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ABSTRACT

The Political Economy of EU Enlargement: Lessons from Switzerland*

The issue of the free movement of persons occupies centre stage in the negotiations on EU enlargement. Opinion polls and household surveys reveal that a majority of EU citizens are fearful of the consequences of the free movement of persons. Influenced by these surveys, the EU Commission and several studies have reviewed the pros and cons of alternative flexible transitional arrangement proposals ranging from the current bilateral guest-worker arrangements practised by some EU members to the establishment of fixed quotas during a limited period of time. These suggestions are reminiscent of the Swiss experience with immigration. At the same time, under the system of direct democracy, the Swiss electorate has voted regularly since 1970 on the policies towards immigrants and on the shape of immigration policy. The Paper reviews the Swiss experience with immigration policy and draws on the unique direct-democracy setting to bypass the problem of 'hypothetical bias' plaguing the analysis of conventional survey data. Determinants of attitudes towards immigration are analysed using individual-level survey data for 2000.

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NON-TECHNICAL SUMMARY

The EU is about to take in 12 European states as new members raising the population by 28% to 480 million. Under current community law, the new member states would benefit from the four basic freedoms of the Treaty of Rome. This means that people, capital, goods and services would circulate freely. Also under current Community law, welfare payments are attributable according to country of residence. As a result, despite the results from several studies suggesting that enlargement under current rules should have small positive aggregate effects on the welfare of EU-15 citizens, there is fear of adjustment difficulties with respect to the free movement of persons, especially in Austria and Germany.

Confronted with these problems, countries and the EU Commission have resorted to extensive surveys in view of determining peoples' attitudes towards immigration. Among the recent surveys carried out by the Eurobarometer, the 1997 survey reported that in most countries (except Finland, Spain, Ireland) a majority of respondents considered that further immigration would cause problems domestically. Moreover, only 12% of respondents in the EU thought that Eastern Europeans who wish to work in the West should be allowed to do so without restrictions. In preparation for the accession negotiations, the EU Commission (2001) proposes several alternatives to the free movement of persons ranging from safeguard clauses, flexible systems of transitional arrangements, establishment of fixed quota systems, to general non-application of the '*acquis Communautaire*' for a limited period of time.

This Paper contributes to the debate on the political economy of migration policy in the context of EU enlargement. It recounts the Swiss experience with immigration policy, which is pertinent to the current debate along several dimensions. First, Switzerland has absorbed a great number of immigrants, not only before 1974 (when European countries switched to a restrictive immigration policy) but also over the last twenty years (the share of foreigners has risen from 14% to 20% between 1980 and 2000). This increase is more important, in relative terms, than the projected rise in the immigrant stock in Germany following EU enlargement. At the same time, anti-immigration attitudes seem to be less widespread in Switzerland than in other European countries according to a recent Eurobarometer survey. It is therefore worthwhile to examine more closely the characteristics of Swiss migration policy.

Second, Switzerland has carried out reforms in immigration laws and policies that are close in spirit to several of the alternatives envisaged in the debate towards enlargement, as discussed in European Commission (2001). Of particular interest in the Swiss case, is the interaction of economic interests with the expression of these interests via the political system. The system of direct democracy has forced the Swiss government to conduct its immigration policy so as to avoid that restrictive propositions would be adopted by popular vote.

Third, the Swiss version of direct democracy is also interesting at the empirical level. Since 1970 the Swiss electorate has voted regularly on immigration policy and individual surveys were carried out after most votes. From the point of view of

understanding attitudes towards immigration, this is in sharp contrast with attitudes drawn from survey polls that may suffer from 'hypothetical bias'.

In this Paper, we first review the political economy dimensions of immigration policy in a direct-democracy framework, then briefly recount how the votes on referenda and popular initiatives shaped Swiss immigration policy over the last thirty years, and finally analyse a household survey conducted in connection with the 2000 vote on establishing a quota on the stock of immigrants.

The political economy of immigration policy. A Ricardo-Viner model is used to discuss the choice of migration policies in a direct democracy framework. The discussion leads to conditions under which a vote to take in a fixed number of immigrants would be accepted against the alternative of no immigration. The model yields several insights. First, in the absence of segmented labour markets, voters will be in favour of a policy of skill requirements for immigrants, thereby providing a rationale for the point system used in several countries. Second, it considers the political-economy of 'guest-worker' policies, i.e. policies actively recruiting unskilled labour that are channeled into occupations that do not compete with native workers. It is shown that restricting the mobility of guest-workers to non-traded sectors is likely to gain support for immigration. Third, with segmented labour markets (of the type 'equal pay for equal work, but not equal work'), it is shown that a discriminatory migration policy, of the type used in the EU and Switzerland in the past, will obtain more support than an unrestricted migration policy, and a shift from the former to the latter is likely to be opposed by natives.

The shaping of Switzerland's immigration policy. A review of Swiss immigration policy since the late fifties and its comparison with that in other European countries indicates that immigrants have socio-economic characteristics similar to those in other European countries. The discussion shows how immigration policy, which was squeezed between economic interests (opposed to tight quotas) and the popular vote (in favour of immigration control), evolved over a period that saw the immigration share in the population triple to reach 20%. The review of the debate and votes on initiatives and referenda over the last thirty years shows that the results at the election booth have influenced government policy on immigration which has stayed a course accommodating the conflicting interests of unions, owners in largely non-competitive sectors internationally, and the public at large, as expressed in the results of the votes. In conclusion, the resulting flexible system of annual quotas by worker categories, combined with limited mobility and exemptions allowing the progressive transfer of immigrants from temporary to permanent status, has successfully absorbed a large inflow of foreigners. Interestingly, elements of this policy – which survived repeated challenges at the polls – have been used by EU members in their current immigration policies with the CEECs.

Determinants of attitudes and voting behaviour. Finally, we analyse a household survey carried out after the recent (2000) vote on a popular initiative that proposed to reduce the share of foreigners in Switzerland to 18% (down from the actual 19.3%). Voters were aware that a majority vote would result in a constitutional change (the popular initiative was rejected by 63.7% of the voters with a participation rate of 43.6%). This survey allows to estimate simultaneously the determinants of voting and participation decisions (using a bivariate probit model with censoring) and to

account for the selection (i.e. participation) bias that is ignored in most opinion polls. According to estimation results, average probability (what people would have voted, whether they participated or not) of accepting the initiative would have been 54%, whereas the conditional (on participating) probability estimates reproduce closely the actual outcome of the vote in the sample (28% 'yes'). This biased result (which is close to those predicted by opinion polls that were in fact conducted prior to the referendum) reveals the 'hypothetical bias' problem latent in opinion surveys such as Eurobarometer.

What accounts for these differences? In the estimated model, the difference in estimates could be due either to differences in characteristics between those who voted and those who did not (those who participated were usually from the political extremes, were more educated, or came from agglomerations where there were a lot of foreigners) or to the negative correlation between unobserved factors (disturbances) in the two equations. It turns out that the difference in estimates was mostly due to *due to unobserved characteristics* of those who participated.

These results show that opinion polls are probably overly pessimistic, if they are interpreted as reflecting what people would actually vote if asked to. Indeed, the Paper shows that the government would have been tempted to put a limit on the number of immigrants if it had listened to opinion polls. In fact, the vote clearly rejected the proposal, confirming the notion that, like in the contingent valuation methods used to assess environmental damage, opinion polls are likely to suffer from 'hypothetical bias'.

1. Introduction

The EU is about to take in 12 European states as new members raising the population by 28% to 480 million. Under current community law, the new member states would benefit from the four basic freedoms of the Treaty of Rome. This means that people, capital, goods and services would circulate freely. Also under current Community law, welfare payments are attributable according to country of residence. As a result, despite the results from several studies suggesting that enlargement under current rules should have small positive aggregate effects on the welfare of EU-15 citizens,¹ there is fear of adjustment difficulties with respect to the free movement of persons, especially in Austria and Germany. As the EU is worried that this issue threatens to affect public support for enlargement, a flexible system of transitional arrangements has been put forward in the negotiations with candidate countries.

The EU's position is based on opinion polls that suggest that EU citizens are reluctant to further immigration. In a 1997 Eurobarometer survey, in most European countries (except Finland, Spain, Ireland) a majority of respondents considered that further immigration would cause problems domestically. Moreover, only 12 percent of respondents in the EU thought that Eastern Europeans who wish to work in the West should be accepted without restrictions. These attitudes contrast with the rather modest labor-market effects that can be expected from projected migration flows in case of EU enlargement.

Are attitudes towards EU enlargement linked to projected migration flows or stocks? According to several authors (Brücker et al., 2001; Dustmann and Preston, 2000), attitudes towards immigration can be explained by three components: labor-market effects, welfare take-up and racial or xenophobic prejudice. Most studies addressing the first issue have concentrated on estimating the change in stocks that would result from CEECs' accession to the EU.² Such an approach gives, however, an incomplete picture of the effects of EU

¹ See e.g. the multi-author studies by Boeri et al. (2001a), Brücker et al. (2001) and Sinn et al. (2001). The latter emphasize, for Germany, potential problems during the transitional phase.

² Evidence, mostly based on estimates of inflows from the 10 aspiring countries, suggests that the stock of people (not only workers) would rise to 4.0 million (up from the current 830,000) with their share in EU population rising from 0.2% to 1.1%. The estimates suggest that the increase in immigrant population from enlargement will be largely concentrated in Germany that is to absorb over 2/3 of projected immigrant inflow, with an additional 10% to go to Austria (Sinn et al. (2001) forecast that between 3.4% and 4.3% of the population in acceding countries will flow to Germany, while Boeri et al. (2001) have a lower forecast between 1.8% and 2.4%). According to Sinn et al. (2001), over the next 15 years, the stock of immigrants in Germany would increase to between 4% and 5% of the native population. Boeri et al., over the next 30 years, estimate that

enlargement since it will also involve a change in the legal status of workers in the labor market. For example, bilateral guest-worker and seasonal-worker arrangements currently used by several EU members with the CEECs (see Boeri et al. 2001a, table 4.4), which have good reasons to exist from a political-economy perspective, will have to be abolished. With few exceptions (Bauer et al. 2000; Brücker et al. 2001, chp.2), these political economy aspects of the migration consequences of enlargement have been largely ignored in the current debate (see section 2 below for a theoretical exploration of this issue).

As to welfare dependence, Fertig and Schmidt (2001) show that the negative perception of immigrants by natives is not in accordance with the moderate risk of immigrants to depend on public assistance in Germany. Nonetheless, Sinn et al. (2001) consider that the problem is serious enough to recommend delayed integration of immigrants into the social welfare system in order to avoid an erosion of the welfare state through competition between receiving countries. Turning to the role of non-economic factors, it is difficult to gauge from the rare studies available whether racial prejudices influence significantly attitudes towards EU enlargement.³

This paper contributes to the debate on the political economy of migration policy. It recounts the Swiss experience with immigration policy which is pertinent for the current debate along several dimensions. First, Switzerland has absorbed a great number of immigrants, not only before 1974 (when European countries switched to a restrictive immigration policy) but also over the last twenty years (the share of foreigners has risen from 14% to 20% between 1980 and 2000). This increase is more important, in relative terms, than the projected rise in the immigrant stock in Germany following EU enlargement. At the same time, anti-immigration attitudes seem to be less widespread in Switzerland than in other European countries according to a recent Eurobarometer survey (see section 4). It is therefore worthwhile to examine more closely the characteristics of Swiss migration policy.

the share of immigrants from the CEEC-10 in German population would increase from the current level of 0.6% in 1998 to 3.5% in 2030 and in Austria from 1.3% to 5.5%. (As a reference, the stock of foreigners in Switzerland has more than tripled since the end of World War II to reach over 18% of the population.) Other estimates also suggest that past immigration has had little effect on unemployment, and that any negative impact on wages would be limited.

³ Dustmann and Preston (2000) find that racial prejudice is the most important component explaining negative inclination towards immigration of ethnically different populations (West Indies, Asia). By contrast, for European immigrants, the estimated contributions of welfare and job concerns are as strong as those of racial prejudices.

Second, Switzerland has carried out reforms in immigration laws and policies that are close in spirit to several of the alternatives envisaged in the debate towards enlargement, as discussed in European Commission (2001). Of particular interest in the Swiss case, is the interaction of economic interests with the expression of these interests via the political system. The system of direct democracy has forced the Swiss government to conduct its immigration policy so as to avoid that restrictive propositions would be adopted by popular vote.

Third, the Swiss version of direct democracy is also interesting at the empirical level. Since 1970 the Swiss electorate has voted regularly on immigration policy and individual surveys were carried out after most votes. From the point of view of understanding attitudes towards immigration, this is in sharp contrast with attitudes drawn from survey polls which may suffer from “hypothetical bias”.

The remainder of the paper is structured as follows. Section 2 reviews the political economy dimensions of immigration policy in a direct-democracy framework, which is relevant both for Switzerland and for interpreting the results from recent polls, taking into account that Swiss migration policy has been of the guest-worker type and that labor markets are segmented. Section 3 then briefly recounts how the votes on referenda and popular initiatives shaped Swiss immigration policy over the last thirty years. Section 4 uses a household survey conducted in connection with the 2000 vote on establishing a quota on the stock of immigrants (slightly below the existing level). That poll allows us both to estimate the probability of participation in terms of individual characteristics, and to predict what the outcome would have been had all voters participated (the participation rate was 44%). While it may not be valid to infer that such predictions correspond to what is captured in opinion polls (where there are no participation costs and all participate), it might give a first handle on what EU citizens might in fact vote, if they really were brought to the booth. Conclusions follow in section 5.

2. The political economy of immigration policy

Attitudes towards immigrants, as expressed in opinion polls and at the voting booth, can be usefully decomposed into three components: cultural preferences or social capital, implications for the functioning of the welfare state and economic effects (fear of

unemployment and/or lower wages). Cultural preference aspects have been examined in Hillman and Weiss (1999a), Schiff (1998, 1999) and have been summarized in Grether et al. (2001). The welfare implications in the context of EU enlargement have been recently covered in Sinn (2000), Brücker et al. (2001) and Boeri et al. (2001a). Here we wish to emphasize the role of economic effects in the determination of migration policies in a direct democracy framework.⁴ We consider first the political economy of skill requirements, then we explore whether low-skill immigration is likely to be accepted in a direct democracy if “guest-worker” policies are pursued.

2.1 Skilled or unskilled labor?

Following in the footsteps of Canada and New-Zealand, several countries have introduced a point system to determine eligibility for applicant migrants, which could correspond to one of the transitional arrangements considered in the accession negotiations for the CEECs. As shown by Bauer et al. (2000), cross-country evidence seems to suggest better assimilation rates for countries that have relied on such programs.

From a theoretical viewpoint, what policies regarding skill requirements for immigrants are likely to be adopted in a direct democracy? Benhabib (1996) considers this question in a median-voter framework where capital is distributed unequally among natives. He assumes that there is a fixed pool of potential immigrants with different capital endowments (or skill levels) and his main result is the following. If the median capital endowment k_m is smaller than some critical level k_c , a minimum skill requirement will defeat any other policy under majority voting with pairwise alternatives.⁵

⁴ The median-voter model is well suited to represent how citizens’ preferences over immigration translate into actual migration policies. Indeed, Scheve and Slaughter (1999) find that individuals form their opinions in accord with their interests as labor-force participants. Moreover, the median-voter model gives a realistic description of the Swiss political system, where people actually vote on immigration issues, but also of representative democracies with governments monitoring closely the public’s mood on immigration. In this approach, the links to the underlying economic model are more transparent than in other political economy approaches. Alternatively, one could rely on the pressure group model. In that case, policy is the result of the maximisation of a welfare function whose weights are often arbitrarily chosen. For examples of this approach, see Buckley (1996) and Mezza and Winden (1996).

⁵ By symmetry, if $k_m > k_c$, a maximum skill requirement would defeat all other policy alternatives. However, such a policy might be difficult to enforce in the case of non-human capital, since immigrants might be able to conceal their capital holdings.

To gain some more intuition on this issue, consider a less general setting with only two alternatives up for vote: no immigration vs. admission of a fixed number of immigrants. Variations in income determine the attitude towards immigrants. Each native household is endowed with one unit of labor and a certain amount of capital, which is unequally distributed. If immigration lowers his income, he will oppose it. If no other issue is on the political agenda, preferences are single-peaked and the national stance towards immigration is determined by the median voter. When will the immigration option be accepted in this framework? Consider first the simple case of a constant-returns aggregate production function $F(K,L)$ and competitive labor markets. If the number of immigrants M is small relative to the number of natives N ($L=N+M$), immigration produces the following change in income y of a resident endowed with k units of capital:⁶

$$\frac{dy/y}{dM/L} = \left(\frac{k_I - \bar{k}}{\bar{k}} \right) \left(\frac{\bar{k} - k}{\bar{k}} \right) \left(\frac{s_L(1-s_L)}{\sigma(y/\bar{y})} \right) \quad (1)$$

where \bar{k} is the country's aggregate capital-labor ratio, k_I the new immigrants' average capital-labor ratio, \bar{y} per capita income, s_L the share of labor in national income and σ the elasticity of substitution between labor and capital. Define the critical capital (or skill) level k_c as the level of capital k at which an individual is indifferent with respect to immigration. In this simple set-up, the critical capital level k_c is equal to \bar{k} . If the distribution of capital, which should be interpreted as encompassing physical and human capital, is skewed to the right (as in figure 1) then the median skill level k_m is smaller than k_c and the immigration option will be accepted if the immigrants' average skill level k_I is greater than the critical level k_c . By contrast, unskilled immigration ($k_I < k_c$) will be opposed.⁷

Voting costs. Their existence might alter the above conclusion. Assume that, as in Mayer (1984), all individuals face identical voting costs, C . A voter will only take part in the vote about immigration if the expected change in his income exceeds voting costs, i.e. if

⁶ Equation (1) is obtained by differentiating $y = F_L + kF_K$, with $F_{KL} = -(L/K)F_{LL} = -(K/L)F_{KK}$ and $\sigma \equiv F_K F_K / (F_{KL} F)$.

⁷ See also Bilal et al. (2002) who deal with the case of a beta distribution of capital in a direct-democracy model with three factors and two sectors.

$|dy/dM| > C$. If the distribution of capital is asymmetric, the outcome of the vote depends on voting costs. In particular, figure 1 makes it clear that if the distribution of capital is skewed to the right, it is possible that unskilled immigration ($k_I < k_c$) will be accepted by vote, even if this option is opposed by a majority of the population.⁸ Indeed, among those who choose not to vote in the example depicted in figure 1, a clear majority would be against unskilled immigration. The issue of participation will become prominent in the empirical analysis of section 4.

Insert figure 1: Skewed Distribution of capital and attitudes towards migration

This first approach provides a good rationale for the recent implementation, in several European countries, of migration policies relying explicitly on skill criteria (e.g. the recent introduction of a “green card” in Germany; a similar scheme is underway in Switzerland). However, this simple framework is unable to explain policies of temporary migration or of the “guest-worker” type, which can be characterized by active recruitment of low-skill immigrants. Although these temporary migration policies were more prominent in the 1960s, they still play an important role in the current regulation of East-West migration. The remainder of this section will explore the channels through which these policies tend to decrease the critical capital level, making it more likely for low-skill immigration to be accepted in a direct-democracy framework.⁹

2.2 Guest workers and temporary migration

With the Eastern enlargement of the EU, the current guest-worker policies and temporary migration schemes that apply currently to CEEC workers will have to be abandoned for the

⁸ Note that the voting costs c depicted in figure 1 are expressed in terms of capital per capita. They are linked to voting costs C through the following expression: $c = C\bar{k}^2\sigma L/((\bar{k} - k_I)s_L s_K \bar{y})$.

⁹ Consider the following simple example which lowers the critical capital level k_c (relative to the case considered above). Assume that, at the moment of the vote on migration policy, unskilled immigrants make up an important share of the initial population. If these immigrants do not have the right to vote then k_c , equal to the average capital-labor ratio of *total* population, is smaller than the average capital-labor ratio of the *native* population. Thus the capital endowment of the (native) median voter might well be greater than k_c . However, this case, which is reminiscent of the current Swiss situation, does not provide an explanation of why the (old) immigrants were accepted in the first place. The consequences of allowing for immigrants that do not have a right to vote in a Ricardo-Viner direct-democracy model are analyzed in Grether et al. (2001).

Community acquis.¹⁰ To understand how such a policy change would fare in a direct democracy framework, it is crucial to see why guest-worker policies were adopted in the first place.

Most guest-worker policies or temporary migration schemes aim at channeling immigrants into occupations or sectors where they do not compete with native workers. The sectoral segregation between natives and migrants is either the direct result of legal regulations (e.g. by issuing work permits limited to certain sectors) or the indirect outcome of differing economic incentives. We discuss both cases in turn. To account for the structural effects of guest-worker policies, the model is expanded to two sectors (Ricardo-Viner model).¹¹ The economy produces two traded goods: X (import-competing) and Y (export-competing), using three factors: labor (L) which is mobile between the two sectors, and two types of sector-specific capital (K_X, K_Y). We keep the assumption that capital is unequally distributed among natives; capital owners are paid at the average return of the two sectors. We assume furthermore that the median capital endowment (among voters) is smaller than the average capital-labor ratio, and that immigrants are unskilled (i.e. they do not bring any capital with them).

Traded goods only. Suppose first that both goods are traded, and guest-workers are confined to one sector (guest-workers are not only CEEC nationals, but also from other countries such as Turkey). Permanent immigration, which brings down real wages, should never be observed as it will be opposed by a majority of voters. However, guest-worker immigration may occur, and will be welcomed by all individuals holding some capital. Indeed, suppose we start from an initial situation where there is already a substantial number of guest-workers in the country. Moreover, assume that all guest-workers have been confined to sector X by an exogenous segregation process which has displaced all native workers to sector Y . Such a

¹⁰ In EU countries, currently immigration from the CEECs takes mostly the form of temporary migration, regulated either unilaterally by the host country or by bilateral agreements (see Boeri et al. (2001a), table 4.4). Through these programs, workers from the CEECs are channeled into occupations with low skill requirements. As a result, Boeri et al. (2001a, p.56) find that, although migrants from the CEECs are highly skilled, they work in the same sectors as other foreigners (i.e. labor-intensive sectors with a high share of unskilled workers).

¹¹ The Ricardo-Viner model is a natural framework to examine the political-economy aspects of various migration policies in an open economy. Its time-frame, with short-term rents, also probably corresponds to the time-frame envisaged by many voters when they form an opinion on immigration policy. For example, Hillman and Weiss (1999b) suggest that voters probably find the Heckscher-Ohlin model appealing when formulating trade policy since it captures the indirect effect of labour (via embodiment in imports), and the Ricardo-Viner model when formulating immigration policy since immigrants compete directly with domestic labour.

segregation process can be implemented (as in the case of the CEEC workers in the EU countries) through a “rotation system” granting only fixed-term labor contracts to immigrants, preventing any change in occupation during their time of stay.

This situation is depicted in figure 2 where the number of guest-workers (M) is larger than the critical amount of guest-workers (M^*) that displaces the last native worker from sector X to sector Y ($M > M^*$). This means that native labor (N) has become specific to sector Y and that the wage rate of natives (w_N) is higher than the wage rate of guest-workers (w_G). In this case, as shown by Djajic (1997), native workers are “immunized” against additional guest-worker immigration. Indeed, any additional increase of the immigrant population (represented by the dotted lines in figure 2) is Pareto improving for natives as it will depress the immigrants' wage while increasing the real return to K_Y and leaving unchanged both w_N and the real return to K_X .

Insert figure 2 here: Guest-workers in the Ricardo-Viner model

What if immigration policy is now put up for vote in the host country? If mass expulsion is not an option, the median voter will prefer to keep a guest-worker system rather than introduce the free mobility of immigrants between sectors. The latter option would allow CEEC immigrants to enter sector Y and would bring the natives' wage down to w^* . At the same time, the guest-worker wage would increase from w_G to w^* , attracting more immigrants from the CEECs. Thus the free movement of persons between the CEECs and EU countries would be doubly opposed. By contrast, a vote on additional guest-worker immigration would be positive as it would increase capital remuneration in sector Y while leaving indifferent native workers holding no capital.

This simple framework provides a rationale for the flexible system of transitional arrangements or the establishment of fixed quota systems as envisaged in the EU Commission (2001) document. These conclusions are reinforced if one modifies the set-up to include a non-traded sector.

Non-traded sector. Immigrants are often confined to the lodging, restaurant and domestic help sectors, both in the context of European countries with guest-worker systems, and currently in the bilateral EU relations with the CEECs (see Boeri et al. 2001a, section 5.2).

Provided that preferences are the same across household groups, the previous conclusion is reinforced if one of the two sectors produces non-traded goods. Suppose it is sector X , where guest-worker immigration is frequently observed, and start again from an initial situation where all natives are employed in sector Y (now the composite traded good). With respect to the analysis of figure 2, the additional consequence of allowing more guest-worker immigration would be a decrease in the relative price of non-traded goods (there is an increase in the relative supply of non-traded goods while the relative demand is unchanged provided immigrants share a common consumption pattern with natives). This leaves every household better off than in the traded-goods case, generating a clear majority in favor of additional guest-worker immigration.¹²

The predictions here, according to which one would not vote to abandon the guest-worker system in favor of the free sectoral mobility of immigrants (and a fortiori, the free movement of persons) is supported by the history of Swiss migration policy.¹³

Segmented labor markets. It is probably unrealistic to assume that fixed-term labor contracts are the only source of segregation between natives and immigrants. Segregation can also be observed in the case of immigrants who do not face any legal barriers to inter-sectoral mobility.¹⁴ Also, the arguments developed above do not explain why the first M^* guest-workers were accepted initially. A more realistic set-up, analyzed in the same Ricardo-Viner framework by Müller (2002a, 2002b), is to assume that segregation takes place because immigrants and natives face different incentives (immigrants are likely to return to their home country). Discriminatory labor market regulations, such as the preferential hiring of natives, might reinforce this effect. In the context of a segmented labor market, this difference in incentives leads to discrimination against immigrants if “good jobs” are rationed in an

¹² See Djajic (1997). This is all the more likely if one makes the assumption, as do Hillman and Weiss (1999b) in the context of a similar analysis applied to illegal immigrants, that domestic (and permanent or legal immigrant) households have stronger preferences for non-traded goods than illegal immigrant households.

¹³ In 1964, Italy pressured Switzerland to renegotiate the 1948 bilateral recruiting agreement, leading to important improvements in the legal situation of Italian immigrants in Switzerland. This new agreement aroused much opposition in Switzerland, triggering the creation of several anti-immigration movements. In 1981, the abolition of the seasonal worker status was also opposed by a large majority of Swiss voters (see details in section 4 below).

¹⁴ The economic performance of ethnic Germans in the German labor market seems to be similar to (or even worse than) the performance of other immigrants, although ethnic Germans do not face any legal barriers to mobility and can be assumed to have better language skills (Brücker et al., 2001, p.58). This points to the conclusion that these immigrants suffer from an unequal access to the high-wage segment of the labor market.

efficiency-wage set-up. As shown below, discrimination is of the type “equal pay for equal work, but not equal work”.

The dual labor market is modeled in a standard efficiency-wage framework following Shapiro and Stiglitz (1984) and Bulow and Summers (1986). We continue to use the Ricardo-Viner small-country model with both goods traded. Now Y is the primary sector offering good working conditions with firms paying above-market clearing wages to induce workers to supply effort, while X is the secondary residual sector where unattractive and repetitive jobs can be monitored at no cost. As a consequence, jobs are rationed in the primary sector and workers are queuing up for them. However, they can always find jobs in the secondary sector where the wage rate is set competitively. There is no unemployment.¹⁵

The instantaneous (indirect) utility function of a risk-neutral worker holding an amount of capital k is given by:

$$U = w + r_K k - e \tag{2}$$

where w is the wage, r_K is the average return to capital in the two sectors and e denotes effort (e can take two values: 0 if the worker “shirks” and $e > 0$ if he does not shirk). Workers are assumed to maximize expected utility over their infinite life horizon, using discount rate r .

Assuming a steady-state equilibrium, the following no-shirking constraint (NSC) for natives is obtained:¹⁶

$$w_Y - w_X = \frac{e}{b} \left(r + \frac{qN}{N - N_Y} \right) \tag{3}$$

where b is the probability of being discovered shirking (and, consequently, being fired) and q is the probability of a primary-sector job to end.

¹⁵ For the effects of immigration in efficiency-wage models with unemployment, see Müller (2000) and Epstein and Hillman (2000), where the natives' willingness to exert effort increases with the number of immigrants.

¹⁶ See the appendix for the derivation of the no-shirking constraint.

At equilibrium, the wage rate is equal to the marginal product of labor in each sector. The equilibrium in the labor market for natives is depicted in figure 3. The upward-sloping curve is the natives' no-shirking condition (3), and the downward-sloping curve represents the difference between marginal products of labor in the two sectors. The intersection determines the equilibrium wage differential and native employment in both sectors. Note that the employment of immigrants is considered exogenous in this figure, and that the equilibrium in the dual labor-market is inefficient. The distortion could be corrected by subsidizing primary-sector (high-income) employment. Since such a measure would meet with strong political opposition, because of its anti-egalitarian implications, we assume that it is not realized.

Insert figure 3 here: Equilibrium in the Dual Labor Market

The economic consequences of immigration obviously depend on the migrants' incentives and on migration policy. Indeed, a distinctive characteristic of immigrants is their probability of return, θ .¹⁷ Therefore, even if migrants are identical to natives in all other respects, their incentive not to shirk is influenced by the probability of return to their home country.¹⁸ Moreover, the return probability is influenced by various aspects of migration policy, such as the existence of temporary work permits, or the government's attitude towards social and economic integration of immigrants. Other legal dimensions of migration policy are equally important. In most countries, migrants are granted equal rights in the host country's labor market only after a certain period of stay, T . Firms are compelled to prefer natives and "old" migrants over "new" migrants in their hiring decision.

All these factors contribute to segregation and thus discrimination against migrants. Since competition ensures that natives and migrants are paid the same wages, discrimination is of the type "equal pay for equal work, but not equal work". Hence migrants have smaller chances of finding "good" jobs than natives and suffer from sectoral segregation. The extent of segregation which results from these differences in incentives can be summarized by the

¹⁷ In 1995, average return rates ranged from 1.5 per cent for Netherlands to 7.8 per cent for Germany, though much higher return rates are attained for particular groups (25.6 per cent return rates for Polish immigrants in Germany) or for certain legal categories (10.3 per cent for holders of annual work permits in Switzerland).

¹⁸ We assume that "old" immigrants, who are leaving the country, are replaced by new immigrants (steady-state assumption).

following equation (which is derived in the appendix) relating the migrants' chances of being employed in the primary sector (M_Y/M) to that of the natives (N_Y/N):

$$\frac{M_Y}{M} = e^{-\theta T} \left[\left(1 + \frac{\theta}{q} \right) \frac{N_Y}{N} - \frac{\theta}{q} \right] \quad (4)$$

With segregation, immigration increases the natives' chances of finding a job in the primary-sector by shifting the V_Y - V_X schedule in figure 3 to the right, since the NSC is not affected by migration.

How does the type of migration policy influence political decisions with respect to the desirability of further immigration? Does a "guest-worker" system make a country more receptive for immigrants than a less discriminatory policy? Immigration (or any other policy change) entails an identical change in an individual's steady-state utility, whether he works in the primary or the secondary sector. Indeed, differentiating equations (A1) and (A3) of the appendix yields the following change in the life-time utility of a worker holding capital k :

$$dU_Y = dU_X = (1/r)(dw_Y + k dr_K) \quad (5)$$

Consider first the case of an extreme "guest-worker" policy ($\theta > 0, T = \infty$) resulting in complete segregation. It is shown in the appendix that all natives whose capital endowment k is greater than the following critical level will vote in favor of immigration:

$$k_c = \frac{K_X + K_Y}{L_Y + L_X(1 + \varepsilon_Y / \eta_Y)} \quad (6)$$

where ε_Y is the elasticity of labor demand in the primary sector (in absolute value) and η_Y is the elasticity of primary-sector employment with respect to wage along the NSC. Thus the "guest-worker" system implies a critical level of capital which is lower than the average capital per capita, since $k_c < (K_X + K_Y)/L$. If the distribution of capital is symmetric (or if the median capital level is not too far below the average), the median voter will be in favor of immigration.

By contrast, with an entirely non-discriminatory policy ($\theta=0, T=0$) it is less likely that the majority will vote in favor of immigration. Whether the critical capital level is smaller or greater than the average capital per capita depends in particular on the relative labor demand elasticities in the two sectors, ε_X and ε_Y :

$$k_c = \frac{K_X + K_Y}{L_Y + L_X(1+\xi)}, \quad \xi = \frac{(L_X/L)[\varepsilon_Y - (1+\Delta)\varepsilon_X]}{\eta_Y + (L_X/L)(1+\Delta)\varepsilon_X}, \quad (7)$$

where Δ is the sectoral wage differential (see the appendix). In any case, the critical capital level is higher here than in the extreme “guest-worker” case of equation (6) since $\xi < \varepsilon_Y / \eta_Y$.

The Eastern enlargement of the EU will not only create new immigration flows; it will also improve the legal situation of CEEC nationals who are currently working in the EU under temporary migration or “guest-worker” schemes. Such a policy change would improve the social and economic integration of immigrants and enhance their chances of finding “good” jobs. How would such a qualitative policy change fare in a popular vote? In the model, it can be captured by reducing θ or T , assuming that the number of immigrants M who live in the country remains constant. It is shown in the appendix that this proposition will be rejected by all natives if $(1+\Delta)\varepsilon_Y < \varepsilon_X$. In the opposite case, only natives whose capital endowments exceed the following critical level will accept the proposition:

$$k_c = \bar{k}(1+\psi), \quad \psi = \frac{(L_X/L)(1+\Delta)\varepsilon_X + \varepsilon_Y}{(1+\Delta)\varepsilon_X - \varepsilon_Y} > 0. \quad (8)$$

Therefore, if the median capital endowment among natives is below the average capital per capita, the improved integration of immigrants will be rejected by a majority of natives who fear the deterioration of their own economic situation. It should be emphasized that this is an inefficient outcome, since a policy of social integration would increase the number of good jobs at the expense of bad jobs and therefore improve the aggregate welfare of natives *and* immigrants (see Müller, 2002a). Indeed, were immigrants allowed to vote, it is possible that a majority in favor of the policy change could be found.

In sum, our theoretical framework suggests three main conclusions. First, in the absence of segmented labor markets, voters will be in favor of a policy of skill requirements for immigrants. Second, restricting the mobility of guest-workers to non-traded sectors is likely to gain support for immigration. Third, with segmented labor markets a discriminatory migration policy, of the type used in the EU and Switzerland in the past, will obtain more support than an unrestricted migration policy, and a shift from the former to the latter is likely to be opposed by natives.

3. The shaping of Switzerland's immigration policy

How does Switzerland's immigration experience compare to other developed countries? Table 1 describes the evolution of the share of foreigners across European countries from 1950 to 1998 along with the share of EU foreigners among foreigners.¹⁹ Switzerland stands out in two dimensions. First, compared with other European countries, with the exception of Austria (and Luxembourg), Switzerland had the highest initial share of foreigners in 1950 (6%), a lead it maintained until 1998 when the share had risen to 19%, while in Austria the share which had started higher (11%) had actually fallen. Second, while, like all other countries, the share of EU nationals among foreigners has declined sharply, the share of Europeans among foreigners in 1998 (62%) is still among the highest.

Insert table 1 here: Foreign population share of the country of destination

It is instructive to consider the history of Swiss migration policy in connection with the evolution of the foreign population share²⁰ (see figure 4). During the period of strong growth in the post-war period, labor shortages in Switzerland were met by immigration, with the foreigners' share in the population increasing from 5.8% to 9.1% between 1950 and 1960. But

¹⁹ Except for the UK where the figures are based on 'foreign birth', the figures in table 1 are based on nationality. The statistics may misrepresent "immigrant pressure" for countries with high naturalization rates, like France and the UK. In the case of Switzerland, in 1990, 20.5% of residents were foreign born and the foreign population share was 18.1%, indicating a lower rate of naturalization than in France and the UK. In 1999, foreigners' accounted for 21.1% of the population. Excluding seasonal workers, asylum seekers and short-stay foreigners (19.6%); excluding international workers and foreigners born in Switzerland (16.3%).

²⁰ A more detailed account of the recent history of Swiss migration policy can be found in Piguet and Mahnig (2000).

at the beginning of the 60's, tensions started building up and the government decreed two federal orders (in 1963 and 1964) aiming at limiting the inflow of immigrants.²¹

Insert figure 4 here: Foreign population share and migration policy in Switzerland

In 1965, the first popular initiative attempting to limit the number of foreigners to 10 % of the population (instead of the prevailing 15%) was deposited. Confronted with this threat, in 1968, the government decreed a new federal order aiming at stabilizing the stock of foreigners while at the same time making it easier for foreigners' children to become naturalized and giving leeway on exemptions to assuage economic interests. The initiative was withdrawn but as the number of foreigners with renewable or long term permits actually increased by close to 5% (instead of falling by 3% as announced in the Federal decree of 1968), a second initiative asking for limiting foreigners' share to 10% of the population was deposited in 1969, this time, the initiators giving up the possibility of withdrawing the initiative.

The vote of June 7 1970 marks a watershed in Switzerland's policy towards immigrants (see table 2(a)). It is the first of a series of popular initiatives taken to the polls over the next 30 years, and the beginning of a policy based on a complex system of yearly quotas that is still applied today.²² This vote also registered one of the highest participation rates (75%), and it was only narrowly rejected in spite of a last ditch effort by the government to bring consensus around its immigration policy by introducing further restrictions on immigration. But the system of popular initiatives (some aiming at controlling the flow of immigrants, others at

²¹ Already then, foreign labor was grouped into three categories according to their work permit: Seasonal workers who could not reside more than 9 months per year (permit A), annual renewable (permit B), and long-term (permit C) allowing establishing residence. This reflected the view (expressed in the 1931 federal law on foreigners) that as long as they were not seeking residence, foreigners were welcome. This changed, under pressure from Italy, when the bilateral accord of 1964 allowed Italians residing for 5 years to change jobs, and relaxed time limits for family reunification and for obtaining long-term residence permits. It is this accord that unleashed opposition in the media to which the government replied by starting its quota policy prior to ratifying the accord in March 1965.

²² Since 1970, yearly quotas are established on the basis of data on return immigrants. To appease senescent sectors threatened to lose workers to expanding sectors, immigrants can only change jobs after one year, and Cantons after three years with a consultative bargaining process at the canton level in cases of excess demands for permits. The yearly quota policy also avoided a rise in unemployment during the economic crisis of the early 1970s with the stock of foreigners diminishing by 86,000 between 1974 and 1976. As unemployment insurance was not compulsory at the time, many foreigners did not take it, which explains why the foreign population share fell by 2 percentage points during this crisis, but not in the subsequent crisis when unemployment insurance became compulsory in the early eighties.

improving the status of immigrants) forced the government to compromise and design over the years an effective, though not economically efficient, immigration policy.

Insert table 2 here: Initiatives and Referenda on immigration policy

During that period, the government was squeezed between economic interests seeking to avoid or reduce the impact of quotas, and the popular pressure trying to tighten them. Its response was to devise a complex system of quotas that gave it the flexibility to play both sides, and to adjust rapidly to short-term objectives resulting from the combined pressures coming from labor unions (wishing binding quotas), firms (wishing loose quotas) and parts of the public (wishing to preserve cultural identity as expressed in its xenophobic requests). For example, family reunification was not included in the quotas nor was the transformation of seasonal to annual quotas. This 'loophole' led to the third popular initiative seeking to restrain immigration. With a high participation rate, the initiative's rejection on October 20 1974 by a 2/3 majority heralded the success of the government's 'give and take' approach. Rejected by a 2/3 majority, one can conclude that the conjunction of direct democracy and lobbying was shaping Switzerland's policy towards immigrants.

The role of the democratic process was also evident in the 1981 vote on a popular initiative aiming at creating more equality between Swiss nationals and foreigners, and eliminating the seasonal workers status. This proposal was sharply opposed by the construction, catering, and agriculture sectors that relied on this category of labor. As the economic interests were opposed to the suppression of the seasonal workers status but not to the equality principle, the government proposed a modification of the foreigners' law. As shown in table 2, both the popular initiative (in 1981), and the proposed law (in 1982), were rejected by the electorate. By that time, the foreign population was effectively stabilized but as the proportion of annual permits had fallen from 70% in 1970 to 25% in 1980, flexibility in migratory policy was waning.

It is only in the late 80s with the surge in asylum seekers and the prospects of a closer relationship with the EU that immigration policy started again to be questioned: on the one hand, distinguishing between economic and political motives for immigration was becoming difficult; on the other hand, the guest-worker system appeared inappropriate if closer ties with

the EU were to develop. Sensing that the vote on the EEA act would be rejected because it would call for an abolishment of the guest-worker system access, an immigration policy based on “cultural proximity” often referred to as the ‘three circle’ policy was adopted by the government.²³ In 1992, the referendum to join the EEA was nevertheless rejected by Swiss citizens.

The failure of the discriminatory “cultural proximity policy”, Switzerland’s participation in the International Convention against racism in 1995, and the rising criticisms by the business sector against the quota system lead to the proposal of a point system in 1998, akin to the system in use in Canada and Australia. Although this proposal did not carry the day, the government shifted to a ‘two-circle’ policy that would accommodate both the desire for closer ties with the EU (with 57% of the electorate accepting the bilateral agreements with the EU in May 2000) while catering to anti-foreigner feelings in the population. Meanwhile, guest worker permits were cut in half to 88,000 during the decade of the 1990s.

If the share of foreigners in total population has reached 20% in Switzerland, what are their characteristics compared to other countries? With respect to the main categories of newly arriving immigrants, table 3 shows that, in 1998, Switzerland had an inflow composition similar to other countries: about 50% of immigrants were entering as workers and 45% for family reunification purposes. In this table, Sweden stands out with a large proportion of asylum seekers, as well as France where motivation for immigration is less linked to work and resembles that of the US.

Insert table 3 here: Immigration inflow by main categories

Having noted that averages hide differences across nationalities, Brücker et al. (2001, p.16) summarize as follows the socio-economic characteristics of immigrants in the EU. Migrants are concentrated in large cities, are younger than natives, with a higher proportion of males among migrants than among natives, and migrants are also more than proportionally affected

²³ Under the ‘three circles’ policy, no restrictions on immigration applied for citizens of EU and EFTA countries, while some restrictions were imposed on a second circle of countries with close cultural ties (including Canadian, US and CEEC citizens), with only exceptional admission from the rest-of-the-world lumped in a third circle.

by unemployment. Most of these stylized characteristics apply to Switzerland as well.²⁴ In the EU, immigrants generally have lower skill levels than natives, which is also the case in Switzerland if one considers immigrants from Southern Europe.²⁵ They also note that immigrants have an occupational status below those of natives with comparable skill levels. In the case of Switzerland, at comparable skill levels, foreigners have lower salaries and have smaller chances of reaching good hierarchical positions (Flückiger and Ramirez, 2001).

4. Determinants of attitudes and voting behavior

The analysis of individual surveys points to the conclusion that attitudes towards immigration differ significantly between countries. Using cross-country data at the individual level from the International Social Survey Program for 1995, Bauer et al. (2000) find that most country dummy variables conserve a significant influence in the probit model even if individual demographic and education variables are included. They conclude, rather tentatively, that sentiments towards immigrants are more favorable in countries using skill criteria in their immigration policies. By contrast, Brücker et al. (2001) work with country averages of a 1997 Eurobarometer poll to study attitudes towards immigration with respect to labor market effects, racism or xenophobia, and welfare take-up. Their strategy is to relate respondents' attitudes to country characteristics (previous growth rate, the stock of foreigners, and rates of unemployment). In their sample of 13 EU countries (Greece and Luxembourg are omitted) they find a significant relationship revealing that the fears that further immigration would cause problems domestically are positively related to the stock of foreign population and negatively to the unemployment rate (Bruecker et al., table 2.3).

How does Switzerland fit into this picture? Unfortunately, the 1995 ISSP and 1997 Eurobarometer surveys were not carried out for Switzerland. In figure 5, we report country averages from a 2000 Eurobarometer survey that includes Switzerland, choosing questions that are closest to those analyzed by Brücker et al. (2001). In figure 5(a) it is striking that the inclusion of Switzerland upsets the positive correlation between anti-immigration attitudes and the share of foreign population. In figure 5(b), the negative correlation between anti-

²⁴ The statistics for Switzerland (1999) are (nationals, foreigners): mean age (41; 33); male share (47.8%; 53.3%); urban dwellers (66.5%; 80.1%); unemployment rate (1.6%; 5.3%).

²⁵ About two thirds of foreigners living today in Switzerland come from Southern Europe (including Turkey and Ex-Yugoslavia). Note, however, that an important share of immigrants from Northern Europe is highly skilled.

immigration attitudes and the unemployment rate, reported by Brücker et al. (2001), is not reproduced for the 13 EU member countries; this is even less so if Switzerland is included. In conclusion, Switzerland can be considered an “outlier” among European countries in 2000: having the highest foreign population share, it is the most open country towards foreigners.

Insert figure 5 here: Attitudes towards Immigrants: Eurobarometer Survey, 2000

Because of its direct democracy, Switzerland provides a unique setting for analyzing the determinants of voters’ attitudes towards immigration. After each vote (since 1983), the Gfs institute carries out an individual-level survey (called *VOX*) asking Swiss citizens whether and how they voted. In order to elucidate the voters’ motivations, other questions concerning the issues at stake are also asked. The analysis of this survey allows us to improve on existing studies of attitudes towards immigration (Scheve and Slaughter (1999), Citrin et al. (1997), Espenshade et Hempstead (1996), etc) in two respects. First, the Swiss direct-democracy context enables us to address the issue of “hypothetical bias” which hampers the analysis of conventional survey data.²⁶ Since individuals are aware that if the popular initiative on vote is accepted the proposed constitutional change will take place, there is no “hypothetical bias”. Second, the information on participation behavior allows us to analyze how attitudes materialize into actual voting behavior. Indeed, the outcome of a vote is influenced by the decision to participate in the vote. Since it is likely that the decision to participate and the attitude towards immigration are not independent, the outcome of a vote on immigration cannot be inferred simply from survey questions on individuals’ attitudes as has been done in previous studies.

How can the participation decision be explained if individuals are rational? If the result of the vote (yes/no) is the only politically relevant outcome of a referendum, then a citizen’s motivation to vote is very weak since his chances to change the decision are extremely small (the voting paradox). As is evident from the discussion of immigration policy in section 3, the voting paradox does not apply in the Swiss context: even if a popular initiative is rejected, the

²⁶ Cummings et al. (1995) and Cummings et al. (1997) discuss the reasons why intentions may differ from actual behavior in the context of contingent valuation methods for valuing environmental goods.

outcome of the vote will be taken into account in later decisions by the government.²⁷ Thus the decision to participate in a popular vote can be interpreted more generally as a decision to influence the political process.

Turn now to the analysis of the Swiss vote in September 2000 on a popular initiative asking for a limitation of the number of foreigners. The proposed change in the constitution stated that the share of foreigners in the Swiss population could not exceed 18%. Some categories of resident foreigners would have been excluded from this count (e.g. academics, artists), but some non-residents would have been included (e.g. asylum seekers). According to this definition, the share of foreigners was 19.3% at the time of the vote. Therefore the initiative would have forced the government to limit immigration severely. The popular initiative was rejected by 63.7% of voters and the participation rate was 43.6%.

The data that we are analyzing here stem from an individual-level *VOX* survey that was carried out during the two weeks following the vote and includes 1024 Swiss citizens over 18 years old.

4.1 The econometric model

Our econometric framework is based on the direct-democracy model with voting costs discussed in section 2 above. In order to account also for non economic determinants of attitudes, we focus on immigration-induced changes in utility rather than income. The participation and voting decisions are modeled simultaneously by defining two dichotomous variables v (where $v=1$ denotes a positive vote) and p (where $p=1$ denotes participation) and two latent variables v^* and p^* .²⁸

$$v^* = x'\beta + \varepsilon^*, \quad v=1 \text{ if } v^*>0, v=0 \text{ otherwise} \quad (9)$$

$$p^* = x'\alpha + z'\gamma + \xi^*, \quad p=1 \text{ if } p^*>0, p=0 \text{ otherwise} \quad (10)$$

²⁷ In certain circumstances, government decisions even anticipate the outcome of a popular vote. In order to prevent a popular initiative from being accepted, the government takes in advance decisions that fulfill some of the initiative's demands. An example of such a procedure is the introduction of immigration quotas in the early 1970s, when a xenophobic popular initiative was up for vote (see section 3).

²⁸ This model draws on Krishnakumar and Müller (2002).

where equations are normalized ($\text{Var}(\varepsilon^*)=\text{Var}(\xi^*)=1$). The interdependence between the decision to participate and the vote in favor of the popular initiative is captured by the fact that disturbances are assumed to be correlated: $\text{Corr}(\varepsilon^*\xi^*) = \rho$. Equations (9) and (10) can be interpreted as a simplified reduced form of a structural voting model (see Krishnakumar and Müller, 2002).

In this survey only participating individuals were asked how they had voted. Therefore, equations (9) and (10) must be estimated using a bivariate probit model with censoring: for a given individual, v is not observed unless $p=1$. The maximum likelihood procedure which applies in this context has been proposed by van de Ven and van Praag (1981).

In constructing the variables to estimate the model, we follow the literature (see e.g. Citrin et al. (1997) and Scheve and Slaughter (1999)) by distinguishing between economic and non-economic determinants of attitudes towards immigration. Economic determinants are related to the costs and benefits of immigration at the aggregate or individual level. At the individual level, economic determinants include in particular factor endowments such as skills and capital holdings. Non-economic determinants include individuals' beliefs in areas such as political ideology, attitudes towards other cultures and towards civil rights of immigrants.²⁹

From the viewpoint of an economist, the main question is whether skill or human capital is a significant determinant of attitudes towards immigration even if one controls for political ideology and other social and demographic variables. We explore carefully the role of economic determinants by using two different measures of skills. First, as a measure of educational attainment, we constructed an indicator of years of schooling according to the five education types reported in the survey (descriptive statistics of variables are given in table 4). The particularity of the dual education system in Switzerland is taken into account by defining a dummy variable which takes value 1 for individuals who received most of their secondary education as vocational training, such as apprenticeship, etc.

²⁹ The distinction between economic and non-economic determinants is, however, controversial and cannot be made easily in practice. For example, educational attainment is a measure of general human capital and is therefore an important determinant of an individual's wage. On the other hand, political values are certainly influenced by education as well. This double nature of education explains why Scheve and Slaughter (1999) classify education as an economic variable, whereas Citrin et al. (1997) interpret it as a demographic variable. A similar ambiguity arises for the variable "age", since it can be considered as a proxy for work experience, but captures also differences in political attitudes between generations.

Second, we use a wider measure of skills by including also on-the-job training. The two types of skills – schooling and on-the-job training – can be aggregated into a common indicator by appealing to Mincer’s concept of “potential earnings”. In Mincer’s framework, observed wages and potential earnings are closely linked. To construct the aggregate skill measure (“earnings”), we ran a standard Mincer wage equation on data from the Swiss wage structure survey. The “earnings” indicator is constructed using the following equation:

$$\ln(\text{earnings}) = \text{constant} + 0.04 \cdot \text{experience} - 0.5 \cdot \text{experience}^2 / 1000 + 0.09 \cdot \text{schooling}$$

where experience is defined as: age - schooling - 6.³⁰ The macroeconomic context is captured by the unemployment rate in the individual’s canton of residence.³¹ In addition, we use a variable measuring the share of foreigners in the population of the agglomeration where the individual lives.

Among the non-economic determinants, we represent the political beliefs of citizens by a variable based on the individual’s own judgment of his political position on a scale between 0 (left) and 10 (right). Cultural differences between the German, French and Italian speaking parts of Switzerland are captured by dummy variables for minorities. The participation equation includes furthermore dummy variables on gender and housing status (owner) and two continuous variables for age and age squared.

Insert table 4 here: Variables of the empirical voting model

³⁰ The coefficients in this equation are based on a sample of Swiss men, bypassing problems associated with the measure of labor market experience (women) or schooling quality (foreign workers). To adapt the wage equation to the inactive citizens in our sample, we made some additional assumptions. For students, potential earnings are computed as if they were active citizens without experience. For the unemployed and people working in their home, potential earnings are computed as if they were active but dummy variables are added to the regression in order to account for (unobserved) differences in work experience (as the coefficients of these dummies turn out not to be significant in the regression, they are not reported in the results). As the retired are no more evolving in the labor market, their attitude towards immigration is influenced by other considerations (such as the impact of immigration on social security). Therefore, their potential earnings are set to zero and a dummy for the retired is included in the voting and participation equations.

³¹ In a dual-labor market with unemployment, Müller (2002b) shows that the lower the unemployment rate, the greater chances are that additional immigration is beneficial for natives.

4.2 Results

We now report the results of four specifications of the voting and participation equations using the two skill measures alternatively. Because there is multicollinearity between variables that are defined at the level of a region (cultural variables), of a canton (unemployment rate) or of an agglomeration (share of foreigners), we chose to include either the cultural dummies or the two other variables.

Before discussing the results in detail, it is useful to gauge the importance of the participation bias (sample selection bias) which can be done by estimating two versions of the model. First, the full model given by (9) and (10) is estimated using a bivariate probit model with censoring, as described above. Second, we ignore deliberately the selection mechanism and fit a standard probit model to equation (9), using only the part of the sample that includes observations on individuals who participated in the vote.

Insert table 5 here: Estimation results of the voting model

The results in table 5 demonstrate that the voting and participation decisions must be estimated simultaneously in order to understand (i) individuals' attitudes towards immigration and (ii) the mechanism that links individual attitudes to actual voting behavior.³² Indeed, the correlation ρ between the disturbances of the two equations is significantly different from zero and its estimate is close to -1 . As a consequence, the naive probit model yields biased results and would lead one to believe that schooling and the unemployment rate are not significant determinants of attitudes towards immigration.³³

In the complete model with sample selection, the main parameters turn out to be significant and have the expected sign: a lower education level and right-wing convictions are associated

³² As the four specifications do not differ significantly with respect to the problem of sample selection, we report only one of them.

³³ To test the robustness of these results, we analyzed also two auxiliary questions. Those who participated in the vote were asked whether they agreed with the following statements: 1) "There are too many foreigners in Switzerland" and 2) "The current immigration policy is too lax; it should become tougher". Both estimations confirmed the crucial role of the variables "schooling" and "political ideology" (with p-values smaller than 0.005). Other variables such as age turn out to be not significant and the correlation with the participation

with a higher probability of accepting the popular initiative.³⁴ The probability to vote “yes” decreases with age until it reaches a minimum around the age of 56. This age-voting profile resembles (in the negative) an age-earnings profile. One might therefore be tempted to conclude that in this regression “age” is a proxy for labor market experience (representing another measure of skill). That this is indeed the case can be seen in table 6 which reports the results of the three alternative specifications. When potential earnings (“wage”) are included in the equation (specifications 3 and 4), they contribute significantly to the explanation of voting and participation behavior and in this case no independent influence of the age can be identified.

Insert table 6 here: Estimation results with different specifications

It is interesting to note that a high foreign population share in the voter’s agglomeration is not associated with an anti-immigration vote (specification 3 suggests rather the opposite). The effects of the remaining explanatory variables in the voting equation are rather robust with respect to the different specifications. Individuals living in cantons with high unemployment rates tend to be more hostile to immigration. Italian speaking Swiss are significantly more opposed to immigration, which is certainly due to the specific situation of the labor market (with many low-wage border workers) and the strong influence of a local right-wing party (Lega).

The estimation of the participation equation yields interesting results in its own right. First, people from the political extremes are more likely to participate than those who hold centrist beliefs. Indeed, the probability of participation is related to the political scale by a U-shaped relationship, with the minimum (4.6) close to the sample mean (4.9). Second, participation is positively related to education, a result found in many other studies (see Mueller, 1989, p.365). Third, the participation of Swiss is greater in agglomerations where there are many foreigners. Finally, the young, women, tenants and minorities are less likely to go to the polls.

equation is not significantly different from zero in both cases, which confirms that it is the real situation of the vote that creates participation bias.

³⁴ By contrast to participation, the square of the “political ideology” variable was found to have no significant influence on the vote; it was therefore dropped from the equation of the vote.

Turn now to the link between attitudes towards immigration and voting behavior. The estimates of marginal and conditional probabilities can inform us about this link (table 7 gives the average probabilities calculated both for the entire sample and the sub-sample including only people who participated). The conditional probability $P(v=1/ p=1)$ represents the model's fit for the outcome of the vote (the "yes" vote in the sample, 28.3%, is very well predicted). The marginal probability $P(v=1)$ indicates how people voted or would have voted, whether they participated or not. For the entire sample, the average probability of accepting the initiative is 54.6%. This is a startling result. Had all Swiss citizens voted, the anti-immigration initiative would have been accepted!

Insert table 7 here: Probability of voting in favor of the popular initiative

The large divergence between conditional and marginal probabilities can be explained by appealing to differences in observed and unobserved characteristics between those who voted and those who did not. It turns out that observed characteristics account for only a fairly small part of this difference. The participation and voting equations show for example that more skilled individuals were more likely to participate and to reject the initiative. However, this effect is quantitatively not very important, since the marginal probability of accepting the initiative is only slightly lower in the sub-sample of voters (51.8%) than in the entire sample (54.6%).³⁵

The main difference between marginal and conditional probabilities is due to the negative correlation between unobserved factors (disturbances) in the two equations. In other words, individuals who were more likely to participate than others *due to their unobserved characteristics* were generally more likely to reject the popular initiative. Indeed, this fact accounts for the large difference between the marginal probability (51.8%) and the conditional probability (28.3%) in the sub-sample of voters.³⁶

³⁵ If there was no correlation between the disturbances of the two equations ($\rho=0$), the conditional probability of voting "yes" would be equal to: $P(v=1/ p=1) = P(v=1, p=1)/P(p=1) = P(v=1)$. Therefore, the average of probabilities $P(v=1)$ calculated on the sub-sample of voters represents the outcome of the vote *as if omitted factors were not correlated across equations*.

³⁶ The ratio between conditional and marginal probabilities is given by: $P(v=1/ p=1)/P(v=1) = P(v=1, p=1)/[P(p=1) \cdot P(v=1)]$. This ratio is equal to 1 if and only if $\rho=0$.

To put these results into perspective, consider what would have happened if the Swiss government had followed opinion polls to define immigration policy, as some policymakers are tempted to do today in the context of EU enlargement. According to our econometric results, a general opinion poll would have shown that more than half of Swiss voters were in favor of the popular initiative; interestingly, two “real” opinion polls came quite close to this conclusion.³⁷ Instead, the clear result of the vote was interpreted as a political signal against a restrictive immigration policy.

6. Conclusions

Perhaps the most controversial aspect of the ongoing negotiations about EU enlargement to the East is the free mobility of persons. Fears of a large inflow of immigrants have been apparent in recent economy-wide opinion polls, which are in sharp contrast with the detailed economic studies suggesting a net welfare gain from the application of the free mobility of persons with the CEECs and the predicted moderate inflow of immigrants into the current EU member countries.

This paper informs on the debate in three areas. First, we reviewed Switzerland’s long-standing experience with immigration. We find that, compared with EU member countries, Swiss respondents in the opinion polls are relatively more favorable to immigration in spite of a higher stock of immigrants. The review of the debate and votes on initiatives and referenda over the last thirty years shows that the results at the election booth have influenced government policy on immigration which has stayed a course accommodating the conflicting interests of unions, owners in largely non-competitive sectors internationally, and the public at large as expressed in the results of the votes.

The resulting flexible system of annual quotas by worker categories, combined with limited mobility and exemptions allowing the progressive transfer of immigrants from temporary to permanent status, has successfully absorbed a large inflow of foreigners. Interestingly, many

³⁷ According to a poll carried out in July 2000 and commissioned by Swiss television (DSR/TSR), 40% of respondents were in favor of the popular initiative, 42% against and 17% did not have an opinion. A similar poll, commissioned by the Swiss government in May 2000, concluded that the popular initiative would be accepted (see *Le Temps*, 17 July 2000).

elements of this policy - which has survived repeated challenges at the polls - have been used by EU members in their current immigration policies with the CEECs.

Second, we have shown how appropriate modifications to a standard Ricardo-Viner model to take into account the characteristics of this guest-worker immigration with segmented labor markets can be used to show how self-interested voters would, indeed, be inclined to accept these policies.

Third, and perhaps most interestingly, we have been able to show that the results from opinion polls are probably overly pessimistic, if they are interpreted as reflecting what people would actually vote if asked to. Indeed, drawing on a survey for the last vote in Switzerland attempting to limit the stock of immigrants to its current level, we show that the government would have been tempted to put a limit on the number of immigrants if it had listened to opinion polls. In fact, the vote clearly rejected the proposal, confirming the notion that like in the contingent valuation methods used to assess environmental damage, opinion polls are likely to suffer from “hypothetical bias”.

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Appendix: The efficiency-wage model

In this appendix, the main results of the efficiency-wage model presented in section 2.2 are derived in detail. Workers, whose instantaneous utility functions are given by (2), are assumed to maximize expected utility over their infinite life horizon, using discount rate r . Consider first the situation of natives. The problem of a worker in the primary sector who has to decide whether to shirk or not, can be analyzed by relating the utility levels that he can attain in the two cases. Let U_Y^s (U_Y^n) denote the expected present value of utility of a shirking (non-shirking) worker holding a primary-sector job. Let U_X denote the expected utility of a secondary-sector job. To relate these situations, the asset-equation approach introduced by Shapiro and Stiglitz (1984) is followed. A worker who shirks faces a probability b per unit time of being discovered and fired. Moreover, there is an exogenous probability q per unit time for each primary-sector job to end; in that case the worker takes up a job in the secondary sector. If a worker has a job in the primary sector, he receives wage w_Y . He earns the following return, according to whether he shirks or not:

$$rU_Y^n = w_Y + r_K k - e - q(U_Y^n - U_X) \quad (\text{A1})$$

$$rU_Y^s = w_Y + r_K k - (q + b)(U_Y^s - U_X) \quad (\text{A2})$$

A worker in the primary-sector does not shirk if $U_Y^n \geq U_Y^s$. At equilibrium, there is no shirking and this condition holds with equality since there is no reason for a primary-sector firm to pay a higher wage. Using equations (A1) and (A2), the no-shirking condition can be rewritten as follows:

$$b(U_Y^n - U_X) = e \quad (\text{A3})$$

The return to a job in the secondary sector is equal to:

$$rU_X = w_X + r_K k - e + \alpha(U_Y - U_X) \quad (\text{A4})$$

where α is the probability of moving from a secondary-sector job to a primary-sector job.

In a steady-state equilibrium, the flow out of the primary sector is qN_Y , where N_Y is native employment in the primary sector. The flow into the primary sector is $\alpha(N-N_Y)$, where N is total native employment. At equilibrium, these two must be equal. Thus, for natives α is given by $qN_Y/(N-N_Y)$ and, using (A1) and (A4), the natives' no-shirking condition (A3) can be rewritten as equation (3) in the main text.

If immigrants have the same labor rights as natives only after T years, the number of immigrants eligible for primary-sector jobs is given by $M^* = M \exp(-\theta T)$, where θ is the probability of return migration. The no-shirking condition of immigrants is given by:

$$w_Y - w_X = \frac{e}{b} \left(r + \frac{(q + \theta)M^*}{M^* - M_Y} \right). \quad (\text{A5})$$

Combining the NSC of natives and migrants yields equation (4).

Now turn to the consequences of “infinitesimal” immigration under different migration policies. Primary-sector employment by migrants can be parameterized by $M_Y = \lambda M$, where $\lambda = N_Y/N$ designates the non-discriminatory policy and $\lambda = 0$ the extreme guest-worker scheme. Denote total primary employment by $L_Y = N_Y + M_Y$ and total secondary employment by $L_X = N_X + M_X = N - N_Y + M - M_Y$. Assuming an infinitesimal variation dM in immigration stock and differentiating the marginal-product-of-labor conditions, $w_i = f_L^i(K_i, L_i)$ ($i=X, Y$), the following variation in the wage differential is obtained:

$$dw_Y - dw_X = f_{LL}^Y dL_Y - f_{LL}^X dL_X \quad (\text{A6})$$

On the other hand, differentiating the NSC (3):

$$dw_Y - dw_X = AdN_Y, \quad A = (eq/b)N/(N - N_Y)^2 \quad (\text{A7})$$

Since $dL_X = (1 - \lambda)dM - dN_Y$ and $dL_Y = dN_Y + \lambda dM$, it is clear that $(1 - \lambda) dL_Y - \lambda dL_X = dN_Y$.

This allows to combine equations (A6) and (A7) to yield:

$$dL_X / dL_Y = \left[f_{LL}^Y - (1-\lambda)A \right] / (f_{LL}^X - \lambda A) \quad (\text{A8})$$

Now turn to the variation in utility. As $r_K = (f_K^X K_X + f_K^Y K_Y) / (K_X + K_Y)$, equation (5) in the text becomes:

$$dU_Y = dU_X = (1/r) \left[f_{LL}^Y (1 - kL_Y / K) - f_{LL}^X (kL_X / K) (dL_X / dL_Y) \right] dL_Y \quad (\text{A9})$$

A native accepts immigration if his utility increases with immigration. As immigration implies $dL_Y > 0$, and assuming that there are no migrants present at the initial equilibrium ($M=0$) this condition is equivalent to:

$$k > \frac{K_X + K_Y}{L_Y + L_X (1 + \xi)}, \quad \xi = \frac{(1-\lambda)\varepsilon_Y - \lambda\ell(1+\Delta)\varepsilon_X}{\eta_Y + \lambda\ell(1+\Delta)\varepsilon_X}, \quad (\text{A10})$$

where $\ell = L_X / L_Y$, $\Delta = (w_Y / w_X) - 1$ is the wage differential, $\varepsilon_i = \left| f_L^i / (L_i f_{LL}^i) \right|$ the elasticity of labor demand with respect to wage and $\eta_Y = w_Y / (AN_Y)$ the elasticity of primary-sector employment with respect to wage on the NSC. Equations (6) and (7) in the text are special cases of (A10), with $\lambda=0$ and $\lambda=N_Y/N = L_Y/L$ respectively.

Consider now a policy of improved economic and social integration of immigrants, which can be captured in the model by a decrease in parameters θ and/or T . Assuming a constant stock of immigrants and differentiating (4) yields $dM_Y / M = dI + a(dN_Y / N)$, where

$a = e^{-\theta T} (1 + \theta / q)$ and dI denotes a policy change towards improved integration of migrants (dI is equal to a weighted sum of $(-d\theta)$ and $(-dT)$). Then:

$$dL_Y = dN_Y + dM_Y = (1 + am)dN_Y + MdI \quad (\text{A11})$$

where $m = M/L$. As there is no new immigration, $dL_X = -dL_Y$ and combining (A6) and (A7) results in: $dN_Y = dL_Y (f_{LL}^Y - f_{LL}^X) / A$. Combining the latter equation with (A11) establishes that $dL_Y / dI > 0$ and $dN_Y / dI < 0$. As total employment is unchanged, (A9) simplifies to:

$$dU_Y = dU_X = (1/r) \left[f_{LL}^Y - k / K (L_Y f_{LL}^Y - L_X f_{LL}^X) \right] dL_Y \quad (\text{A12})$$

If $(L_Y f_{LL}^Y - L_X f_{LL}^X) > 0$, or equivalently $\varepsilon_Y > (1 + \Delta)\varepsilon_X$, dU/dI is negative for all $k \geq 0$. In the opposite case, a native holding capital k is in favor of improved integration of immigrants if: $k > K f_{LL}^Y / (L_Y f_{LL}^Y - L_X f_{LL}^X)$. This condition is equivalent to the condition $k > k_c$, with k_c defined by equation (8) in the text.

Table 1: Foreign population in country of destination¹

	1950	1960	1970	Share of EU foreigners 1950-1970	1980	1985	1990	1998	share of EU foreigners 1998
North Europe									
Denmark	na	Na	1.8 ^a	Na	1.9	2.2	2.5	4.8	20.7
Sweden	1.8	2.5	5	95	5	4.6	4.7	5.6	40
Norway	0.5	0.7	2	Na	2	2.4	2.6	3.7	45.7
Finland	na	Na	na	Na	Na	0	0.4	1.6	18.4
Ireland	na	Na	na	Na	2.4	1.9	2.2	3	76.7
United Kingdom	3.4	4.5	5.7	60	3	3.1	3.2	3.8	40
West Europe									
Austria	11	Na	7	88	Na	4	4.1	9.1	13
Belgium	4.3	4.6	7.2	85	8.9	8.5	8.6	8.7	63.1
Netherlands	1.1	1	1.9	66	3.6	3.8	3.9	4.2	29
Switzerland ^b	6.1	10.8	17.2	96	14.1	14.6	14.7	19	62
Luxembourg	9.9	13.2	18.4	53	Na	26.5	26.3	35.6	87
France	4.2	4.6	5.3	61	6.8	na	6.8	6.3	36.5
Germany	na	1.2	4.5	77	5.6	5.6	7.4	8.9	25.3
South Europe									
Italy	0.1	0.1	0.2	39	0.1	0.1	1.2	2.1	13.7
Portugal	0.2	0.3	0.4	26	0.6	0.9	1.	1.8	27.1
Spain	0.3	0.2	0.4	60	0.5	0.6	1.1	1.8	41
Total Europe	2.4	2.3	3.6	Na	3.7	3.9	4.4	5.3	na

¹ Source: Brücker et al. (2001a, table 1b)

Notes: Foreign population are expressed as percentage of total population. Na: Not available. ^a 1975, ^b Seasonal workers excluded.

Data for 1950, 1960 and 1970 are derived from Census: they represent the share of foreign population in total population except for the United Kingdom where they represent the share of the foreign born population. Data for 1980-1998 are derived from different national sources and represent foreign population share (in total population).

Table 2: Votes on immigration policy

Table 2(a): Popular Initiatives¹

Date	CONTENT	Result	Part.
7 June 1970	Foreigners' share in population \leq 10% (25%) in each Canton (Geneva)	rejected 54 %	74 %
20 Oct. 1974	Foreigners' share in population \leq 12% (25%) in each Canton (Geneva) with total in Switzerland \leq 500,000 + Naturalizations \leq 4,000 per year	rejected 65.8 %	70 %
13 March 1977	Foreigners' share in population \leq 12.5% in Switzerland	rejected 70.5 %	45 %
13 March 1977	Naturalizations \leq 4,000 per year	rejected 66.2 %	45 %
5 April 1981	Abolish seasonal worker status + Indefinite renewal of working permits + Immigration flows to match emigration flows	rejected 83.8 %	39 %
4 Dec. 1988	Immigration flows \leq 2/3 of emigration flows (including asylum seekers) + Limit on seasonal workers and cross-border commuters	rejected 67.3 %	52 %
1 Dec. 1996	Illegals cannot ask asylum seeker status + Restrictions on rights of appeal	rejected 53.7 %	46 %
24 Sept. 2000	Foreigners' share in population \leq 18% (including asylum seekers)	rejected 63.8 %	45 %

Table 2(b): Referenda²

Date	CONTENTS	Result	Part.
6 June 1982	Counter project to the initiative from the 5 April 1981: Indefinite renewal of working permits + Immigration flows to match emigration flows	rejected 50.4 %	35%
4 Dec. 1983	Tightening of naturalization criteria + Children of any Swiss citizen gets Swiss nationality	accepted 60.8 %	35 %
4 Dec. 1983	Loosening of naturalization requirements for foreigners' children, refugees, asylum seekers and the nationless	rejected 55.2 %	35 %
5 April 1987	Distribution of asylum seekers across Cantons + Faster admission process + Tightening of asylum law	accepted 67.3 %	42 %
5 April 1987	Amendment of the law regulating the stay and establishment of foreigners (e.g. imprisonment of dangerous asylum seekers or who refuse to leave the country)	accepted 65.7 %	42 %
12 June 1994	Easier naturalization's right for young foreigners who grew up in Switzerland	rejected by cantons	46 %
4 Dec. 1994	Expanded search rights in asylum-seekers domiciles + Tightening of law on foreigners' rights	accepted 72.9 %	43 %
13 June 1999	Amendment of asylum law (i.e. less restrictive provisory admission rights)	accepted 70.6 %	45 %
13 June 1999	Stricter criteria for asylum status + asylum seekers must be cooperative with authorities	accepted 70.8 %	45 %

¹ To be voted upon, an initiative must obtain 50,000 signatures before 1977 and 100,000 starting in 1977. Acceptance implies changes in the Constitution.

² Laws or Federal orders are put to vote if they obtain 50,000 signatures (1977 law).

Table 3: Immigration inflows by main categories¹

	Year	Workers	Family reunification	Asylum seekers and refugees	Others ^a	Net Inflow of foreigners
		<i>in % of total immigration</i>				<i>in % of total population</i>
Switzerland ^b	1998	50	45	5	0	1.1
Sweden	1997	2	55	21	22	0.4
France	1996	21	55	10	16	0.1
Italy ^c	1999	50	39	3	8	0.2
United Kingdom ^d	1998	45	50	5	0	0.4
United States ^e	1998	12	72	8	8	0.2
Canada ^e	1998	55	29	13	3	0.6
Australia ^e	1998	34	26	11	29	0.4

¹ Source: Brücker et al. (2000a, table 6) and SOPEMI (2000).

Notes: ^a With the exception of the UK and Switzerland, total inflows include also students, visitors, etc, thus the total does not sum up to 100, ^b Seasonal workers included, ^c Inflow of foreigners: 1998, ^d EU immigrants not included + inflow of foreigners: 1997, ^e Inflows of permanent settlers.

Table 4: Variables of the voting model

Variables	Mean	Standard deviation
Vote	0.283	0.451
Participation	0.579	0.494
Schooling (years)	12.650	2.113
Vocational education	0.636	0.481
Wage	5'045.0	2'980.7
Retired	0.205	0.404
Age	47.769	17.074
Unemployment share (canton)	1.845	0.837
Share of foreigners (agglomeration)	19.308	6.386
French speaking ^a	0.195	0.396
Italian speaking ^a	0.067	0.250
Female	0.485	0.500
Owner	0.481	0.500
Political orientation (0 – 10)	4.916	1.481

Notes: There are 805 observations for all variables, except for the vote (466 observations).

^a Reference group: German-speaking individuals.

Table 5: Estimation results of the voting model
(specification 1)

	Probit	Probit with sample selection		
	<i>vote</i>	<i>vote</i>	<i>participation</i>	<i>marginal effect</i>
Years of schooling	0.042 (1.17)	-0.068* (1.81)	0.113*** (4.72)	-0.027* (1.85)
Vocational education	0.565*** (3.60)	0.259 (1.61)	0.104 (1.01)	0.103 (1.59)
Age	-0.053** (2.22)	-0.072*** (3.92)	0.052*** (3.25)	-0.028*** (3.91)
Age squared / 1000	0.583** (2.56)	0.640*** (3.53)	-0.348** (2.17)	0.253*** (3.49)
Unemployment rate	-0.003 (0.03)	0.196** (2.16)	-0.323*** (4.39)	0.0776** (2.19)
Share of foreigners	-0.007 (0.54)	-0.017 (1.54)	0.029*** (2.94)	-0.007 (1.55)
Female			-0.159* (1.94)	
Owner			0.389*** (3.57)	
Political orientation	0.234*** (5.47)	0.151*** (3.71)	-0.440*** (4.28)	0.060*** (3.59)
Political or. squared			48.168*** (4.38)	
Constant	-1.524* (1.90)	1.811** (2.03)	-2.028*** (3.73)	
Observations	466	805		
Uncensored observations		466		
Log likelihood	-247.82	-720.25		
Rho		-0.92***		

Notes: Absolute value of z-statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 6: Estimation results with different specifications

	Specification 2		Specification 3		Specification 4	
	<i>vote</i>	<i>particip.</i>	<i>vote</i>	<i>particip.</i>	<i>vote</i>	<i>particip.</i>
Schooling	-0.073** (2.02)	0.115*** (4.84)				
Vocational	0.259* (1.69)	0.064 (0.62)	0.230 (1.43)	0.108 (1.04)	0.223 (1.38)	0.066 (0.63)
Wage/1000			-0.140** (2.03)	0.176*** (3.40)	-0.150** (2.16)	0.185*** (3.60)
Retired			-1.250** (2.30)	1.460*** (3.36)	-1.291** (2.36)	1.496*** (3.45)
Age	-0.071*** (4.00)	0.050*** (3.11)	-0.042 (1.51)	0.012 (0.53)	-0.037 (1.32)	0.006 (0.26)
Age ² /1000	0.633*** (3.56)	-0.322** (2.03)	0.465* (1.70)	-0.093 (0.43)	0.413 (1.49)	-0.034 (0.16)
Unemployment			0.213** (2.40)	-0.330*** (4.49)		
Foreigners			-0.018* (1.68)	0.031*** (3.17)		
French	0.133 (0.92)	-0.243** (2.02)			0.170 (1.17)	-0.243** (2.02)
Italian	0.567** (2.37)	-0.818*** (4.27)			0.600*** (2.62)	-0.836*** (4.38)
Politics	0.149*** (3.83)	-0.442*** (4.36)	0.148*** (3.68)	-0.448*** (4.41)	0.144*** (3.72)	-0.450*** (4.57)
Politics ²		48.508*** (4.47)		48.764*** (4.48)		49.088*** (4.67)
Female		-0.141* (1.76)		-0.190** (2.33)		-0.165** (2.07)
Owner		0.367*** (3.38)		0.396*** (3.31)		0.356*** (2.72)
Constant	1.879** (2.25)	-1.911*** (3.58)	0.986* (1.83)	-0.504 (1.09)	0.983** (2.02)	-0.307 (0.70)
Observations	805		805		805	
Log likelihood	-719.51		-725.16		-724.50	
Rho	-0.94***		-0.94***		-0.96***	

Notes: Absolute value of z-statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

**Table 7: Probability of voting in favor of the popular initiative
(Sample averages, in percent; specification 1)**

	Entire sample (805 observations)	Sub-sample of voters (p=1) (466 observations)
<i>Probit without sample selection</i>		
P(v=1)	27.4	28.3
<i>Probit with sample selection</i>		
P(v=1)	54.6	51.8
P(v=1 p=1)		28.3

Appendix

Table A1: Estimation results for auxiliary questions

	Probit	Probit with sample selection		Probit	Probit with sample selection	
	(1)	(1)	<i>particip.</i>	(2)	(2)	<i>particip.</i>
Schooling	-0.067** (2.05)	-0.115*** (3.25)	0.118*** (4.78)	-0.092*** (2.75)	-0.133*** (4.84)	0.130*** (5.10)
Vocational	0.008 (0.05)	-0.037 (0.27)	0.055 (0.50)	-0.055 (0.35)	-0.090 (0.71)	0.061 (0.57)
Age	-0.012 (0.50)	-0.034 (1.30)	0.049*** (2.94)	0.015 (0.60)	-0.025 (1.19)	0.042*** (2.59)
Age ²	0.000 (0.89)	0.000 (1.50)	-0.000** (1.98)	-0.000 (0.47)	0.000 (0.87)	-0.000 (1.59)
French	-0.645*** (3.48)	-0.417 (1.59)	-0.313** (2.48)	-0.761*** (4.22)	-0.362** (2.00)	-0.313** (2.48)
Italian	-0.102 (0.28)	0.365 (0.89)	-0.889*** (4.29)	0.037 (0.10)	0.581** (2.01)	-0.876*** (4.27)
Politics	0.219*** (5.05)	0.186*** (3.74)	-0.487*** (4.33)	0.240*** (5.38)	0.196*** (4.94)	-0.498*** (4.84)
Politics ²			0.053*** (4.47)			0.055*** (4.98)
Female			-0.083 (0.84)			-0.067 (0.72)
Tenant			-0.454*** (4.13)			-0.439*** (4.77)
Constant	-0.064 (0.08)	1.854 (1.46)	-1.524*** (2.63)	0.016 (0.02)	2.401*** (3.77)	-1.518*** (2.70)
Observations	393	732		393	732	
Uncensored obs.		339			339	
Log likeli.	-242.10	-676.03		-230.05	-662.97	
Rho		-0.71			-0.94**	

Notes: Absolute value of z-statistics in parentheses

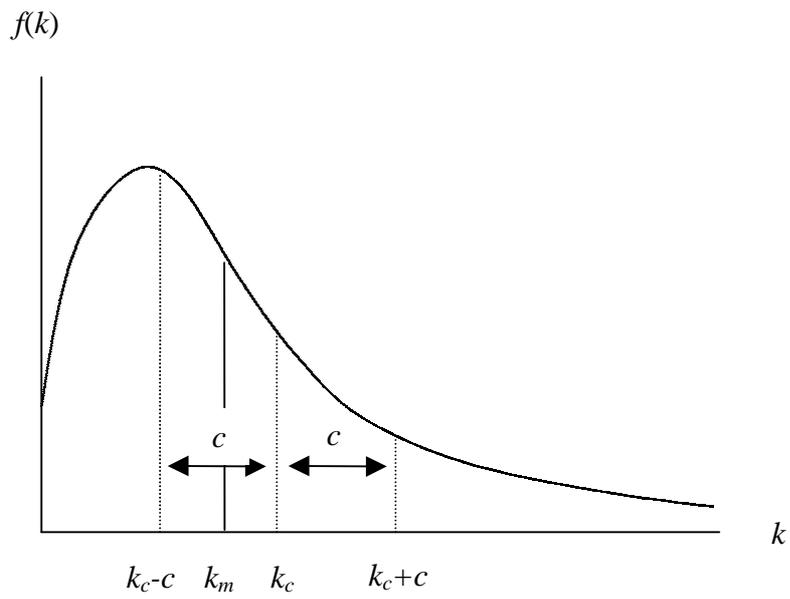
* significant at 10%; ** significant at 5%; *** significant at 1%

Questions:

(1) There are too many foreigners in Switzerland (Agree=1; Don't agree=0)

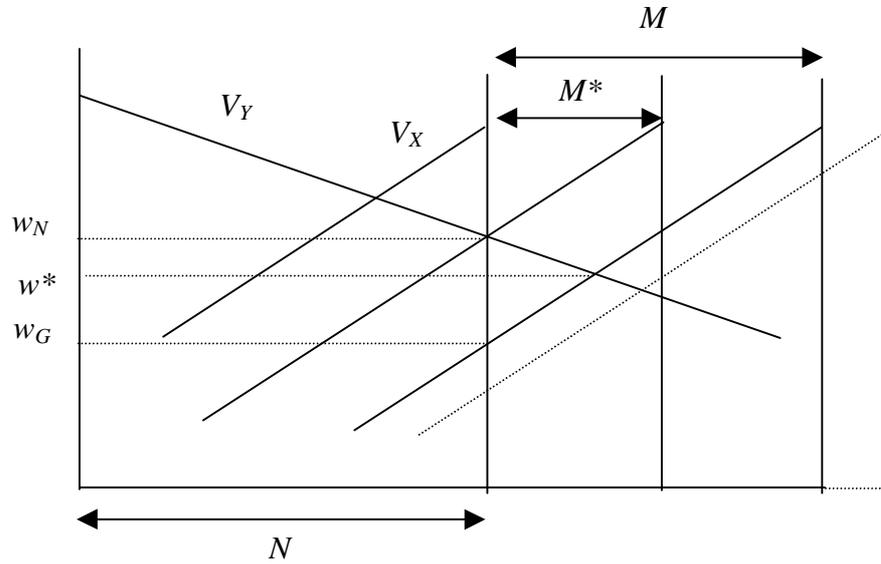
(2) The current immigration policy is too lax, it should become tougher (Agree=1; Don't agree=0)

Figure 1: Skewed distribution of capital and attitudes towards immigration



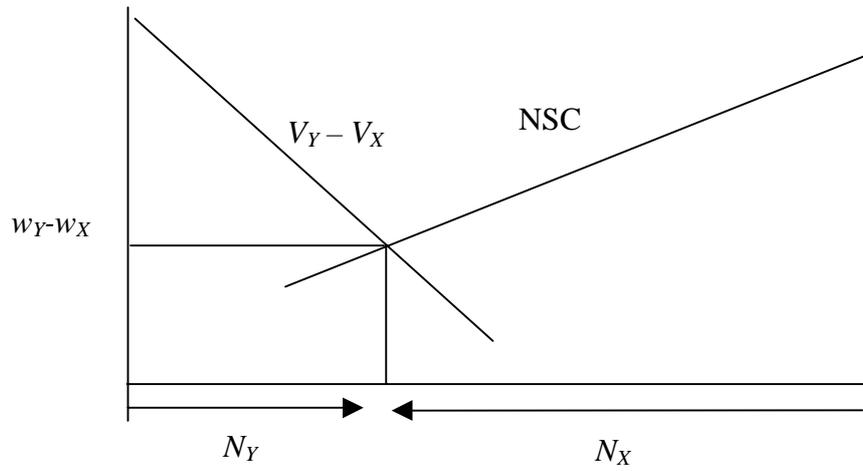
- $f(k)$ density function of capital distribution
- k_c critical capital level
- k_m median of capital distribution
- c voting costs

Figure 2: Guest-workers in the Ricardo-Viner model



- V_X : marginal product of labour in sector X
- V_Y : marginal product of labour in sector Y
- N : number of native workers
- M : number of immigrants
- M^* : number of immigrants such that all natives are excluded from sector X

Figure 3: Equilibrium in the dual labor market



NSC: no-shirking condition of natives

V_X : marginal product of labor in sector X (secondary sector)

V_Y : marginal product of labor in sector Y (primary sector)

Figure 4 : Foreign population share and migration policy in Switzerland

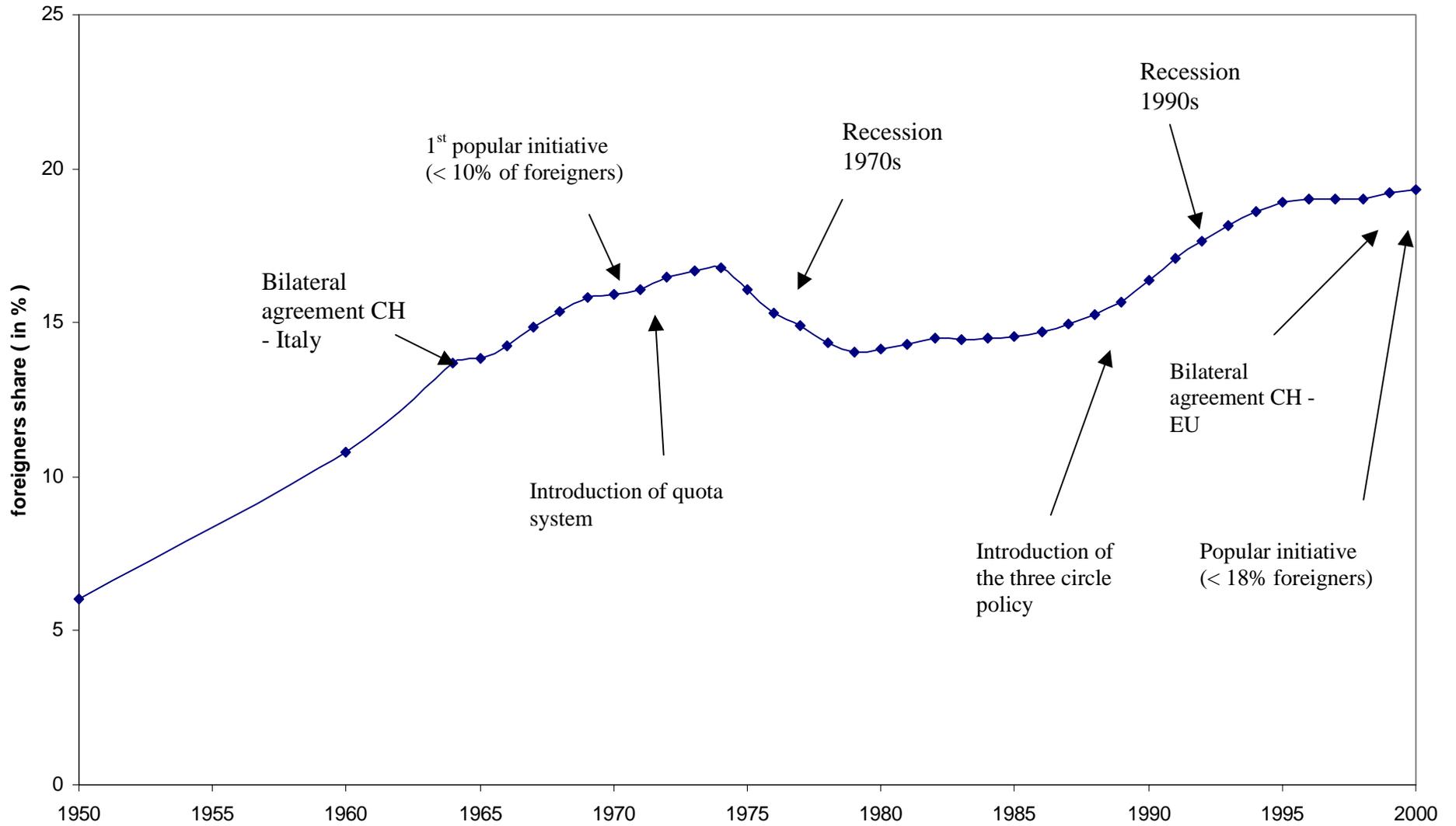
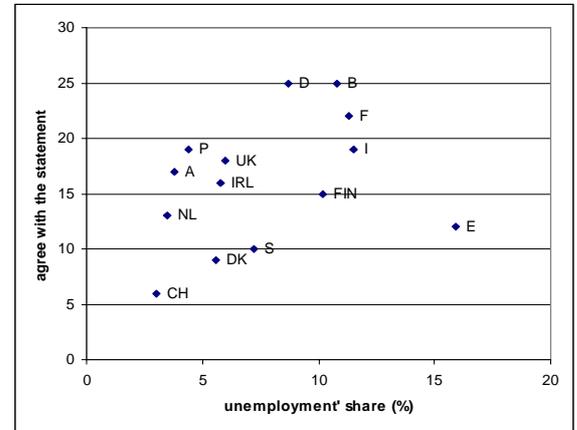
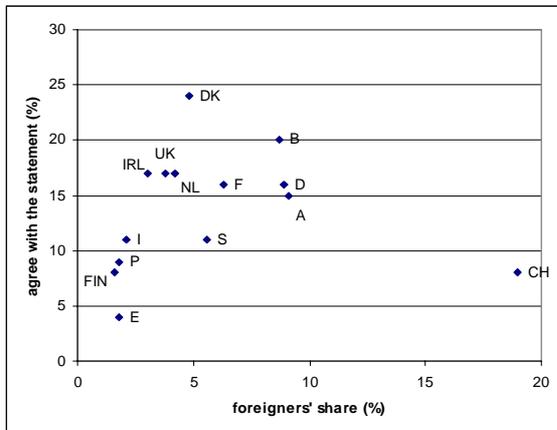


Figure 5: Attitudes towards immigrants: Eurobarometer survey, 2000¹

(a) “Other nationalities are disturbing”

(b) “Foreigners should be sent back”



Countries:

A = Austria
 B = Belgium
 CH = Switzerland
 D = Germany

DK = Denmark
 E = Spain
 F = France
 FIN = Finland
 I = Italy

IRL = Ireland
 NL = Netherlands
 P = Portugal
 S = Sweden
 UK = United Kingdom

¹ Source: Eurobarometer survey 2000; OECD (2000) for foreigners' share 1998; OECD (2001) for unemployment rate 1999.

Notes: Questions had to be answered by “agree with the statement”, “disagree” or “don't know”. The exact statement of the questions were:

(a) “Do you personally find the presence of people of another nationality disturbing in your daily life?”

(b) “All immigrants, whether legal or illegal, from outside the EU and their children, even those who were born in your country, should be sent back to their country of origin.”