outflows.

It is reasonable to expect that *inflows* of new members into unions are largely determined by parameters on which unions have a direct influence, most importantly a successful recruitment strategy: what sectors, firms and wage earner groups are targeted with what language and product? Where union locals are dynamic and invest most of their resources into the recruitment and defence of adequately targeted employee groups, we expect much higher inflows than where union locals mostly administer the status quo and invest very little effort into the recruitment of new members. In other words, where unions embark on a strategy of *sustained recruitment* and shift priorities and resources towards recruitment officers and organizing, they are more likely to

achieve membership growth than where unions rely on *passive recruitment* and leave the affiliation of new members, by and large, to shop stewards or work councils (Kelly and Heery 1989: 197).

Unions' influence on *outflows* seems, in comparison, much smaller. Survey-based research from different countries suggests that the reason why members leave a union are predominantly linked to changes in their job circumstances. Hence, three studies for Britain observe a surprisingly similar share of between 60 and 70 per cent of former union members who motivate their union exit with changes in their job situation: retirement, unemployment or moving to a job without a union (Gallie 1996: 170; Waddington and Kerr 1999: 188; Waddington 2006: 22). Likewise, a Dutch study finds the strongest effects on the leaving rate to stem from 'external events in the working career such as unemployment, childbirth and change of job or status (retirement)' (Visser 2002: 418). In the same vein, a survey in the Spanish region Catalonia reports that 60 per cent of union exits from Comisiones Obreras were motivated by reasons related to the job – and not the union (Jodár et al. 2009: 15). Finally, without giving a precise share, an Australian survey also found the most common cause for exiting a union to be the movement from a 'union job' to a non-union workplace (Peetz 1998). These studies thus strongly suggest that job-related factors are paramount for member outflows in the three countries studied, while only about 25 to 35 percent of members in Britain, 35 in Catalonia and 40 in the Netherlands seem to have left because of dissatisfaction with union structure, organization or policy.¹

In sum, more than half of total turnover seems due to changes in members' job environment and hence factors on which unions have little influence. There is not much unions can offer to workers moving to jobs in sectors outside their organizational area, to migrants returning to their home country or to women leaving the labour market after child-birth. It is for this reason that we expect the *exit rate* to vary less between dynamic and sluggish union locals than the *entry rate*, and hence to be less consequential for union growth and decline. In other words, efforts concerning recruitment and inflows – and not activities targeting retention and outflows – should distinguish growing from declining union locals. This argument is based on the expectation that inflows are largely a consequence of union strategy, whereas outflows are determined to a much greater extent by structural factors. There are four implications to this expectation that can be tested empirically:

- We should observe greater variance in member inflows than outflows across union locals.
- Compared to outflows, inflows should be more strongly linked to and explain more variance in net change of union membership.
- Factors linked to union organization and strategy should explain more variance in inflows than outflows.
- In contrast, factors linked to labour market evolution and employment structure should account for more variance in outflows than inflows.

Before we start the analysis in section 4, a few words must be said in the following section 3 about our data, the variables used and the measures chosen.

3. Study design: country specificities, data and measures

Our empirical analysis of flows into and out of union locals is set in Switzerland. Switzerland's union movement developed, comparable to that of Germany or the Netherlands, according to the principle of industrial unionism where both union organization and collective bargaining articulate around the economic sector. Yet unlike in Germany, but as in the Netherlands, organized labour in Switzerland remains divided into a secular and a religious union movement. Moreover, both union density at 19 per cent and bargaining coverage at 50 per cent are low in international comparison (Oesch 2010). As in Germany, Swiss unions continue to be dominated by semi-skilled male workers employed in manufacturing and construction, whereas service employees remain weakly organized. After several decades of stability, Swiss unions have struggled with ongoing membership erosion ever since the early 1990s. A first reaction has involved the re-organization of the union structure through a series of mergers. A second reaction has been a renewed emphasis on recruitment and organizing, coupled with an increased use of industrial disputes - a major change in Switzerland's traditionally highly cooperative system of industrial relations (Oesch 2010). However, this paper is not primarily about unionism in Switzerland, but about the mechanisms governing flows in and out of union membership – mechanisms that follow a similar logic across West European countries, as will be shown below.

Our study focuses on two unions: the public-sector union *vpod* and the conglomerate private-sector union *Unia*. The result of a merger between four unions in 2002, *Unia* is with 200,000 members by far Switzerland's largest union, accounting for

about 30 per cent of total Swiss union membership and 50 per cent of membership within the main union confederation SGB (Oesch 2008). *Unia* is Switzerland's principal union in construction, manufacturing and private consumer services such as retail trade, hotels and restaurants. In comparison, the public-sector union $vpod^2$ with 35,000 members is much smaller. Still, in Switzerland's organizationally fragmented public sector, it is one of the major unions. It primarily recruits workers in health care, education, public administration and public transports.

Given Switzerland's cultural diversity, its political system is highly decentralized. Decentralization has also left its imprint on the union movement, where not only unions' sector organisations, but also their regional entities within a sector enjoy considerable autonomy. This leads us to our definition of the union local, a concept that can cover a variety of sometimes very different organizations across countries (Hancké 1993: 596). We define a union local as the functional unit that organizes workers of a given sector in a given region. In the case of Unia, a matrix organization gives large autonomy to 14 regions and the following four sectors: (i) the principal parts of the building trade, (ii) the secondary parts of the building trade (called artisanat thereafter), (iii) manufacturing, and (iv) private services. By combining *Unia*'s territorial and sectoral levels, we obtain the 56 organizational units corresponding to the concept of a union local. Examples of such union locals are "principal parts of the building trade in Zurich", "manufacturing in Geneva" or "private services in Ticino". This is the place where day-to-day activities of recruitment and retention are planned and executed under the direction of regional sector-leaders. For the smaller public-sector union *vpod*, union locals need only be differentiated according to the same 14 regions. Our database thus consists of 56 union locals pertaining to *Unia* and 14 union locals pertaining to *vpod*.³ Variation in union locals' gross membership are recorded over the three-year period 2006-08, which provides us with 210 observations for member inflows and outflows (70 union locals observed for three consecutive years). These data on aggregate changes in union locals' membership have been tailor-made on the basis of raw data provided to us by *Unia* and *vpod*.

Alongside our key variable – gross flows based on unions' register data –, we need to account for differences in union locals' labour market context. For this reason, we construct a series of measures based on the individual-level data contained in the Swiss Labour Force Surveys (SAKE) 2005-08. Providing large samples of between 51'835

(2005) and 47'930 (2008) individuals, SAKE is the standard data source to investigate employment change in Switzerland.

To begin with, aggregate measures are computed for three different measures of the *labour market cycle*: (i) the annual level of unemployment, the annual rate of change in (ii) employment, and (iii) unemployment. The literature leads us to expect lower entry and higher exit rates in union locals where employment decreases and unemployment increases (Schnabel 2003: 22). Moreover, we calculate *workers' average job tenure* in years. The idea is that outflows (and possibly inflows) are higher in labour markets where, on average, employees' job tenure is low and turnover high. We further control for the share in the workforce of two groups with, on average, lower attachment to the job – and hence possibly to union membership: *women and foreigners* (Vaona 2008: 264). This is done by calculating women's and foreign workers' employment share in a given union local's recruitment area. Finally, we have computed a measure for union density in order to control for a union local's *market share* – the proportion of the workforce in a given region's sector who is already organized. In- and outflows are likely to be lower in union locals where a large share of workers are already unionized (as, for instance, in the principal building trade of Jura or Ticino).

All these measures are computed for a target population that matches the organizational areas of *Unia's* and *vpod's* union locals as closely as possible. Hence, unemployment (level and rate), employment (rate and share of subgroups) as well as the average job tenure of workers are calculated for a given sector in a given region to proxy a union local's labour market context as closely as possible. To give an example, we measure the level of unemployment for private consumer services in Geneva, for public services in Ticino or for manufacturing in Zurich. One limitation concerns the impossibility to distinguish between the principal (builders, masons etc.) and secondary trades of building (plumbers, painters, electricians etc.). Although they are organized in different union locals in *Unia*, our SAKE surveys do not keep these subsectors of construction apart. Hence, the same labour market measures are used for union locals in these two sectors – which does not seem problematic insofar as these two subsectors closely resemble each other in terms of cyclical context and employment composition. Table A.1 in the annexe gives an overview of these variables by providing information on the measures' descriptive statistics.

Alongside these labour market measures, we use qualitative knowledge to compute several dummy variables. A first dummy is created for large cities – Basel, Geneva and

Zurich –, where unions may have lower organizational costs (Schnabel and Wagner 2005), but also more discontinuous membership. A second dummy variable distinguishes union locals in Latin cantons from union locals in German-speaking cantons: while the former may be more influenced by French and Italian social movement unionism, the latter are likely to be closer to Germany's social partnership model. A third and last dummy variable distinguishes union locals facing competition from other labour organizations from union locals enjoying a quasi-monopoly in worker representation. Basically, *Unia*'s union locals face competition from other unions firstly in the few predominantly catholic regions such as Central Switzerland, Fribourg, Ticino and Valais (from the social-christian union *Syna*), secondly in Geneva (from the regional union *Sit*) and thirdly in the manufacturing sector in the German-speaking regions (from the white-collar union *Angestellte Schweiz*). Moreover, all 14 *vpod* union locals are confronted with competing public-sector unions.

4. Descriptive evidence for flows in and out of union membership

We begin our empirical analyses with descriptive evidence and compute in table 1 the entry and exit rates of the two trade unions under study. These figures show that gross flows in and out of union membership are much larger than the resulting net changes. The public-sector union *vpod* registers an annual outflow of 9-10 per cent of its membership, whereas the exit rate of the much larger private-sector union *Unia* is somewhat higher at 12-13 per cent per year. These outflows imply that trade unions need to organize large numbers of new workers each year to keep membership figures even. In effect, newly recruited members amount each year to around 9 (*vpod*) to 11 per cent (*Unia*) of existing membership. While these inflow rates convey a sense of dynamism, they were not high enough to compensate for outflows in the case of *Unia* and *vpod* between 2006 and 2008, resulting in annual gaps of between -0.2 (*vpod* 2008) and -2.0 percentage points (*unia* 2007).

[about here table 1]

To what extent are these flows, observed for two Swiss unions, representative for other trade unions in Western Europe? A series of studies suggest that we deal here with a phenomenon that is very similar across countries. Hence, a Spanish study reports an entry rate of 14.5 and an exit rate of 11.3 per cent for *Comisiones Obreras (CCOO)* in

Catalonia in 2004 (Jodár *et al.* 2009: 1). An analysis of membership turnover of Britain's large public-sector union *Unison* situates both the entry and exit rate over the 1990s at 12.5 per cent (Waddington and Kerr 1999: 185). Finally, evidence from the Dutch CBS union survey over the 1970s and 1980s shows member movements to fluctuate between 6.1 and 12.4 per cent for annual entry rates and between 7.2 and 11.1 for annual exit rates (van Ours 1991: 11). Membership turnover of annually around 10 per cent thus seems a surprisingly constant feature of West European unions.

In a next step, we examine flows – and variance in flows – for the 210 union locals in our sample. To begin with, we compute in table 2 median and average entry and exit rates into and out of union locals differentiated along sectoral lines. While the five sectors are very similar in terms of size – each counting between 35,000 and 50,000 members – ,⁴ they strongly differ with respect to membership movements. By far highest entry and exit rates take place in union locals of *Unia*'s private service sector, mainly encompassing low-skilled workers in retail trade, hotels and restaurants. Half of the union locals organizing this sector achieved an annual entry rate of at least 17.4 per cent, while the median exit rate was 16.8 per cent. In contrast, lowest gross flows can be observed for *vpod*'s public services, which mainly comprise medium-skilled workers in health care, education, public administration and transports. In this sector, half of all union locals limited the annual exit rate to 8.9 per cent or less. At the same time, the median entry rate was also much lower at only 7.6 per cent.

[about here table 2]

How much do in- and outflows vary across unions locals? The standard deviations computed in table 2 give an answer to this question and point towards two interesting results.

Firstly with respect to the sector, we find union locals to vary much less in terms of entry and exit rates within the principal trade of building and manufacturing than within private and public services. Although union locals in (low-skilled) private services have much higher entry and exit rates than those in (mid-skilled) public services, overall variance in flows across union locals is similarly large in these two sectors. In comparison, union locals feature particularly low variance in their entry and, above all, exit rates in manufacturing. In this sector, we deal with a relatively homogeneous group of union locals which struggle with very low inflows of new members – inflows that are

clearly insufficient to compensate for the outflows. Compared to the situation in manufacturing, union locals are much less homogeneous within the secondary trades of building, *artisanat*, where the high standard deviation in entry rates suggests that in this sector thriving union locals coexist with sluggish ones.

Secondly, we find union locals to vary more in their entry than exit rates. For all union locals in our sample, the standard deviation was 5.6 percentage points for a mean *entry rate* of 11.9 per cent. In comparison, the standard deviation amounted to only 3.7 percentage points for a mean *exit rate* of 12.6 per cent. With the exception of public services, variance is at least 50 per cent higher in inflows than outflows in all sectors. This result seems consistent with our hypothesis that growing and declining union locals primarily differ in their capacity to recruit new members, while outflows are largely given by the economic context. We examine this hypothesis in greater detail by looking at the relation between gross flows and net change in membership.

5. The determinants of flows in and out of membership

Do trade unions expand their membership primarily through high inflows (because of their attractivity in recruiting new members) or through low outflows (because of their capacity in retaining members)? We address this issue by plotting union locals' annual net change in membership against their annual entry and exit rates. The respective scatter plots – shown in figures 1 and 2 – reveal that net change in membership correlates much more strongly with entry than exit rates. The Pearson's coefficient is r=0.75 for the correlation between entry rates and net change, as compared to only r=-0.10 for the correlation between exit rates and net change. Hence, there is a strongly positive relation between inflows and membership growth, but only a insignificant negative link between outflows and membership growth.

[about here figures 1 and 2]

We analyze the impact of gross flows on net membership change in greater detail with a regression model. Since our observations stem from 70 union locals measured over three consecutive years, we use a pooled time-series cross-section regression. Union locals' in- and outflows in a given year may not be independent from those of the preceding year. Accordingly, we calculate robust OLS-regressions with Huber-White

standard errors that correct for autocorrelation within union locals over consecutive years (see Breen, 2005: 131). Moreover, we integrate controls for the different years. Results are reported in table 3 and show that only entry, but not exit rates, are significantly linked with union locals' net change in membership. Moreover, we account for much more variance in net change across union locals with entry than exit rates: entry rates and year dummies explain 57% of variance in membership evolution as to only 3% for exit rates and year dummies. Very schematically, these results thus indicates that the increase of a union local's entry rate by one percentage point leads to a net increase in union membership by 0.6 percentage point. In contrast, differences in exit rates do not seem to play a significant role in accounting for variation in membership growth across union locals.

[about here table 3]

Having examined the link between flows and net change, we need to shed light on the determinants of in- and outflows themselves. The issue at stake is to know whether differences in flows between union locals are primarily due to *external* variables of a given labour market context (which are mostly beyond union locals' influence) or to *internal* factors reflecting organizational differences between union locals. We address this issue by estimating two different regression models of in- and outflows.

A first model on in- and outflows analyzes the impact of *external* factors that potentially obstruct or, on the contrary, facilitate recruitment and retention of members: union locals' labour market environment in terms of (un)employment, union market share, workers' job tenure, the proportion of women and foreign workers in the recruitment area, large city or small town, Latin or German-speaking canton, presence or absence of a concurrent union. A second model only integrates two variables: sector and region dummies. We argue that both variables capture *internal* aspects of organization and strategy: it is on the sectoral level that *Unia* (for principal building, artisanat, manufacturing and private services) and *vpod* (for public services) define their organizational strategy and lead their negotiations over – often national, sometimes cantonal – collective agreements and pay increases (Oesch 2008). These strategies are then adapted and put to practice on the regional level, where recruitment activities and participatory forums are set up. A union local is exposed to both decisions taken on the sectoral and the regional level.

In order to find out whether factors linked to the labour market context or to sectoral and regional organization are more consequential for in- and outflows, we estimate the two models with robust OLS-regressions and Huber-White standard errors. Table 4 shows the results of the model integrating external labour market influences. Consistent with expectations, we find these structural variables to explain more variance in exit than entry rates. Although differences are small (34 and 27 per cent of variance explained respectively), a union local's labour market context seems to affect exit rates more than entry rates. When looking at single variables, we find three contextual factors to be significantly linked to both entry and exit rates. Firstly, the presence of a competing union slightly depresses inflows, but also leads to somewhat lower outflows. Hence, union locals confronted in their recruitment area with competing unions seem to struggle more to organize new workers, but once affiliated these workers show higher attachment. Secondly, where union locals already organize a large share of the workforce in their recruitment area, both in- and outflows are smaller. It thus seems that a large market share reduces the potential for new recruitment, but since it also leads to stronger bargaining power and larger peer pressure, it is at the same time conducive to membership stability. Thirdly, longer average job tenure in a given region and sector is associated with lower in- and outflows. The result's interpretation is intuitive: where job tenure is on average short and hence job turnover high (as for example in private consumer services such as restaurants and hotels), union locals need to recruit more workers in order to compensate for higher exit rates.

A variable that only seems to affect outflows, but not inflows, is unemployment. In union locals where *absolute levels of unemployment* are comparatively higher, outflows are also higher. In contrast, relative changes in employment and unemployment are not significantly linked to in- or outflows. However, not too much should be made of this result: the period under study is short and covers three relatively years at the end of a broadly shared cyclical upswing, when employment was growing and unemployment falling country- and sector-wide. More interesting is the fact that a union local's in- and outflows are not significantly affected by the share of women and foreigners in its recruitment area, nor by its setting in a large city or a particular linguistic region. These contextual factors do not seem to explain why union locals' have grown or declined over the period under study.

[about here tables 4 and 5]

Table 5 shows the results of the model capturing the effect of internal differences between union locals on in- and outflows. Its explanatory power is almost twice as large as that of the model integrating the external labour market context. When looking at single variables, we find sectoral differences to have a particularly large effect on inflows. Holding years and regional differences constant, our model predicts an entry rate that is 6 percentage points *lower* in manufacturing and 5 percentage points *higher* in private services than in the reference category, artisanat. In comparison, the effects of sector on exit rates are only half as large. For exit rates, differences across regions seem to be more consequential. When taking Italian-speaking Ticino – the region with highest net growth in membership over $2006-08^6$ – as the benchmark, we find all other regions to have significantly higher annual exit rates, exceeding those of Ticino by 2 to 6 percentage points. While Ticino also performs better than almost all regions in terms of inflows (the sole exception being Central Switzerland), differences are only statistically significant with respect to 4 of the 13 regions compared. The regressions in tables 4 and 5 suggest that union growth and decline are more usefully explained by sector and region – which are linked, we argue, to internal differences in union locals' strategy and organization – than by external differences in union locals' labour market environment. The next section discusses the plausibility of this argument.

6. A plausibility check of the results

Three questions arise with respect to our findings: First, is it plausible that union growth is mainly determined by inflows – and not by outflows? Second, what factors explain why entry rates should be more consequential for union growth than exit rates? Third, can we interpret sector and region differences as differences of strategy rather than differences in union locals' labour market environment?

We begin by discussing the first issue and do so by comparing gross flows and net change of the ten most strongly growing and the ten most strongly declining union locals.⁷ This comparison reveals that the three most dynamic and the three least dynamic union locals over the period 2006-08 differ very little in their exit rates, but are separated by more than 20 percentage points with respect to their entry rates. This finding implies that exit rates are, to some extent, given by the labour market context:

Union locals active in sectors with a convincing recruitment strategy (private services, artisanat) and set in regions with a cohesive union team (Ticino, Central Switzerland) overcompensate turnover in their membership with new affiliates. In contrast, union locals active in sectors without a clear recruitment strategy (manufacturing) and set in regions with a leadership problem and/or high rotation among union staff (Aargau, Eastern Switzerland) fail to achieve entry rates that are sufficient to make up for turnover in membership.

A further plausibility check of the key role played by entry rates is provided by one of the few studies to enquire into trade union flows (van Ours 1991). In his analysis of union growth in the Netherlands, Jan van Ours' (1991) obtains a very similar result: the strong decline in Dutch union membership at the beginning of the 1980s and renewed growth after 1986 were due to fluctuations in the entries of new members. Contrary to expectations, the Dutch recession of the early 1980s did not lead to a higher exit rate among union members, but to a decrease in the entry rate of new workers. Between 1978/79 and 1984/85, the entry rate dropped from 10 to 6 per cent, whereas the exit rate remained stable at around 10 per cent (van Ours 1991: 11).

This leads us to the second issue of why inflows should be more consequential for union growth than outflows. There are probably three main reasons: To begin with, a large fraction of outflows are – unlike inflows – due to causes which are largely beyond the influence of unions, being related either to demographic (birth of a child, death, outmigration) or work-related changes (change of workplace, unemployment, retirement) (Waddington 2006; Jodár et al. 2009). In addition, there is an element of inertia in union membership. Once an individual has joined a union, there is a tendency to remain affiliated even if the original incentive for joining has disappeared (Elias 1996: 205). Hence, if a union local loses dynamism and begins to underperform, this lethargy will show quickly in a decline of inflows, whereas outflows are likely to react much more slowly. Finally, outflows are not independent from inflows. In fact, union locals that organize higher shares of new members are also likely – all other things being equal – to experience higher rates of outflows. This is due to the fact that median duration of union membership is short – five years in the Netherlands (Visser 2002: 418), four years among CGIL members of North-Eastern Italy (Vaona 2008: 264). Accordingly, the probability of leaving is by far highest among recent members. The tenuous relationship between unions and recently recruited members is also evident for Unia: 33 per cent of members who had joined the union in 2006 and 19 per cent who had done so in 2007 had left again in 2009.

This impact of inflows on outflows can be estimated in a regression (robust OLS-regressions with Huber-White standard errors), where the dependent variable is the exit rate and the independent variable the entry rate, with control variables for year and sector. The result is shown in table 6 and confirms that union locals in Switzerland with higher entry rates also have to cope with higher exit rates. Our estimation suggests that an increase of one percentage point in inflows is associated with a rise of 0.2 percentage point in outflows. A period of very successful recruitment thus tends to go along with higher outflows. For lethargic union locals, this finding implies that a longer period of sluggish recruitment and falling inflows may actually lead to *declining* outflow rates, because membership is more and more dominated by very stable long-term members, whereas unstable recent recruits become rare and rarer.

[about here table 6]

Despite our insistence that union success is primarily a function of recruitment, our result suggests that the development of a specific retention policy among recent affiliates is crucial for strongly growing union locals to limit the revolving door effect. Moreover, in order to achieve high entry rates over several years in a row, union locals need to constantly run recruitment campaigns which put union staff under permanent stress. This may result in burn-out and high rotation among union staff. Accordingly, ambitious goals in terms of entry rates come at a cost and may not be sustainable over a longer period. In addition, since higher inflows tend to go along with higher outflows, limiting outflows in times of successful recruitment campaigns may demand a special effort by union locals. Beyond a threshold of 10-12 per cent of new yearly entries, it may be more costly to further increase inflows than to reduce outflows. Accordingly, the most successful union locals combine high entry rates with average exit rates – a combination that is only possible if the affiliation of the (annually very frequent) new members is stabilized in the first few years of their membership.

This leads us to our third issue: Can we trace membership growth and decline to tangible differences in union strategy on the sectoral and regional level? The sector organizing private services within *Unia* is the result of a union start-up of the mid-

1990s, when the then two largest unions of Switzerland that were later to merge into Unia – the manufacturing union SMUV and the building union GBI – decided to jointly extend their organization into retail trade, hotels and restaurants. This joint venture brought together the union leaders most strongly interested in union renewal, who took up the challenge of sketching out an organizational strategy over several years. Since this unionization effort in private services had started out from scratch less than fifteen years ago, the emphasis on permanent recruitment efforts still forms part of the sector's organizational culture today – a fact reflected by high inflows in union locals organizing private services.

Likewise, the very low entry rates in manufacturing – for long the flagship of Swiss unionism – can be attributed to actions unions took and, above all, failed to take. The sharp recession of the early 1990s led to profound restructuring of Switzerland's manufacturing sector. Downsizing, technological progress and upskilling reduced the size of unions' traditional blue collar clientele and eroded, at the same time, unions' long-established recruitment model in manufacturing. Notably in the engineering industry, Unions had – comparable to IG Metall in Germany (Windolf and Haas 1989: 155) - traditionally depended on works councillors and Vertrauensleute (union confidants) to recruit new members. In the wake of production automation and educational upgrading, however, seats on works councils were increasingly taken by white-collar employees who showed less allegiance to unions. Thus, this recruitment channel began to dry out. In the absence of new recruitment strategies, union efforts in manufacturing, particularly in engineering, gradually narrowed down to the mere administration of the status quo. The absence of a shift in resources towards recruitment officials and organizing hampered the generational renewal of union staff and resulted in very low entry rates.

An objection to our argument linking low entry rates in manufacturing to the lack of a sector strategy is that low inflows in manufacturing may be due to the sector's adverse labour market environment, notably de-industrialization and declining employment. We reject this objection for two reasons. Firstly, over the period under study 2006-08, industrial production boomed in Switzerland and employment expanded more in manufacturing (by annually 1.3 per cent) than in the principal and secondary parts of building (-0.6 per cent) or private consumer services (-0.05 per cent). In terms of job growth, manufacturing was only outpaced by public services (1.8 per cent).

Secondly, union locals with a cohesive team and a clear shift in priority towards recruitment such as *Unia* manufacturing in Ticino did make strong headway among industrial workers, thereby proving that successful organizing in manufacturing was possible: the union local 'manufacturing in Ticino' increased its membership by annually 4.4 per cent between 2006 and 2008 (mean entry rate: 13.7%, mean exit rate: 9.3%). However, a precondition for such a shift in union practice from servicing existing members towards recruiting new members is a change in union locals' organizational structure and culture – a change that many unions find excessively difficult to make, as research into British unionism repeatedly showed (Kelly and Heery 1989: 207, Towers 1997: 252).

7. Conclusion

This study has enquired into the determinants of growth and decline in union membership. Thereby, the focus has been on the union local, the place where members are actually recruited and retained. Unlike the bulk of research that examines union membership either on the macro-level of country institutions or the micro-level of individual affiliation, our analysis is set on the meso-level where unions' day-to-day recruitment activities take place. Moreover, in order to get a better understanding of union locals' growth and decline, we have tried to unearth the gross flows hiding below the net change in membership. Our analysis has produced three principal findings.

Firstly, we find gross flows in union membership to be much larger than the resulting net changes. The public-sector union *vpod* registers an annual outflow of 9-10 per cent of its membership, whereas the annual exit rate of the much larger private-sector union *Unia* is somewhat higher at 12-13 per cent. The literature suggests that membership turnover of annually around 10 per cent is a surprisingly constant feature of West European unions.

Secondly, we find union growth and decline to be primarily determined by inflows. Thriving union locals differ from languishing union locals with respect to their entry rates, whereas exit rates are more stable and follow, to some extent, entry rates: union locals with higher inflows have a larger share of new – and hence unstable – members and thus also tend to have higher outflows. The policy implication of this finding is straightforward: the key to union growth seems to reside in larger and better targeted

recruitment efforts, whereas the membership potential of retention policies – although by no means irrelevant – seems more limited.

Thirdly, we observe large variance in union locals' in- and outflows that is neither accounted for by employment evolution nor by the demographic composition of the recruitment area. In contrast, we find sector and region differences – which, as we have tried to argue, mainly translate differences in union organization and strategy – to strongly affect inflows and outflows. This suggests that decisions and actions taken by unions impact on membership growth above and beyond the context of the labour market cycle and the institutional setting.

In sum, our findings indicate that union growth and decline cannot be usefully explained with the sole reference to institutions and economic conditions. Actors and their strategic choices are central to understand unions' divergent trajectories in terms of membership across periods and countries. To get a better understanding of the interplay between strategy, organization and union growth, two directions of future research seem promising. On the one hand, it would be helpful to integrate findings from the rapidly growing literature on union organization models – such as organizing or servicing, social partnership or social movement unionism (e. g. Frege and Kelly 2004, Heery 2002) – into the systematic analysis of data on union growth and decline. This would make it possible to more reliably evaluate the influence of different union strategies on changes in membership. On the other hand, longer time-series are needed to analyze the evolution of member flows over changing economic cycles. Having looked at flows during the period of a cyclical upswing, the issue at stake here is to know what happens to entry and exit rates in a recession like the one Europe entered at the end of 2008.

References

- Baccaro, L., Hamann, K. and Turner, L. (2003). The Politics of Labour Movement Revitalization: The Need for a Revitalized Perspective, *European Journal of Industrial Relations* 9 (1): 119-133.
- Breen, R. (2005). Explaining cross-national variation in youth unemployment, *European Sociological Review* 21 (2): 125-134.
- Checchi, D. and Visser J. (2005). Pattern Persistence in European Trade Union Density. A longitudinal analysis 1950-1996, *European Sociological Review* 21 (1): 1-21.
- Ebbinghaus, B. and Visser, J. (1999). When institutions matter. Union growth and decline in Western Europe, 1950-1995, *European Sociological Review* 15 (2): 135-158.

- Elias, P. (1996). Growth and decline in trade union membership in Great Britain: Evidence from work histories, in: D. Gallie, R. Penn and M. Rose (eds.) *Trade Unionism in Recession*, Oxford: Oxford University Press.
- Freeman, R. (1988). Contraction and expansion: the divergence of private sector and public sector unionism in the United States, *Journal of Economic Perspectives* 2 (2): 63-88.
- Frege, C. and Kelly, J. (2003). Union Revitalization Strategies in Comparative Perspective, *European Journal of Industrial Relations* 9 (1): 7-24.
- Frege, C. and Kelly, J. (2004). Union Strategies in Comparative Context, in: Frege, C. and Kelly, J. (eds), *Varieties of Unionism: Strategies for Union Revitalization in a Globalizing Economy*, pp. 31–44. Oxford: Oxford University Press.
- Gallie, D. (1996). Trade union allegiance and decline in British urban labour markets, in: D. Gallie, R. Penn, and M. Rose (eds.) *Trade Unionism in Recession*, Oxford: Oxford University Press.
- Goldstein, J. (1952). The Government of British Trade Unions. A Study of Apathy and the Democratic Process in the Transport and General Workers' Union, London: George Allen and Unwin.
- Hancké, B. (1993). Trade union membership in Europe, 1960-1990: Rediscovering local unions, *British Journal of Industrial Relations* 31 (4): 593-613.
- Heery, E. (2002). Partnership versus organising: alternative futures for British trade unionism, *Industrial Relations Journal* 33 (1): 20-35.
- Jódar, P., Alós, R. and Vidal, S. (2009). Por qué los afiliados al sindicato se dan de baja. Un estudio de la desafiliación a partir de CCOO de Cataluña, *Sociología del Trabajo* 65: 31-52.
- Kelly, J. and Heery, E. (1989). Full-time officers and trade union recruitment, *British Journal of Industrial Relations* 27 (2): 196-213.
- Kitschelt, H. (1994). *The Transformation of European Social Democracy*, Cambridge: Cambridge University Press.
- Peetz, D. (1998). Unions in a Contrary World: The Future of the Australian Trade Union Movement, Melbourne: Cambridge University Press.
- Oesch, D. (2008). Organisationen im Umbruch: Die Gewerkschaften in der Schweiz von 1990 bis 2006, in: Rieger, A., Ambrosetti, R. and Beck, R. (eds), *Gewerkschaften im Umbruch. Eine Analyse der Fusion zur Grossgewerkschaft Unia*, Zürich: Rüegger.
- Oesch, D. (2010). Swiss trade unions and industrial relations after 1990: a history of decline and renewal, in: Trampusch, C. and Mach, A. (eds.), *Switzerland in Europe. Continuity and Change in the Swiss Political Economy*, London: Routledge.
- Scharpf, F. (1991). *Crisis and Choice in European Social Democracy*, Ithaca: Cornell University Press.
- Schnabel, C. (2003). Determinants of trade union membership, in: Addison, J. and Schnabel, C. (eds) *International Handbook of Trade Unions*, pp. 13-43, Cheltenham.
- Schnabel, C. and Wagner, J. (2005). Determinants of trade union membership in West Germany: evidence from micro data, 1980-2000, *Socio-Economic Review* 3 (1): 1-24.

- Schnabel, C. and Wagner, J. (2008). The Aging of the Unions in West Germany, 1980–2006, IZA-Discussion Paper No. 3661.
- Towers, B. (1997). The Representation Gap: Change and Reform in the British and American Workplace, Oxford: Oxford University Press.
- Undy, R., Ellis, V., McCarthy, W. and Halmos, A. (1981). *Change in Trade Unions: The Development of UK Unions since 1960*, London: Hutchinson.
- Van Ours, J.-C. (1991). Union growth in the Netherlands 1961-1989, Research Memorandum 1991-33, Faculteit der Economische Wetenschappen en Econometrie, Free University of Amsterdam.
- Vaona, A. (2008). The duration of union membership in Italy: a research note, *Industrial Relations* 47 (2): 260-265.
- Visser, J. (2002). Why Fewer Workers Join Unions in Europe: A Social Custom Explanation of Membership Trends, *British Journal of Industrial Relations*, 40 (3): 403-430.
- Waddington, J. (2006). 'Why Do Members Leave? The Importance of Retention to Trade Union Growth', *Labor Studies Journal* 31 (3): 15-38.
- Waddington, J. and Kerr, A. (1999). 'Trying to stem the flow: Union membership turnover in the public sector', *Industrial Relations Journal* 30 (3): 184-196.
- Waddington, J. and Whitston, C. (1997). 'Why do People Join Unions in a Period of Membership Decline?', *British Journal of Industrial Relations* 35 (4): 515-546.
- Western, B. (1995). 'A Comparative Study of Working-Class Disorganization: Union Decline in Eighteen Advanced Capitalist Countries', *American Sociological Review* 60 (2): 179-201.
- Windolf, P. and Haas, J. (1989), 'Who joins the union? Determinants of trade union membership in West Germany 1976-1984', *European Sociological Review* 5 (2): 147-165.

Tables

Table 1: annual entry and exit rates of members in and out of the union (in %)

	Entry rate		Exit rate		Net change	
	Unia	vpod	Unia	vpod	Unia	vpod
2006	11.0	8.7	12.5	10.3	-1.5	-1.6
2007	11.0	9.0	13.0	9.3	-2.0	-0.3
2008	11.2	9.0	12.6	9.1	-1.3	-0.2

Table 2: entry and exit rates across union locals by economic sector, 2006-08

	Entry rate						
	Median	Mean	Std. Dev.	Median	Mean	Std. Dev.	N
Primary building	11.9	12.7	3.5	12.6	12.8	2.3	42
Artisanat	12.1	13.1	4.9	13.2	13.3	2.5	42
Manufacturing	7.0	7.2	2.8	10.6	10.8	1.9	42
Private services	17.4	18.1	4.4	16.8	16.7	2.7	42
Public services	7.6	8.6	4.3	8.9	10.1	4.3	42
All	11.2	11.9	5.6	12.4	12.7	3.7	210

Table 3: Regression for the determinants of annual net change in union membership

	Inflows on net change		Outflows on	net change	
	Coef.	<i>t</i> -value	Coef.	<i>t</i> -value	
Entry rates	0.61***	10.59			
Exit rates			-0.12	-1.19	
2006	0.01	1.66	0.01**	2.88	
2007	-0.00	-0.47	0.00	0.71	
2008 (reference)					
Constant	-0.08***	-11.15	0.00	0.05	
R^2	0.57		0.03		
N observations	210		210		

^{**} Significant at the level p=0.01, *** significant at the level p=0.001 (robust standard errors)

Table 4: external determinants (linked to the labour market context) of annual entry and exit rates across union locals

	Dependent variable			
	Entry rate		Exit	rate
	Coef.	<i>t</i> -value	Coef.	<i>t</i> -value
Absolute unemployment	0.39	1.72	0.48**	3.31
Change in employment	-0.03	-0.79	-0.02	-0.53
Change in unemployment	-0.18	-1.20	-0.23	-1.95
Market share (union density)	-0.12*	-2.44	-0.11**	-3.53
Job tenure (in years)	-0.01**	-3.58	-0.01**	-2.84
Share of women	-0.03	-0.74	-0.04	-1.73
Share of foreigners	0.11	1.33	0.04	0.81
Large city: yes	-0.02	-0.97	0.00	0.36
Latin canton: yes	-0.00	0.28	-0.00	-0.42
Competing union: yes	-0.03**	-2.72	-0.02***	-3.78
2006	0.01*	2.47	-0.00	-0.66
2007	0.00	1.25	0.00	0.83
Constant	0.22***	4.70	0.20***	8.18
R^2	0.27		0.34	
N observations	210		210	

^{*} Significant at the level p=0.05, ** p=0.01, *** p=0.001 (robust standard errors)

Table 5: internal determinants (linked to union organization) of annual entry and exit rates across union locals

	Dependent variable			
	Entry rate		Exit rate	
	Coef.	<i>t</i> -value	Coef.	<i>t</i> -value
Sector				
Principal building	0.00	-0.35	-0.01	-0.77
Artisanat (ref)				
Manufacturing	-0.06***	-4.71	-0.03***	-4.71
Private services	0.05***	4.44	0.03***	6.24
Public services	-0.04**	-3.22	-0.03**	-3.47
Region				
Geneva	-0.03	-1.33	0.04***	4.78
Vaud	-0.01	-0.42	0.04**	2.84
Valais	-0.03	-1.38	0.02**	2.85
Neuchatel	-0.03	-1.82	0.03***	4.86
Larger Jura	-0.04*	-2.01	0.03***	4.15
Fribourg	-0.01	-0.75	0.06**	3.24
Ticino (reference)				
Larger Basel	-0.03	-1.74	0.05***	5.21
Biel/Solothurn	-0.04*	-2.19	0.04**	3.36
Berne	-0.04*	-2.28	0.02***	2.46
Aargau	-0.05**	-2.73	0.04***	3.84
Central Switzerland	0.02	0.56	0.03***	4.52
Zurich	-0.01	-0.79	0.04***	4.49
Eastern Switzerland	-0.03	-1.73	0.05***	8.95
2006	0.01**	2.77	0.00	-0.15
2007	0.01*	1.85	0.00	1.35
2008 (reference)				
Constant	0.15***	8.88	0.10	14.13
R^2	0.5	8	0.56	
N observations	210)	210)

^{*} Significant at the level p=0.05, ** p=0.01, *** p=0.001 (robust standard errors)

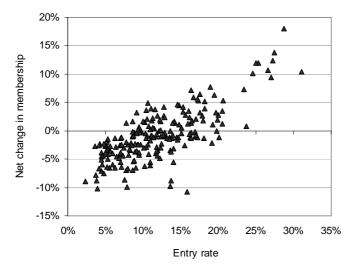
Table 6: The impact of the entry rate, sector and year on the exit rate

		Coef.	<i>t</i> -value
Entry rate		0.21*	2.37
Sector	Principal building	0.00	-0.57
	Artisanat (reference)		
	Manufacturing	-0.01	-1.59
	Private services	0.02**	2.71
	Public services	-0.02	-1.90
Year	2006	-0.00	-0.88
	2007	0.00	0.87
	2008 (reference)		
Constan	t	0.11***	8.80
R^2		0.4	45
N observations		21	.0

^{*} Significant at the level p=0.05, ** p=0.01, *** p=0.001 (robust standard errors)

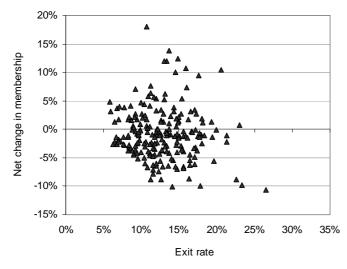
Figures

Figure 1: the relation between annual entry rates and net change in membership



N: 210; Pearson's R: 0.75

Figure 2: the relation between annual exit rates and net change in membership



N: 210; Pearson's R: -0.10

Annexe

Table A.1: Descriptive statistics of variables, measures and data sources

Variable	Mean	Std. dev.	Source
Membership in union locals	2856	1650	Register data, Unia and vpod
Annual entry of new members into union locals	334.2	238.6	Register data, Unia and vpod
Annual exit of members from union locals	354.1	215.9	Register data, Unia and vpod
Annual change in employment in locals' organizational area	0.003	0.085	Swiss Labour Force Survey
Annual change in unemployment in locals' organizational area (in percentage points)	-0.001	0.023	Swiss Labour Force Survey
Absolute level of unemployment in locals' organizational area	0.035	0.024	Swiss Labour Force Survey
Union density in locals' organizational area (membership / employment in locals' area)	0.118	0.117	Register data, Unia and vpod, Swiss Labour Force Survey
Average job tenure in years in locals' organizational area	9.847	1.334	Swiss Labour Force Survey
Share of women in locals' organizational area	0.350	0.221	Swiss Labour Force Survey
Share of foreigners in locals' organizational area	0.281	0.114	Swiss Labour Force Survey

N: 210 union locals

Endnotes

¹ Interestingly, the two British studies indicate that the most important organization-linked reason for leaving a union was 'representatives did not / did hardly ever contact me' (Waddington and Kerr 1999: 192; Waddington 2006: 26).

² vpod stands for Verband des Personals öffentlicher Dienste (the Union of the Public Services Personnel)

³ Note that not all member groups of *Unia* and *vpod* could be attributed to a union local. In *Unia*, some members were classified in 2006 and 2007 as belonging to a non-identified sector. In *vpod*, a few member groups (such as, for example, air traffic workers) are not affiliated to any regional union local. Accordingly, these members were excluded from the analyses based on union locals. For this reason, results based on union locals (table 2 below) do not exactly match results based on total membership figures (table 1 below).

⁴ On 1. 1. 2009, membership figures were 47,000 in the principal building trades (masons), 45,300 in the secondary building trades (electricians, plumbers, plasterers, carpenters), 47,700 for manufacturing (engineering, watch-making, pharma industry), 39,600 for private services (mainly retail trade, hotels and restaurants) and 35,000 for public services (health care, education, public administration and municipal transports).

⁵ Robust regressions with Huber-White standard errors account for the fact that observations are independent between, but not within union locals across years. It is done by using Stata's 'cluster' subcommand.

⁶ The five union locals integrating the Ticino region registered an annual average net growth in membership of 4.9% between 2006 and 2008. Over the same period, the largest net decline took place in the five union locals integrating the Aargau region: -3.9%.

⁷ These tabulations are available from the author.