Capital gains taxation

Evidence from Switzerland

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Capital gains taxes on the sale of company shares and other so-called movable property, which were collected by most cantons in the past at the household level, were completely abolished in Switzerland in recent years. However, the persistent stock market boom of the 1990s generated pressure by trade unions and the social democratic party to reintroduce capital gains taxation at the confederation level. Nevertheless, the federal government did not include a capital gains tax in its 1998 measures to close loopholes in income taxation. The outbreak of the Asian crisis and the resulting stock-market crash in the autumn of 1998 led to a decreasing interest in capital gains taxation but the stock market recovery of the last two years brought this issue again on to Switzerland's political agenda. The trade unions and the social democratic party recently started an initiative referendum to introduce this tax at the confederation level; the initiative referendum, if supported by a sufficient number of citizens, will be the subject of a future referendum.

In this chapter, we describe the experience of Switzerland with capital gains taxation. First, we discuss briefly the very complex

Swiss tax system with its taxes at the confederation, cantonal, and community levels and provide some details concerning taxation of capital income that are of interest in the present context. Second, we present the results of a statistical analysis of the effect on real income and tax revenues at the cantonal level of abolishing capital gains tax in eight cantons between 1986 and 1990. Third, we report the results of an empirical analysis of the determinants of capital gains tax revenue in the canton Basel-Stadt, for which separate capital gains tax data are available for the period from 1965 to 1990. The chapter closes with a summary and conclusions.

Capital gains taxes in the Swiss tax jungle

The Swiss tax system is so complex that some authors called it a tax jungle (Duss and Bird 1979). The system reflects the institutional features of this country: namely, a highly decentralised government structure and direct democracy. In particular, direct taxation (of income and wealth) is very heterogeneous as these taxes are collected by the confederation, the cantons, and the communities at the household and business level according to different schemes with different rates and definitions of the tax base. Indirect taxation is much simpler as the federal (confederation) government only collects the value-added tax (VAT) and there is no overlap among the taxes levied by the different levels of government.

Before turning to the details concerning taxation of capital income, some general remarks on the level and the structure of the Swiss tax revenues are warranted. The total tax burden in Switzerland (including social security) is now over 35%. This value is still lower than in all major continental European countries but higher than that of the United Sates. There was a strong increase in the tax burden in the 1990s, which was greater than the growth of tax revenue in major European countries.

Another important special feature of the Swiss tax system is that it mainly relies on direct taxation. The VAT is collected at a standard rate of 7.5%, which is very low compared to the European Union standard rate of nearly 20%. Thus the tax burden on consumption is low (around 8%) and the effective tax burden on labour (including social security contributions) and capital income (in-

cluding all business and household taxes on capital income and property as well as financial transactions) is relatively high. According to a recent IMF study by Jaeger, Hviding and Purfield (1999), the effective tax burden[1] on labour has increased from slightly above 30% in 1985 to nearly 40% in 1996. However, this trend is shared with all other major European countries and Switzerland is still one of the countries with the lowest tax burden on labour income in Europe.

It is no longer true that Switzerland has the lowest tax rate for capital income for two reasons. First, many European countries have recently lowered the tax burden on capital income through reforms that reduced the dual taxation of business and household incomes. Second, tax burden on capital income has risen from 28% to 33% since 1985. As a result, only one major European Union country, the United Kingdom, has a higher tax burden on capital income than Switzerland.

A closer look at capital income taxation reveals that the confederation, the cantons, and the communities each tax incorporated businesses and households. Each jurisdiction applies its own taxation scheme, which often differs greatly from that of others. A detailed account of the subject would cover the tax codes of the confederation, 26 cantons, and around 3000 communities. Thus, the following discussion can only give a broad overview of capital income taxation in Switzerland and omits details.[2]

It should be noted that the tax burden varies greatly within the country. Data from 1996 show that in the low-tax canton, Zug, the burden is only 44% of that in the high-tax canton, Jura. This condition is accompanied by large differences in real-estate prices and the levels of public goods provided by the cantonal government. There is also only a limited mobility of labour, caused by language differences,[3] among other things.

Since 1997, company profits are taxed by the confederation at a constant rate of 8.5%. In earlier years, the tax rate was progressive, depending on the ratio of profits to equity. In many cantons, profits are still taxed according to rates depending on this ratio. Only eight cantons levy a constant tax rate on profits. The highest average rates of company profits charged by cantons and communities[4] vary from 12% to 35%, with sometimes strange changes in the marginal rate caused by piecewise linear schemes in profit-to-equity ratios. Thus,

cantonal taxes result in some obvious non-neutralities of the tax system, which favour financing investment by equity issues and retained earnings. Moreover, there are marked differences in the tax treatment of investment according to its type and financing. Realized capital gains are taxed in this framework as far as they are reflected in profits.

Households see their capital income taxed again at all three levels of government. Interest and dividends are taxed progressively as part of total family income. The confederation levies taxes at a maximum rate of 11.5% with a very strong progression for family incomes between 60,000 and 150,000 Swiss Francs. The highest income-tax rates imposed by cantons and communities vary greatly from more than 10% to slightly above 30%. Allowable deductions also differ greatly among cantons, which further contributes to a varying income-tax burden. Most cantons and communities collect a progressive wealth tax with a maximum rate ranging from 0.2% to 1%. As mentioned in the introduction, there was capital gains taxation on movable property at the cantonal level in the past, which was collected either as a separate tax or by a corresponding increase in taxable income. Today, a capital gains tax is collected only on capital gains realized through the sale of non-movable property like land and buildings.

The initiative for the introduction of a capital gains tax

At the turn of the millennium, Switzerland faces a political initiative designed to introduce a federal tax on realized capital gains on movable property at a constant rate of 20% to 30%. This political initiative should be seen in the light of many general and widely known arguments against taxing realized capital gains. As Stiglitz (1983) and Grubel (2000) note, such taxes affect the financial behaviour of households and companies, mainly through locking in and locking out invested capital subject to capital gains taxation. In addition, there are many well-known arguments against increasing the tax burden on capital. There is already double taxation of savings, interest, and dividends through taxes imposed on both the incomes of business and persons. Capital is highly mobile internationally and readily leaves countries with high capital

taxes for countries with low capital taxes. Thus, further increases in the tax burden on capital may well result in reduced capital formation and real income.

With this general background in mind,[5] we can make the following specific points against the introduction of a capital gains tax on movable property in Switzerland.

First, the effective tax burden on capital is relatively high by international standards and in comparison to that on consumption. In particular, the difference between the effective tax burden on labour and capital is relatively low by international standards. This is clearly a strong argument against the introduction of a capital gains tax as an additional burden on the internationally highly mobile factor capital.

Second, both realized and non-realized capital gains on movable property are already implicitly taxed in the framework of the cantonal and community wealth tax. Assuming a pre-tax rate of return of 5%, a wealth tax of 0.5% implies a 10% tax on all capital gains. Taking into account that only a fraction of capital gains are realized, this figure may well imply an implicit taxation of realized capital gains at a rate between 20% and 30%.

Third, the introduction of the proposed capital gains tax would lead to inefficiencies in the financial behaviour of households and companies in order to avoid this tax. Moreover, this tax would increase the already high administrative costs of the very complex Swiss tax system and is likely to provide relatively low revenues, given the incentives and possibilities to avoid this additional tax.

Empirical evidence on the effects of abolishing capital gains tax in eight cantons from 1986 to 1990

As mentioned in the introduction, until 1996 a capital gains tax on realized gains on movable property existed in most Swiss cantons. As a result, data on income, tax revenues for the years 1986 to 1990 offer a unique opportunity to study empirically the effects of abolishing the capital gains tax. The data are available for the eight cantons of Bern (BE), Basel-Land (BL), Basel-Stadt (BS), Jura (JU), St. Gallen (SG), Solothurn (SO), Thurgau (TG), and Valais (VS).[6] We used these data for the following analysis.

Effects on income

First, we checked whether abolishing the capital gains tax led to a break in the deterministic trend in real cantonal national income, which was obtained by deflating nominal income by the consumer price index.[7] We used a log linear trend model with a break in 1990, accounting for the prolonged stagnation of the Swiss economy in the 1990s. The abolishment of the capital gains tax was represented by an additional dummy variable, which takes the value one from the year of abolishment onwards. Lagged adjustment of real income to its trend level is represented by the lagged endogenous variable. The system for all eight cantons was estimated with annual data covering the period from 1978 to 1995 by the Seemingly Unrelated Regression method.

Second, we did the same exercise for the real direct tax revenue of the eight cantons. Nominal tax revenue is deflated by the consumer price index.

The results from our regressions for the canton income data are presented in table 1. As can be seen, all cantons exhibit a strong break in the slope of the trend function at the beginning of the 1990s. In our context, we are mainly interested in the estimates of the coefficient of the capital gains taxation dummy variable. For seven of the cantons,[8] the estimate is positive, statistically significantly different from zero in most cases and is about the same size for all cantons. The same result holds for the coefficient of the lagged dependent variable. Statistical tests of the hypothesis that these coefficients are the same across cantons cannot be rejected since the corresponding chi-squared values reported in table 1 are below the critical value for any reasonable significance level. The estimation results for the accordingly restricted system are reported in table 2. The coefficient of the dummy variable for the abolishment of the capital gains tax is statistically highly significant. The long-run effect calculated with the coefficient estimate of the lagged dependent variable amounts to 3.2%.

The data presented in tables 1 and 2 suggest that abolishing the capital gains tax has had positive and economically significant effects on the *level* of real income in the cantons. According to the New Growth Theory, abolishing the capital gains tax should also raise the growth rate of real income.[9] Our data suggest that if there is such an effect on the growth rate, it is too small to be detected

Table 1: Effect of capital gains tax on real national income, 1978–1995: Unrestricted estimates

$$y_{it} = \beta_{i1}C_{7890} + \beta_{i2}T_{7890} + \beta_{i3}C_{9195} + \beta_{i4}T_{9195} + \beta_{i5}D_{AKGS} + \beta_{i6}y_{i,t-1}$$

/	β_{i1}	β_{i2}	β_{i3}	β_{i4}	β_{i5}	β_{i6}	$\dfrac{\beta_{i5}}{1-\beta_{i6}}$	$\bar{R}^2$	D.W.	SEE
BE	9.15	0.0137	9.43	−0.0089	0.0292	0.018	0.0297	0.95	1.75	0.014
	(1.56)	(0.0029)	(1.63)	(0.0042)	(0.0104)	(0.168)				
BL	10.90	0.0217	11.29	−0.0058	0.0208	−0.159	0.0179	0.99	2.05	0.009
	(2.13)	(0.0042)	(2.20)	(0.0024)	(0.0079)	(0.227)				
BS	7.11	0.0104	6.88	0.0214	—	0.271	—	0.82	2.36	0.024
	(1.60)	(0.0032)	(1.62)	(0.0063)	—	(0.165)				
JU	7.46	0.0169	7.95	−0.0222	0.0188	0.184	0.0230	0.90	1.62	0.022
	(2.48)	(0.0047)	(2.63)	(0.0087)	(0.0220)	(0.271)				
SG	5.89	0.0136	6.06	−0.0010	0.0164	0.364	0.0258	0.98	1.68	0.011
	(1.19)	(0.0027)	(1.24)	(0.0030)	(0.0082)	(0.129)				
SO	7.95	0.0173	8.32	−0.0126	0.0198	0.144	0.0231	0.83	1.52	0.033
	(2.23)	(0.0052)	(2.43)	(0.0122)	(0.0230)	(0.239)				
TG	7.60	0.0159	7.90	−0.0085	0.0135	0.181	0.0165	0.94	2.14	0.018
	(1.80)	(0.0048)	(1.90)	(0.0055)	(0.0146)	(0.194)				
VS	6.85	0.0159	7.45	−0.0287	0.0083	0.250	0.0111	0.91	1.97	0.023
	(1.70)	(0.0031)	(1.83)	(0.0087)	(0.0207)	(0.185)				

H_0:
$$\beta_{BE,5} = \beta_{BL,5} = \beta_{JU,5} = \beta_{SG,5} = \beta_{SO,5} = \beta_{TG,5} = \beta_{VS,5}$$
$$\beta_{BE,6} = \beta_{BS,6} = \beta_{BL,6} = \beta_{JU,6} = \beta_{SG,6} = \beta_{SO,6} = \beta_{TG,6} = \beta_{VS,6}$$

$X_{13}^2 = 12.3$

y_{it} : log national income in canton i (real per capita)

C_{7890}, T_{7890} : constant and trend for the period 1978–1990

C_{9195}, T_{9195} : constant and trend for the period 1991–1995

D_{AKGS} : dummy variable for the abolishment of the capital gains tax in canton i

$\dfrac{\beta_{i5}}{1-\beta_{i6}}$: long-run level effect of the abolishment of the capital gains tax on national income

Standard errors in parentheses

Table 2: Effect of capital gains tax on real national income, 1978–1995: Restricted estimates

$$y_{it} = \beta_{i1}C_{7890} + \beta_{i2}T_{7890} + \beta_{i3}C_{9195} + \beta_{i4}T_{9195} + \beta_{i5}D_{AKGS} + \beta_{i6}y_{i,\,t-1}$$

/	β_{i1}	β_{i2}	β_{i3}	β_{i4}	β_{i5}	β_{i6}	$\dfrac{\beta_{i5}}{1-\beta_{i6}}$	$\bar{R}^2$	D.W.	SEE
BE	6.56	0.0096	6.72	–0.0045				0.95	2.02	0.013
	(0.63)	(0.0014)	(0.66)	(0.0035)						
BL	6.62	0.0124	6.85	–0.0046				0.98	2.51	0.011
	(0.63)	(0.0015)	(0.65)	(0.0027)						
BS	6.86	0.0100	6.62	0.0212				0.82	2.39	0.024
	(0.65)	(0.0020)	(0.67)	(0.0063)						
JU	6.43	0.0148	6.85	–0.0194				0.89	1.80	0.023
	(0.62)	(0.0020)	(0.66)	(0.0059)	0.0224	0.297	0.0319			
SG	6.51	0.0146	6.70	–0.0015	(0.0043)	(0.067)		0.98	1.76	0.012
	(0.62)	(0.0016)	(0.65)	(0.0030)						
SO	6.54	0.0141	6.77	–0.0067				0.84	1.72	0.032
	(0.63)	(0.0025)	(0.69)	(0.0086)						
TG	6.53	0.0125	6.76	–0.0068				0.94	2.31	0.019
	(0.62)	(0.0019)	(0.66)	(0.0049)						
VS	6.43	0.0136	6.97	–0.0270				0.92	2.36	0.022
	(0.62)	(0.0019)	(0.67)	(0.0062)						

y_{it} : log national income in canton i (real per capita)

C_{7890}, T_{7890} : constant and trend for the period 1978–1990

C_{9195}, T_{9195} : constant and trend for the period 1991–1995

D_{AKGS} : dummy variable for the abolishment of the capital gains tax in canton i

$\dfrac{\beta_{i5}}{1-\beta_{i6}}$: long-run level effect of the abolishment of the capital gains tax on national income

Standard errors in parentheses

within the few years after the abolishment of the tax for which data exist. However, in the long run even a very small increase in the growth rate would be much more important than the level effect we detected with the data available.

Our estimates of the effect on real income levels caused by abolishing capital gains taxation is subject to the following criticisms. First, the abolishment of the capital gains tax did not create new income but only shifted income from cantons with such taxes to cantons without them. Second, dummy variables only catch the strong economic growth in Switzerland in the second half of the 1980s.

To check the validity of these arguments, we estimated our trend model for the income for the remaining 18 cantons with the dummy variable starting in 1986. The results of this exercise are reported in table 3. As can be seen, the coefficient of the dummy variable of interest is statistically insignificant. This result implies that the cantons that retained capital gains taxes experienced neither a reduction nor an increase in real income. This finding clearly supports our main conclusion that abolishing the capital gains tax has a positive effect on the level of income.

Table 3: Effect of capital gains tax on real national income, 1978–1995: Dummy for boom years after 1986

$$y_t = \beta_1 C_{7890} + \beta_2 T_{7890} + \beta_3 C_{9195} + \beta_4 T_{9195} + \beta_5 D_{1987} + \beta_6 y_{t-1}$$

β_{i1}	β_{i2}	β_{i3}	β_{i4}	β_{i5}	β_{i6}	$\dfrac{\beta_{i5}}{1-\beta_{i6}}$	$\overline{R}^2$	D.W.	SEE
3.53	0.0096	3.63	–0.0016	0.0094	0.626	0.0251			
(2.49)	(0.0053)	(2.64)	(0.0061)	(0.0172)	(0.265)		0.98	2.12	0.012

y_{it} : log national income in 18 cantons without abolishment of capital gains tax (real per capita)

C_{7890}, T_{7890} : constant and trend for the period 1978–1990

C_{9195}, T_{9195} : constant and trend for the period 1991–1995

D_{AKGS}: dummy variable for the abolishment of the capital gains tax in canton i

$\dfrac{\beta_{i5}}{1-\beta_{i6}}$: long-run level effect of the abolishment of the capital gains tax on national income

Standard errors in parentheses

A third objection to our main findings is that the abolishment of capital gains taxation is just one of many new measures introduced by newly elected liberal cantonal governments. However, this was not true in the eight cantons considered. As in all Swiss cantons, governments in these eight were formed through coalitions with directly elected members. Such coalitions tend to develop economic policies smoothly rather than through sudden, major changes. In addition, there is evidence that capital gains taxation was abolished because it was considered to be a tax that produced low revenues and required high administrative costs.

Effects on tax revenue

Second, we estimated a trend model for real direct tax revenue in the eight cantons. The basic hypothesis is that the elimination of the capital gains tax results in lower tax revenues for the relevant cantons. Following the approach developed in the study of income, we obtained the results reported in table 4 in the test of this hypothesis. As can be seen, abolishing the capital gains tax has had no statistically negative effect on real tax revenues. This result is due to the fact that the increases in real income caused by abolishing the tax caused a corresponding increase in other tax revenues, which replaced those lost through abolishing the capital gains tax.

The revenue of the capital gains tax: Empirical results for Basel-Stadt

Proponents for the imposition of a capital gains tax at the federal level in Switzerland support their arguments by optimistic forecasts of the revenues generated by such a tax. These forecasts are calculated simply by multiplying the increase in the value of outstanding stocks by the tax rate proposed. Such estimates are biased upward for two main reasons. First, a significant proportion of all stocks is owned by companies and is, therefore, already subject to profit taxation. Second, the realization of stock-market capital gains is at the discretion of households.

To study the effects of a capital gains tax on revenues, it is necessary to have separate revenue data of this tax. Such data do not exist for most cantons, but they are available for Basel-Stadt for the

Table 4: Effect of capital gains tax on real tax revenue, 1978–1995

$$s_{it} = \beta_{i1}C_{7890} + \beta_{i2}T_{7890} + \beta_{i3}C_{9195} + \beta_{i4}T_{9195} + \beta_{i5}D_{AKGS} + \beta_{i6}sO_{i,\,t-1}$$

/	β_{i1}	β_{i2}	β_{i3}	β_{i4}	β_{i5}	β_{i6}	$\dfrac{\beta_{i5}}{1-\beta_{i6}}$	$\overline{R}^2$	D.W.	SEE
BE	8.12	0.0186	8.19	0.0123	–0.0258	–0.238	–0.0426	0.60	1.85	0.037
	(0.97)	(0.0038)	(0.97)	(0.0094)	(0.0264)	(0.147)				
BL	8.39	0.0151	8.22	0.0206	0.0947	–0.230	0.0770	0.84	1.79	0.032
	(0.71)	(0.0032)	(0.73)	(0.0082)	(0.0215)	(0.104)				
BS	4.90	0.0173	5.06	0.0021	—	0.363	—	0.82	1.27	0.042
	(1.08)	(0.0042)	(1.11)	(0.0107)	—	(0.140)				
JU	10.65	0.0279	11.32	–0.0214	–0.0307	–0.682	–0.0183	0.70	1.81	0.029
	(1.22)	(0.0042)	(1.34)	(0.0081)	(0.0226)	(0.194)				
SG	5.58	0.0324	5.47	0.0321	–0.0073	0.099	–0.0081	0.90	1.66	0.044
	(0.76)	(0.0048)	(0.81)	(0.0111)	(0.0304)	(0.122)				
SO	10.69	0.0221	11.62	–0.0420	0.1619	–0.680	0.0964	0.87	2.76	0.036
	(0.85)	(0.0035)	(0.93)	(0.0096)	(0.0290)	(0.134)				
TG	6.60	0.0193	6.82	–0.0035	0.0185	–0.036	0.0179	0.84	2.55	0.027
	(1.04)	(0.0038)	(1.12)	(0.0073)	(0.0199)	(0.163)				
VS	4.15	0.0013	4.33	–0.0144	0.0425	0.363	0.0667	0.35	2.29	0.042
	(1.38)	(0.0054)	(1.56)	(0.0132)	(0.0348)	(0.214)				

y_{it} : log total direct tax revenue in canton i (real per capita)

C_{7890}, T_{7890} : constant and trend for the period 1978–1990

C_{9195}, T_{9195} : constant and trend for the period 1991–1995

D_{AKGS}: dummy variable for the abolishment of the capital gains tax in canton i

$\dfrac{\beta_{i5}}{1-\beta_{i6}}$: long-run level effect of the abolishment of the capital gains tax on national income

Standard errors in parentheses

years from 1965 to 1995, covering revenue estimates from the capital gains tax on movable and non-movable property. We used these data to study the revenues from the capital gains tax on movable property in Basel-Stadt in the hope of shedding light on the likely revenues from imposing such a tax at the federal level.

The simplest approach to estimating the revenue potential of the tax on movable property consists of subtracting the mean value of the period from 1990 to 1995 (with the tax on all property) from the mean for the period from 1965 to 1989 (with the tax on non-movable property only). However, this approach results in an inefficient estimate since tax revenue measured as a share of business and property income is strongly autocorrelated. We account for this correlation by estimating an autoregressive model for the revenue indicator from the capital gains tax. We used a dummy variable which takes the value 1 for the years 1990 to 1995 and is 0 before 1990 to represent the change in mean by the abolishment of the tax on movable property in 1990. The first panel of table 5 shows the estimation results for this model. The AR(1) coefficient estimate (0.73) indicates a high persistence of the capital gains tax revenue indicator. The intercept term estimate (1.25) means that the long-run mean of the revenue is slightly above 1% before the abolishment of the tax on movable property. The coefficient estimate of the dummy variable (–0.99) indicates that abolishing the tax in 1990 led to a long-run reduction of the tax revenue by nearly 1%. Therefore, the revenue potential of a capital gains tax on movable property is approximately 1% of business and property income according to the data for Basel-Stadt. If we apply this share to total Swiss business and property income, we arrive at a revenue potential of around 700 million Francs, which is only one fifth of the revenue forecasts put forward by the proponents of a capital gains tax.

It could be argued this estimate is biased downwards as the data analyzed do not reflect the stock-market boom of the 1990s and a perhaps permanently higher growth-rate of stock-market prices. In order to check this argument, it is important to know how realized capital gains are influenced by the development of stock-market prices. On the one hand, capital-gains realizations may be a function of the average growth rate of stock prices. On the other hand, realizations may be a function of gains due to price increases above the longer-run trend.

Table 5: Capital gains tax revenue, business and property income in Basel Stadt and stock market prices

$$\left(\frac{KGS}{VE}\right)_t = (1-\beta_3)\beta_1 + \beta_2(D_{AKGS(-1)} - \beta_3 D_{AKGSt-2}) + \beta_3\left(\frac{KGS}{VE}\right)_{t-1}$$

β_1	β_2	β_3	$\overline{R}^2$	D.W.	SEE
1.25	–0.99	0.73	0.67	1.77	0.29
(0.21)	(0.29)	(0.13)			

$$\left(\frac{KGS}{VE}\right)_t = \beta_1 + \beta_2 \Delta AI_{t-1} + \beta_3\left(\frac{KGS}{VE}\right)_{t-1}$$

β_1	β_2	β_3	$\overline{R}^2$	D.W.	SEE
0.132	0.00684	0.875	0.58	1.78	0.29
(0.199)	(0.00294)	(0.150)			

$$\left(\frac{KGS}{VE}\right)_t = \beta_1 + \beta_2 DTAI_{t-1} + \beta_3\left(\frac{KGS}{VE}\right)_{t-1}$$

β_1	β_2	β_3	$\overline{R}^2$	D.W.	SEE
0.512	0.00944	0.596	0.78	2.34	0.22
(0.133)	(0.00176)	(0.100)			

$$\left(\frac{KGS}{VE}\right)_t = \beta_1 + \beta_2 DTAI_{t-1} + \beta_3(\Delta AI_{t-1} - \beta_4 \Delta AI_{t-2}) + \beta_4\left(\frac{KGS}{VE}\right)_{t-1}$$

β_1	β_2	β_3	β_4	$\overline{R}^2$	D.W.	SEE
0.611	0.0106	-0.0018	0.514	0.78	2.22	0.21
(0.183)	(0.0024)	(0.0029)	(0.138)			

$\left(\dfrac{KGS}{VE}\right)_t$: Capital gains tax revenue/business and property income canton Basel-Stadt

D_{AKGS}: Dummy variable, from 1990 onwards = 1

ΔAI_t, $DTAI_t$ v: Growth rate of real Swiss stock prices and deviation from linear trend, respectively

Standard errors in parentheses

To test these competing hypotheses, we estimate a dynamic model for our capital gains tax-revenue variable. Besides the lagged endogenous variable in the first variant, the lagged growth rate of real Swiss stock prices is included. In the second model, this variable is replaced by the lagged deviation from a log linear trend. The lag reflects the fact that taxes have to be paid with a one-year lag in Basel-Stadt. The results reported in the second, third and fourth panel of table 5 show clearly that the trend-deviation specification performs better than the growth-rate specification. Thus, linking the expected return of a capital gains tax to the growth of stock prices may be very misleading.

Conclusions

In 1996, the capital gains tax on movable property, like shares, was abolished completely at the cantonal level in Switzerland. The strong increase in stock market prices in the second half of the 1990s led to an initiative referendum to reintroduce such a tax at the confederation level in 1999. However, general economic reasoning on the features of the Swiss tax system and empirical evidence from cantonal data provide strong arguments against the introduction of such a tax.

First, the effective tax burden on capital in Switzerland already is relatively high compared to that of other countries and compared to that on consumption. In particular, the difference between the effective tax burden on labour and capital is relatively low by international standards. Moreover, an empirical analysis of the abolishment of the capital gains tax on movable property in eight cantons in the period from 1986 to 1990, shows that this measure increased the level of real cantonal income and did not reduce overall tax revenues. An additional argument against the imposition of a capital gains tax is that all capital gains on movable capital, whether they are realized or not, are already taxed implicitly through cantonal wealth taxes.

Second, the introduction of the proposed capital gains tax would lead to inefficiencies through induced changes in the behaviour of households and companies aimed at the avoidance of the tax. In addition, the proposed tax would increase the already high

administrative costs of the very complex Swiss tax system. These additional costs are likely to be high relative to the expected low revenues from the additional tax. We expect the federal tax on movable capital gains to be much smaller than is suggested by the advocates of the tax. Our expectations are based on an empirical analysis of the tax revenue generated by the capital gains tax in the canton Basel-Stadt in the years from 1965 to 1990. We found that in this canton the capital gains tax raised revenues of only 1% of business and property income. This result is easy to understand, as we know that, in reaction to such a tax, there will be locking in and locking out of capital gains by households and companies. Thus, inefficiencies in private financial behaviour and low tax revenues are the result of such a tax. In addition, we found that realizations tend to be made only on temporary deviations from the trend and not the level of stock-market prices, so that revenue estimates based on recent average prices are seriously biased upward.

Notes

1 These figures are calculated using the method developed by Mendoza, Razin and Tesar (1994)

2 For the details the reader is referred to Federal Tax Administration (1999).

3 Income taxes are clearly higher in the French-speaking cantons .

4 Community income taxes are linked directly to cantonal income taxes; they are paid as a percentage of canton taxes, which varies from community to community.

5 Some references on the taxation of capital are Atkinson and Sandmo (1980), Chamley (1986), Jones, Manuelli and Rossi (1997), Razin and Sadka (1989). Some special references with respect to capital gains taxation are Auerbach (1989) and Poterba (1987, 1989).

6 Years when capital gains tax was abolished: BE 1987, BL 1987, BS 1990, JU 1989, SG 1987, SO 1986, TG 1987 und VS 1987.

7 Of course, alternatively we could adopt the hypothesis of difference stationary series. However, if we calculate the Dickey-Fuller Statistic with the AR(1) coefficient estimate in table 2, we obtain a value of –10.5, which is very large in absolute value and, therefore, at odds with the difference stationarity hypothesis, even if we account that our SUR estimate with broken trend does not correspond to the standard Dickey-Fuller framework.

8 We excluded the estimate for the canton Basel-Stadt since the break in the trend function coincides with the abolishment of the capital gains tax in 1990.

9 The level effect is consistent with the Solow growth model whereas, in new or endogenous growth models, a growth-rate effect is to occur.

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