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Measuring the importance of voluntary work in the Åland Islands

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Measuring the importance of volunteer work in the Åland Islands

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Conference Paper for 53rd ERSA Congress 27 -31 August 2013

Palermo, Sicily

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ABSTRACT

This study gauges the extent and the effects of volunteer work by associations in the Åland Islands. First, a review of volunteer associations in Åland was conducted. Extensive economic data was coupled with mail surveys and interviews with key persons. Second, estimation of the volume and the monetary value of volunteer work were carried out. In addition, economy-wide effects of volunteer work were gauged through a scenario in which volunteer work was turned into municipality-financed paid work. This scenario was analysed with a dynamic CGE model of Åland.

On the basis of data from around 110 volunteer associations, we estimated the yearly amount of volunteer work to 830,000 hours in Åland. Turning the volunteer work into municipality-financed paid work would incur additional costs of around 34 million euro to Åland's municipalities. The additional cost would have to be financed by increased municipal income taxes. The increase in taxes would cause a small additional loss in welfare, when measured by equivalent variation, totalling around 36 million euro. The result is sensitive to assumptions concerning the elasticity of labour supply to changes in net earnings.

JEL codes:

H240 Personal Income and Other Nonbusiness Taxes and Subsidies

C680 Computable General Equilibrium Models

J480 Particular Labor Markets: Public Policy

H24, C68, J48

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1. Introduction and background

Volunteer work or volunteering is conceptually close to an oxymoron or at least it is confusing for a mainstream economist. Work is by definition something that curbs our leisure time and therefore a compensation needed for us to supply labour. In addition, most of the work carried out in the Western economies is not forced labour, thus all the labour could be seen voluntary in that sense. However, in real life volunteering is ubiquitous, especially within the so called Third Sector Organisations (TSOs). In national accounts these organisations have also been called Non-Profit Institutions Serving Households (NPISH). However, the valuation of NPISH activities does not take into account the amount and value of unpaid work, if the proceeds of that work have not been sold on commodity market. Therefore, one could say that national accounts systematically undervalue the activities of NPISH within an economy.

According to International Labour Organization (ILO, 2011) “Volunteering is a crucial resource for social and environmental problem-solving the world over. The scale of such work is enormous and the contribution it makes to the quality of life in countries is greater still. Despite this, little sustained effort has so far gone into its measurement”. European Commission (2011) has also urged the member states to measure the importance of volunteering and to encourage volunteer work as one of the means to achieve Europe 2020 growth strategy. As regards policy-making in general, we believe that the motto “If you cannot measure it, it does not exist” may very well be true.

Åland Islands is an autonomous archipelago province located in the Baltic Sea between Finland and Sweden. The autonomy gives Åland legislative powers concerning internal matters and to make up a budget of its own for the regional government. The most important areas of self-government are education, culture, health care and social care, trade and industry, and municipal administration. In other areas the Finnish Parliament passes laws that apply also in Åland. Despite being a part of the state of Finland, the population is overwhelmingly Swedish-speaking. Geographically – and in many cultural aspects as well – Ålanders are more inclined to identify themselves – apart from being Ålanders in first place - as Nordic people than Finnish citizens, Finno-Swedish, or ethnic Finns (Häggblom – Lindström – Kinnunen, 1999) .

Many studies point to a connection between volunteer activities, social connectedness, and social capital (Jacobs, 1961; Putnam-Leonardo-Nanetti, 1993; Coleman, 1990). Social capital has been defined in various ways in social sciences, but the important common aspect of the definitions is that extensive social relations are valuable to the individual’s well-being and e.g. educational outcomes, as well as to the society as a whole.

Regarding volunteer association and free-time activities, Swedish-speaking Finns stand out as more active, and having more social capital than their Finnish-speaking fellow citizens (Hyypä – Mäki, 2001). High social capital seems also to bring about higher self-related health benefits (Hyypä – Mäki, 2001; Lundåsen, 2005).

Year 2011 was the European Year of volunteering. One of the purposes of this theme year was to raise awareness of the value and importance of volunteering, as well as to empower volunteer organisations and improve the quality of volunteering and to create an enabling and facilitating environment for volunteering in the EU (European Commission, 2011).

Volunteering is defined as labour and other tasks that are carried out on voluntary basis, without pay (or for a symbolic compensation) during one's free time. According to the European Union volunteering benefits the individual, the association and the local community as a whole.

Our main purpose with this study is to estimate the importance of the volunteer work carried out within the associations in the Åland Islands.

2. Description of volunteer associations in Åland

In 2010, the value added of NPISHs amounted to 14.4 million euros, corresponding 1.3 per cent of GDP at base prices in Åland. Personnel costs, including social security and insurance fees of that same year were 12.9 million euros. However, NPISHs include even churches that fall outside the focus of this study. The labour cost within the Third Sector Associations was around 7.4 million euros (Rundberg and Kinnunen, 2012).

Ålanders are active participants of free time, volunteer associations. According to study of Rundberg and Söderlund (2009) on Ålanders' free time and cultural activities, 44 percent of population 16 years or more had participated in some activity of an association during the last 12 months. People participated in sports associations most actively, followed by different cultural associations. Other popular associations were trade unions, Rotary, Lions club, and motor sports associations.

We gathered financial statements of 200 associations by going through the attachments of financial applications filed to city of Mariehamn and to the local gaming company Paf (Ålands Penningautomatförening), which both routinely finance volunteer associations' activities. In addition, we sent a postal survey, coupled with telephone and face-to-face interviews in order to cover all types of associations. In total, there are around 770 associations registered in Åland, although the number of "sleeping", inactive associations still lingering on in the register is unknown. Thus our sample covers at least a fourth of all the active associations, and the cover is much higher for the largest ones. In terms of number of associations, our sample covers the social and health associations most effectively (see Table 1).

Table 1. Number of associations by type

	Nr of associations in sample	Nr of associations in register
Cultural	68	194
Sports	40	106
Social & health	39	97
Other (youth, environment, rescue activities, other)	53	380
Total	200	777

Source: background material of the study.

In this study, we classify the associations into following groups: sports, cultural, social/health, and other associations. Among the other associations are youth organisations, fire brigades, environmental associations, as well as many other types of associations. Sports and cultural associations have the highest resources (see Figure 1 below).

The average number of members in our study material was around 250 members by association. Sports associations have the largest number of members, followed by social/health and other associations. The cultural association have on average around 100 members.

On the average, around 16 per cent of members are children or youngsters. Sports associations reported the highest share of young members. Gender representation is quite even, as around 52 per cent of members are female. However, the share of women is lowest among sports associations (39 per cent) and highest among social associations (67 per cent).

Roughly less than half (47 %) of the associations' earnings are subsidies and grants, 22 per cent sales income, 5 per cent member fees and 26 other income. Subsidies by member were highest in social associations (237 euro/member). However, they were also using the largest share of the income into transfers and gifts. An average association received 137 euro per member as subsidies from the public sector. The share of member fee of the total earnings was highest among other associations (10 per cent), whereas they represented only one per cent of earnings among social/health associations (see Figure 2).

Personnel costs represented around 45 per cent of the total costs of associations (Figure 3). This share varied among the associations, being 58 per cent for social associations (maximum), and 25 per cent for cultural associations (minimum).

An average association produces around 1,700 hours of volunteer work per year. The amount of volunteer work was highest among sports associations (around 3,000 hours), whereas the amount of volunteer hours was around 600 per association among cultural associations, which also have a lower average number of members.

Figure 1. Sum of revenues and costs by type of association

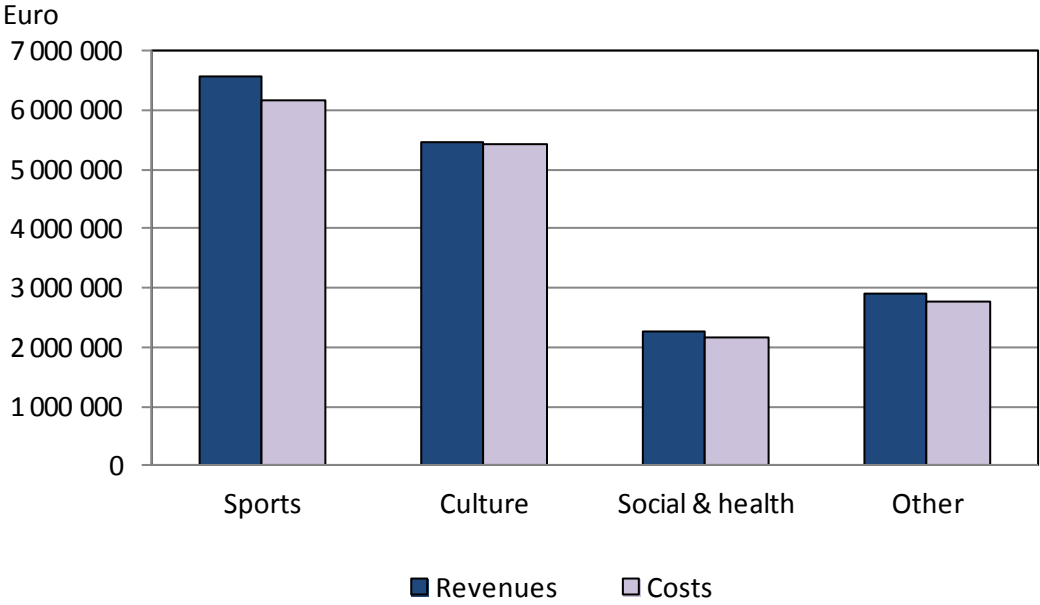


Figure 2. Revenue structure, sum of all associations

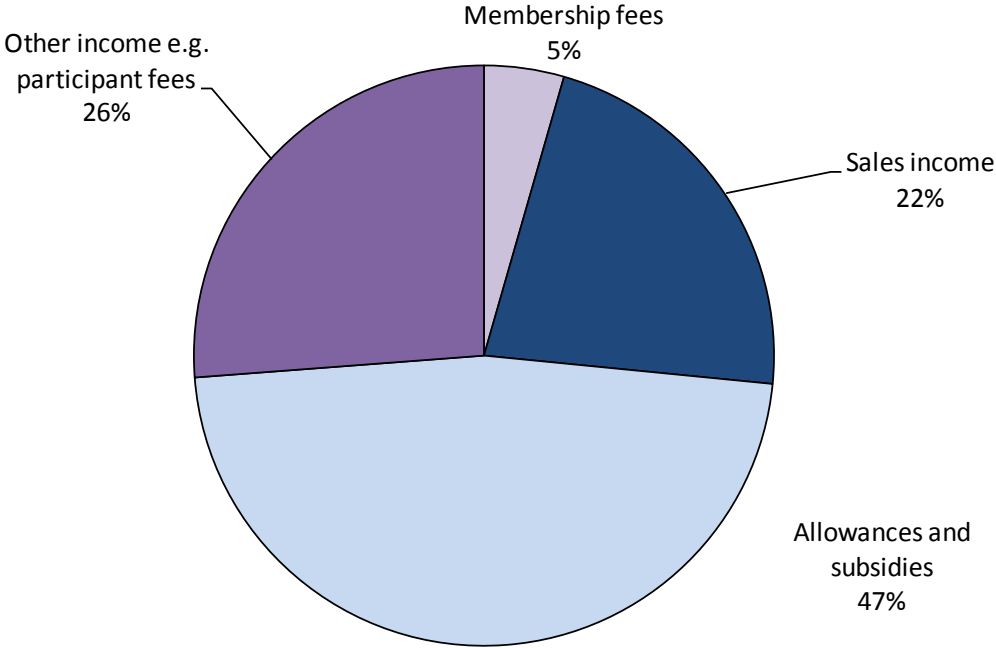
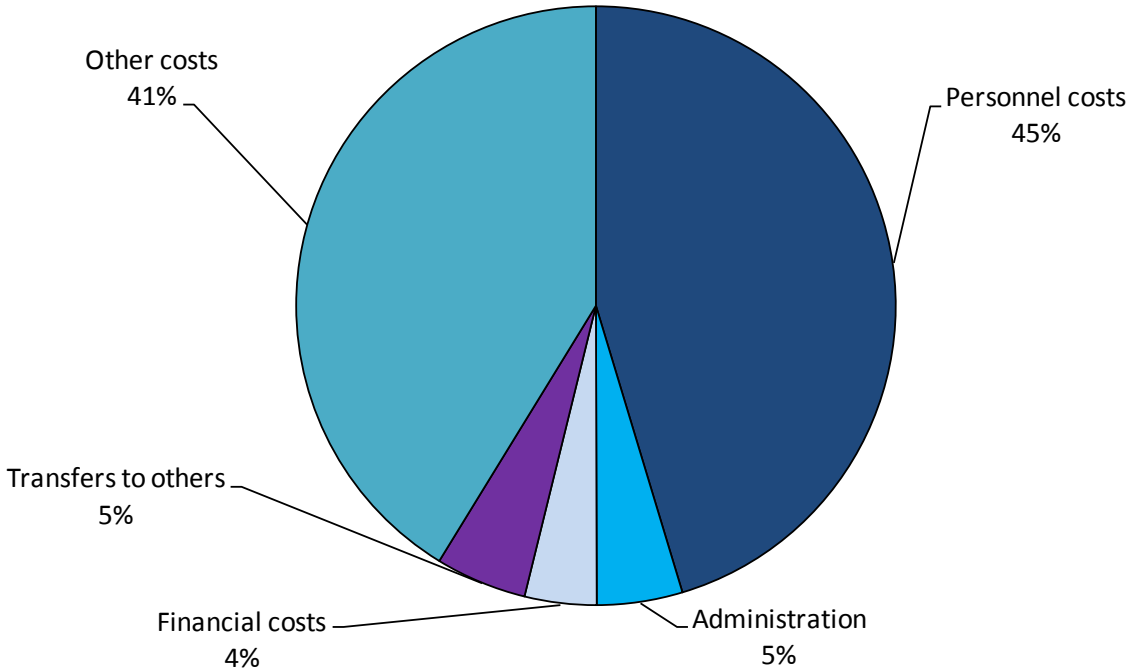


Figure 3. Cost structure, sum of all associations



3. Counterfactual labour costs

We succeeded in gathering information on both number of volunteer and paid working hours from 110 associations. With the help of this information, coupled with additional information the total wages and salary information from our statistical registers, we estimated the total amount of volunteer hours among associations to approximate 830,000 hours per year, which corresponds to roughly 520 man-years (with 1,600 hours per year). According to survey answers, associations carried out 3.0 volunteer hours per each paid hour (see Table 2), which is a much lower ratio than the one recorded by Laasanen (2011) in his study of four Finnish large volunteer associations.

As we cannot directly measure the effects of volunteer work, we use an indirect valuation method, although it falls short of comprising the societal and individual effects on health and general well-being. We do this by assessing the cost of turning volunteer work into paid labour. By doing this we loosely follow the recommendations of ILO (2011) and establish a replacement value for volunteering. In our calculation we assume that local administration - municipalities – take over and finance the activities earlier taken care by the associations. This additional cost of municipalities would be financed by an increase in municipal personal income taxes.

From wage statistics and economic statistics of municipalities we get average hourly wages of 19.89 € and 15.73 € for municipalities and associations, respectively. In other words, the hourly wages in municipalities were 26 percent higher than in the associations. From municipal economic statistics

we see that additional labour costs are about 25 percent of gross wages. The average labour cost in municipalities amounts thus to 24.95 €/hour. In our calculation, we assume that all new (and old) paid labour within the associations receive the municipal average pay.

In table 2 we show the break-down of the additional labour costs of turning volunteer work to paid labour by type of association, amounting to almost 21 million euro in total. On top of this cost, existing labourers would get a higher pay to match the average pay of municipal sector, which would mean an additional cost of 2 million euros. What is more, it is assumed that the use of intermediate inputs would follow the suit of the municipal sector, in which around 65 percent of all costs are labour costs, leaving 35 per cent to other costs. When all these costs are added up together, the additional costs of turning volunteer work into paid labour sums up to 34.2 million euros. This sum corresponds to one fifth of municipalities' operational costs in year 2010.

We compared our estimate for the number of volunteer hours to the time use studies carried out in Finland and Sweden. In comparison with both the neighbouring countries, an average person in Åland used around 30% more time to volunteer work among associations. This could be an indication that our estimate for Åland is on the high side, but on the other hand, there are results that indicate that volunteer activities can be higher among Finno-Swedes (including Ålanders) than in the whole country (Hyyppä, 2007; Surakka and Hyyppä, 2012).

However, in order to get a more comprehensive picture on the counterfactual situation where volunteer work would be paid labour, we will use a computable general equilibrium model constructed for Åland. This model is presented in the next section.

Table 2. Estimation of annual wage cost savings through volunteer labour, million euros

	Voluntary working hours	Voluntary / paid working hours	Wage value of voluntary work, € m.
Sports	156 000	6,6	3,9
Culture	40 000	2,1	1,00
Social & health	143 000	0,82	3,6
Other	493 000	7,9	12,3
Total	832 000	3,0	20,8

4. Dynamic CGE model for Åland – DALAGEM

Our model is a recursively dynamic, imperfect competition, one-region CGE model with endogenous labour supply and relatively inelastic real wages. The Åland model is a modification of so called IFPRI Standard Model, which is a static, perfect-competition model (Lofgren et. al., 2002). The imperfect competition (IC) module introduces Cournot-conjectural variations model for multi-product activities

with fixed yields for each commodity per unit of activity. The IC module is based on the work of Francois and Roland-Holst (1997), Willenbockel, (2002), and De Santis (2002), although none of these studies were applied to a multi-product case. The Åland model was first introduced in Kinnunen (2005) and thereafter it has been used in several studies (Palmer and Kinnunen, 2006, Lindström and Kinnunen, 2009 and 2010).

Instead of using wage curve specification as in many other CGE models, wage setting is modelled by introducing a Phillips curve, named after Phillips (1958), who in his seminal paper estimated a negative relationship between the wage level increase and unemployment (for a discussion on the matter, see Blanchflower and Oswald, 1994). Our choice makes sense in a dynamic setting, when adjustment of the labour market is assumed to be slow and to extend over a number of years. Moreover, the usual wage curve configuration is essentially a static, long-term relationship, and should thus be used in static models. What is needed here is a disequilibrium adjustment mechanism, as we assume that labour market is not perfectly competitive. For instance, Blanchard and Katz (1992) and Möller (2001), as well as Dixon and Rimmer (2002) have presented analytical and empirical regional models, where wages adjust to changes in labour demand. By allowing wages to respond to changes in unemployment, the whole adjustment burden does not rest on the labour supply (through participation rate or migration). This specification leads us to a kind of regional NAIRU model (see e.g. Elhorst, 2003). In this setting, the growth rate of labour supply is endogenous, making the GDP growth rate endogenous as well. The dynamic adjustment path of the economy resembles that of estimated for the various states of USA in the seminal paper of Blanchard and Katz (1992).

Investment, and thus the growth of capital stock, depends on the profitability of the industry through a Monash-type investment module (see Dixon and Rimmer, 2002), very similar to the investment equations used in Vaittinen (2004), and in Bayar et al. (2004).

In addition, the current version of the model includes population dynamics with fully-fledged cohort-component modelling. It produces changes in one-year-cohorts by gender for each year. Base year and future fertility, mortality and in- and out-migration rates by age cohort used in the model concur with those used in the Statistics Finland population forecast of 2009. However, net migration equation follows the original specification of Kinnunen (2005), and it defines thus endogenous part of population dynamics. Fertility and mortality rates follow exogenous trends. In the current version, labour supply reacts to policy changes through participation rate (extensive margin). We do not explicitly model the choice of working hours (intensive margin).

The modelling strategy for in-period endogenous labour supply was also inspired by Berck, Golan, and Smith (1996), who constructed a dynamic revenue model for the state of California. However, wage and transfer elasticities of labour supply are assumed to be small, 0.1 (in absolute terms) which is in line with e.g. the VATTAGE model for Finland (Honkatukia et al. , 2012).

It is assumed that each household maximizes a Stone-Geary utility function subject to a consumption expenditure constraint. The resulting first-order conditions are referred to as LES (linear expenditure system) functions since spending on individual commodities is a linear function of total consumption spending (Lofgren et al, 2002). Following the suit of the original IFPRI Standard Model, the utility function does not include work-leisure choice as e.g. in Boeters and Savard (2013) . Therefore, our

equivalent variation (EV) utility measure to be presented below measures changes in the value of commodity consumption, not the “full consumption” including leisure.

Apart from resident households, tourism is modelled as foreign households consuming commodities in Åland. Consumer demand is modelled as Cobb-Douglas demand functions. However, total demand is sensitive to changes in Åland’s consumer prices.

5. The effects of volunteer work - results

The regional parliament of the Åland Islands has in practice no taxation authority of its own. However, the 16 municipalities of Åland do have their own municipal taxation in the same fashion as in the mainland Finland. Thus, increased public expenditure has to be financed through municipal taxation if the budget balance of the public sector under base run is to be maintained.

In our counterfactual, policy scenario we assume that volunteer work is turned to paid labour, and implement it by increasing municipal transfers to NPISHs. We then assume that the amount of free-time per person does not change exogenously, so people do not necessarily work more and have less free-time in this scenario. Instead, a part of the free-time allocated to volunteer work can be allocated to other activities. We cannot capture in our analysis whether this reallocation of free-time would increase or decrease welfare, as we implicitly assume that volunteering and other leisure are perfect substitutes. But we do assume that the volume of activities taken care of by volunteer forces stays the same when municipalities finance it. In order to satisfy increased demand for labour, labour supply has to change at the macro level.

To finance the increase in public expenditure, the effective municipal tax rate has to be raised by more than 60 percent during the first simulation year 2013 (see Figure 4). This would lead to a dramatically higher wedge between gross and net earnings of labourers, to lower participation rate and to a totally different economic environment for the enterprises. The rising income taxes would hurt especially the labour-intensive industries, as due to increased scarcity of labour, they would have to raise pay level along with the other industries. In Åland, tourism is an important addition to many labour-intensive service industries’ total demand (Rundberg et al, 2009). Land-based tourism – as opposed to shipping-based tourism which stands for a fifth of Åland’s economy – represents around 3.1 per cent of GDP in Åland (ÅSUB, 2012), a level that is comparable destinations like Chile (2.9 %, World Travel & Tourism Council, 2013). Without volunteering, Åland would become less attractive compared to other destinations, as Åland’s consumer prices would increase by around two and a half per cent in relation to rest of the world (i.e. the effective exchange rate appreciates). Therefore, Åland loses a part of its tourism demand. In consequence, GDP in total, as well as most of its items would decrease in value in relation to the base run (see Figure 5).

Figure 4. Effective municipal tax rate

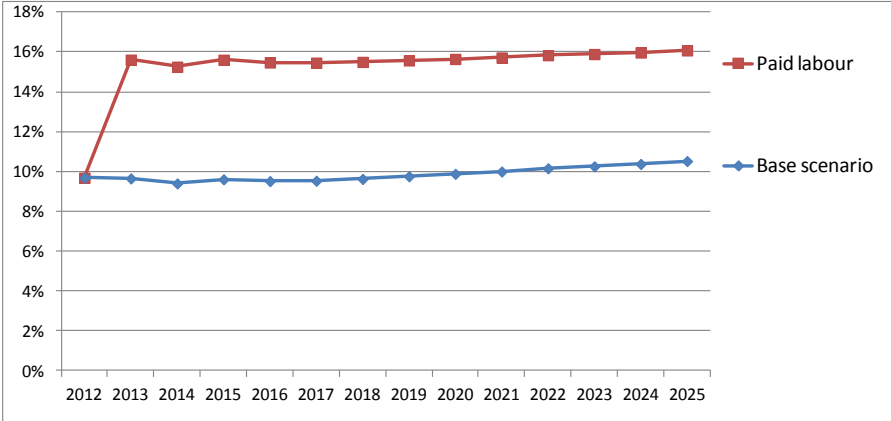


Figure 5. Change in GDP items, percent from base scenario

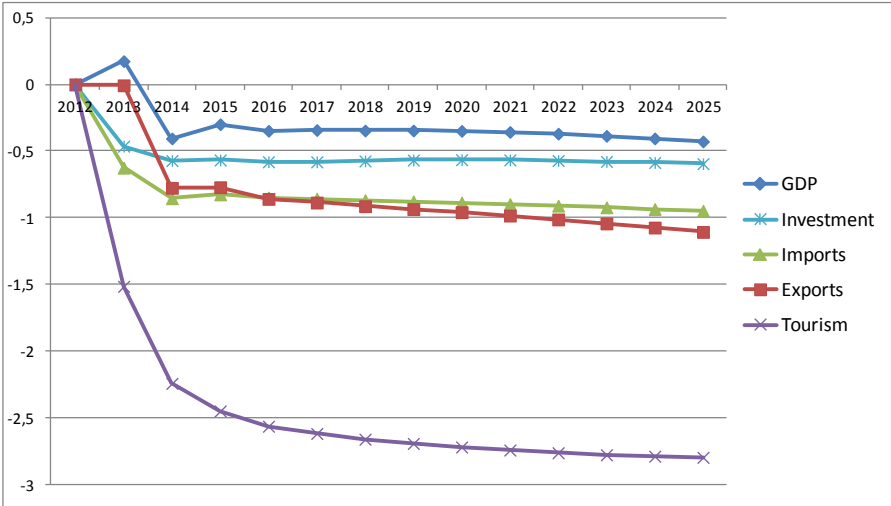
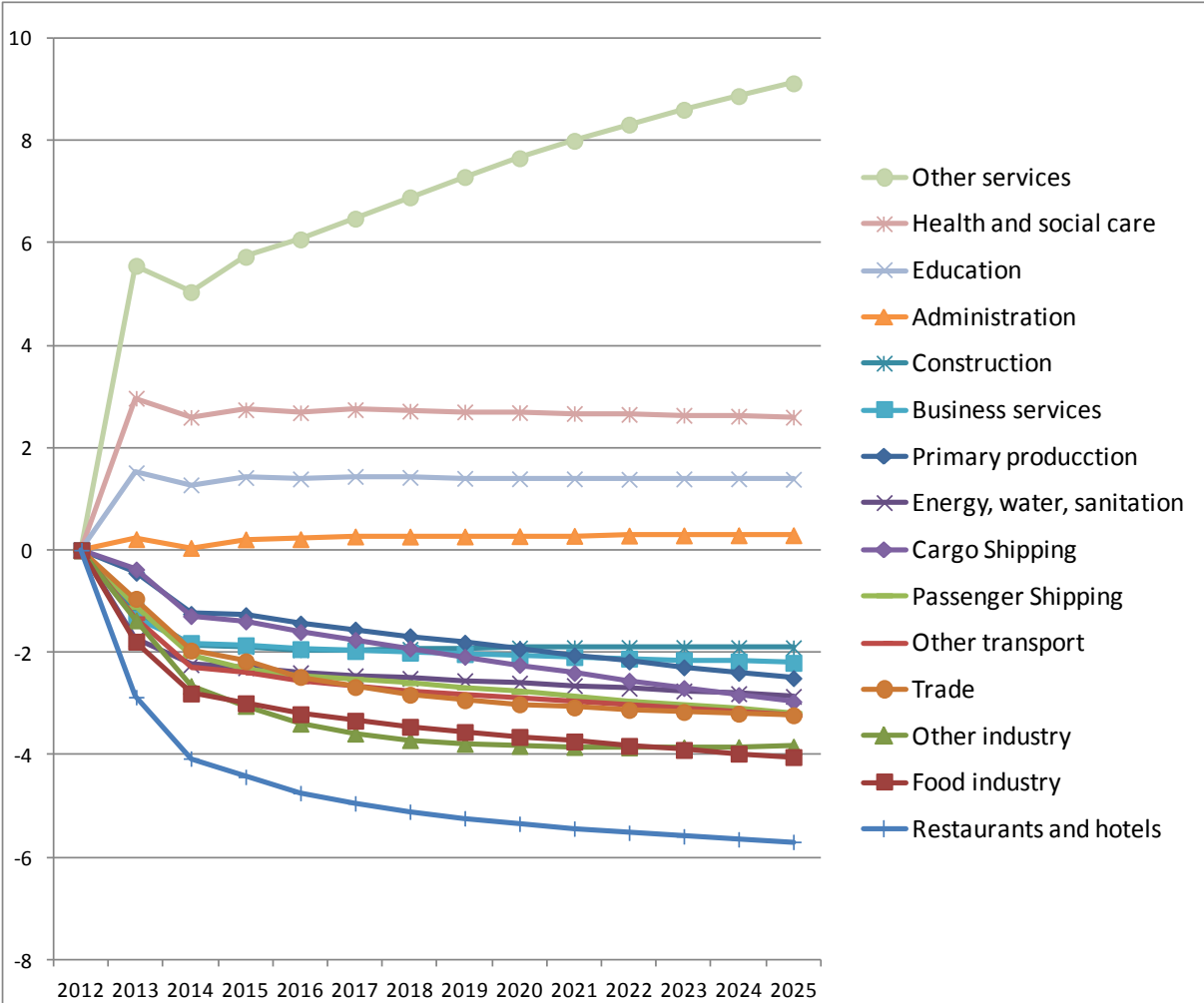


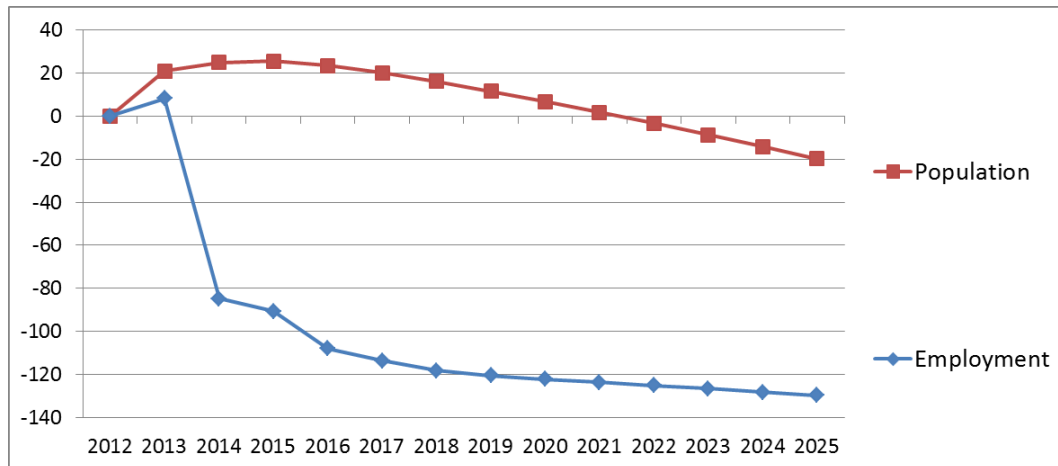
Figure 6 shows how the value added of different industries would change. We see that industries growing are close to the public sector, whereas the rest of the industries decline. In fact, the positive growth patterns are linked to the consumption structure of NPISH institution which gets the additional resources in our counterfactual scenario.

Figure 6. Value added by industry, percentage change from base scenario



The higher demand for publicly financed labour would crowd out part of the labour demand within the private sector. Thus, the employment in total would not increase by the calculated additional 520 man-years financed by the public sector. Instead, the total employment would initially increase very marginally and then converge to a lower level than under base scenario, as the private sector employment crowds out. The same happens to resident population. However, the positive growth stays positive for a longer time period (see figure 7).

Figure 7. Change in employment and population, difference to base, persons



The total population changes somewhat as changes in the labour market affect migration flows. We want to take this into account in our welfare measure. Therefore, as we calculate the welfare change of the society, we first calculate the per-capita change each year, and multiply that per-capita EV value with the population of the base scenario. In other words, our EV measure is as follows:

$$EV_{orig} = \mu(p^{base}; p^{pol}; m^{pol}) - m^{base}$$

$$EV = \frac{EV_{orig} * POP_{base}}{POP_{pol}}$$

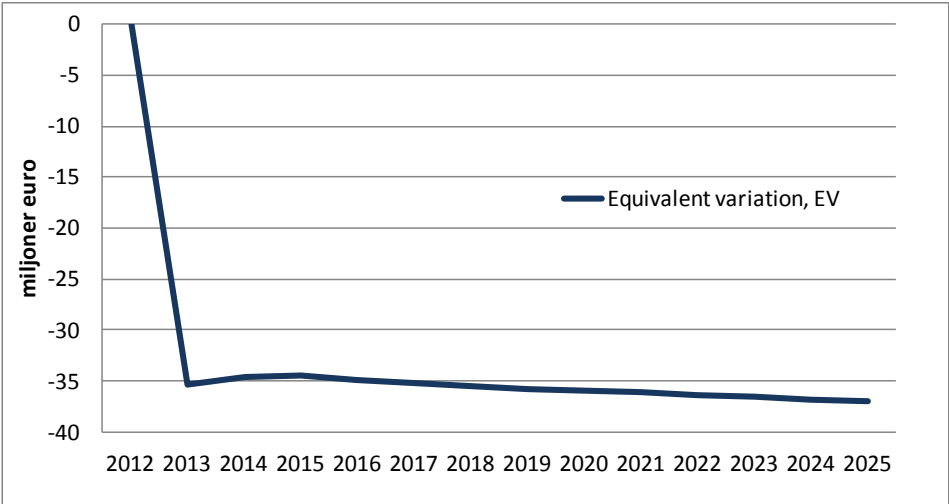
Where:

- μ Indirect compensation function; income needed to reach utility level of policy scenario with the original prices of base scenario
- m total consumption level ~ income
- p prices

It turns out that our EV of 35.8 million euro during the first year of counterfactual scenario is very close to of the additional cost estimate above (34.2 € m.; see Figure 8). However, if we applied higher wage elasticity of labour supply - 0.5 instead of 0.1 - the (absolute value of) EV measure would increase roughly by one fifth to 42.5 € m. In sum, if the welfare metric does not include free-time and if the labour supply is rather inelastic, the direct calculation of additional expenditure gives a good first approximation of the societal value of volunteer work. ILO guidelines (2011) on the measurement of volunteer work also recommend measuring the “replacement value” of volunteer work. Our estimate aims to do that, and also takes into account the institutional setting assumed when we calculate the counterfactual costs.

Our welfare result can also be expressed in relation to wages of associations, or in relation to financial support. Our key results would then be that for every euro spent on associations’ wages and salaries, society receives a benefit 4.8 times the cost. In relation to financial support received, the ratio is 3.5. Laasanen (2011) calculated in a case study of four Finnish associations that the ratio between societal value and labour costs was 6.5. A plausible explanation for the difference between our and his results seems to be a higher share of paid labour within the associations in Åland.

Figure 8. Population-adjusted equivalent variation



6. Discussion

We have presented a study of valuing volunteer work with basically two different methods. Our direct calculation of “replacement cost” of volunteer work is well in line with the recommendations of ILO (2011). Our second method - which is at least a bit more theoretically sound way of measuring welfare change - produces a very similar result, when the model is armed with our standard assumptions concerning responsiveness of labour supply. However, our model has been constructed by adding bits and pieces in a way that is not totally consistent with the theory. The foremost weakness of the model is the absence of leisure from the utility function. Adding this to the set-up would not be all too difficult, as there are several examples of corresponding solutions. Having leisure included in the household welfare function would lead to a lower EV change in our analysis, as increased taxation would induce people to consume more leisure.

However, the next question would be whether free-time used in volunteer activities is the same commodity as free-time spent on other activities. If they are separate, how substitutable would they be with each other and with other commodities? Several studies also point to the possibility that the volunteer participation itself accrues benefits – welfare? – to the engaged individuals. Although we are well aware of this literature, these kinds of external effects are absent in our calculus, and we are not aware of such analysis done within the CGE framework. However the receiving side of welfare calculus should be taken care of as we keep the volume of former volunteer activities constant in our

base and counterfactual scenario. However, in order to do a more thorough analysis, explicit modelling of both demand and supply of volunteer work would be needed. That would also require a division of leisure into volunteering and other leisure within the household utility functions.

If the role of volunteer work as an alternative to ordinary public sector activities would be in focus of research, another avenue worth exploring would be to include the privately consumed publicly produced service commodities – like subsidized kinder-garden or health care - into households' welfare function. Even this solution can be found in other models (see Honkatukia and Tamminen, 2012). This addition would be very important if other changes in taxation would be analyzed in this framework. The current version of the model is biased to prefer lower taxation in every situation and for every type of household.

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