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ORIGINAL PAPER

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# Too many migrants, too few services: a model of decision-making on immigration and integration with cultural distance

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**Abstract** We model the political demand for immigrants as a trade-off that native voters face between having services, assumed to be produced only by unskilled and nonassimilated immigrants, and experiencing disutility due to the immigrant workers having a culture different from the native culture. Immigrants decide whether to integrate into the native culture. We show that if services are priced according to per unit costs, the market demand for immigrants will exceed the political demand. Market forces then lead to higher services prices, implying that the initially allowed number of immigrants is 'politically' too large.

**Keywords** Immigration policy · Assimilation

**JEL Classification** F22 · J61

## 1 Introduction

In Europe, the immigrant population has reached unprecedented high levels, amounting to about 10% in countries such as France, Germany, Austria, and The Netherlands. Two characteristics of immigrant workers in Europe stand out. First, compared to native workers, they appear to be concentrated in low-skilled, low-paid jobs. Second, immigrants are geographically concentrated in specific areas of the immigrant country, in particular, in the big cities. For instance, in the four largest cities in The Netherlands, 30% of the residents belong to the nonnative population (Dagevos et al. 2003).

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Lazear (1999) asserts that assimilation of immigrants is less likely when the immigrants' culture is strongly represented in the receiving country. This makes their position on the labor market more vulnerable as they will then tend to be admitted to the 'secondary labor market' only where flat low wages are paid and mobility to better paid jobs is low (see Dickens and Lang 1985 for an early empirical appraisal of the existence of dual labor markets). Bauer et al. (2000) also found that if 'ethnic enclaves' of immigrants exist in the receiving country, the incentives for these immigrants to assimilate to the society of the receiving country are low.

Recently, the increasing number of immigrants has affected the political climate in the receiving countries to a large extent. An increasing anxiety has arisen among natives, fed by the fear that a too large stock of nonassimilated immigrants can undermine the social norms natives adhere to. It is an indisputable fact that different societies have different cultures, and immigrants may bring along social norms that conflict with those of the native populations. Obviously, the individual attitudes towards the cultural effects of immigration may be diverse. Some native individuals might have a taste for multiculturalism and welcome immigration as contributing to new ideas and opening up a variety of cultures to be enjoyed, while others prefer a more homogeneous society (see Mayda 2005). Moreover, natives' sentiments regarding immigrants are also known to depend on the migration policy of the immigration country. As shown by Bauer et al. (2000), natives consider immigrants favorably if immigrants are selected on their labor-market characteristics. We, however, assume that 'average' native voters have a distaste for cultural differences so that they experience disutility when confronted with different social norms.

In this paper, we model the above-described status of immigrants and the attitude of natives towards immigrants in a two-sector economy with a primary sector producing goods using skilled labor and a secondary sector producing services only using unskilled labor. The labor force consists of immigrant and native workers. Immigrants decide whether to integrate into the native culture. Reflecting the above-stated fact that the labor-market position of immigrants depends, at least partly, on their being integrated into the host country[1], we assume that if immigrants do not assimilate, they can only find a job in the secondary services sector. The jobs offered there comprise such jobs as temporary jobs in the agricultural sector, gardening services, kebab shops, etc. For most of these jobs, home production by the consumers themselves is an alternative option. Admittedly, the assumption that nonassimilated immigrants only have admission to the 'bad' jobs is somewhat extreme but conforms well to empirical findings that aspects of assimilation, such as fluency in the host country's language, are determining the

[1] The next quote from Zimmermann (2005) emphasizes this relationship. Discussing integration of immigrants in Europe, he notes: "Labour market disadvantages seem not to reflect discrimination, but the slow assimilation process whereby immigrants can only improve their labour market status with length of residence." Our assumption that assimilation immediately implies that immigrants become identical to native workers is, admittedly, rather strong. As one of our referees rightly remarked, the conversion of unskilled immigrants to skilled workers will take place with a time lag. Our results would not change, however, if we had assumed that the adaptation to the native workers' skills is the outcome of a gradual process. Another issue in this respect is that natives might prevent immigrants from assimilating. See Epstein and Gang (2004) on that.

economic achievements by immigrants to a large extent (see for example Chiswick 1991). If immigrants do assimilate, they will lose utility due to losing their own culture, but they will gain in income as they will become skilled workers in the goods sector. Native workers are all skilled so they depend upon nonassimilating immigrants to produce services. However, natives experience disutility if immigrant workers have a culture different from their own culture (see Hillman 2002 for an analogous modeling).

Natives make the following decisions. At the individual level, they decide on the consumption of goods and services. At the macropolitical level, they choose the number of immigrants that can be allowed into the country by maximizing their utility function with respect to the number of immigrants[2]. Native workers are identical and have therefore no conflicting interests regarding immigration policy. An obvious alternative would be to assume that natives have heterogeneous skills. In that case, immigration of low-skilled workers would entail a negative effect on the wages of the low-skilled natives and thus introduce a conflict of interest between native workers. We refer to Benhabib (1996) for a discussion of the effect of heterogeneity among native workers on voters' preferences. Immigrant workers, assimilated or nonassimilated, are not represented, however. In making their political decision, the native workers take the endogenous assimilation decision of immigrants into account.

We start from the assumption that nonassimilated migrants receive a wage rate determined on the world market for unskilled immigrants, and services can be purchased at a price equal to the wage costs per unit. We then show that with this services price, the political demand for immigrants, and thus the supply of services, will be lower than in a market equilibrium. The reason for this is that in the market for services, individuals do not take the externalities generated by the nonassimilated immigrants into account, but in political decision-making, they do. In other words, if the number of immigrants is determined in the political arena by equating the marginal benefits of services consumption to the marginal wage costs plus the marginal cultural burden, a nonassimilated immigrant imposes on the market, and the marginal benefits of services consumption exceed its marginal costs.

The above reasoning implies that the wage costs per unit cannot be maintained as the equilibrium price on the market so that the price for services will have to rise. We then consider two possibilities. The first is that the wage in the services sector is maintained on its initial level, and that the profit resulting from the higher price flows to the natives. That is, we assume that profit-making services-producing firms owned by natives exploit the weak market position of nonassimilated immigrants. This weak position is due to the fact that there is a huge supply of nonskilled migrants willing to work for the given wage. So, as long as nonassimilated immigrant workers can easily be sent away and replaced by new unskilled migrants, they will not be able to profit from a higher services price. In this situation, the market equilibrium coincides with the political equilibrium, the reason being that the profits drive a wedge between the market price and the actual

[2] Modeling the demand for immigration as a result of utility maximization has obtained some popularity in the public-choice oriented literature. For example, Benhabib (1996) derives the demand for immigrants as a function of the immigrants' wealth compared to the wealth of the median voter. In Haupt and Peters (1998), natives demand immigrants in order to get lower social-security taxes or higher social-security benefits.

costs of services production that compensates the natives for the externalities the nonassimilated immigrants impose upon them, i.e., the profits function as an implicit Pigouvian tax that corrects for the cultural disutility of migrants.

The second case we consider is one where immigrants, once allowed in, cannot be easily sent away. This implies that they have a much stronger position on the labor market, leading to an increase of their wages. In this case, voters, after observing the higher costs of services production, would like to restrict the number of immigrants even further. In other words, the consequence of an increase in the services price will be that the number of immigrants allowed to enter a country in an earlier stage becomes too large. Another consequence of services price increases might be that the formal services sector will be replaced by an informal sector where services are produced at home or in the shadow economy. This will lead to unemployment for the nonintegrated immigrants.

Native voters will, under certain circumstances, support policies aimed at ameliorating the assimilation decision by immigrants. Within our model, we will analyze two such policies. A first policy option to analyze within the model is focused on residential location of immigrants. An explicit policy goal in European countries is to 'spread' immigrants, instead of having them concentrated in a limited number of areas. The idea is that if immigrants are not concentrated in specific residential areas but are dispersed among the native population, the utility loss of assimilation will be lower for the immigrants. This is in line with empirical evidence that immigrants who tend to cluster together will assimilate less and have a larger inclination to stick to their own social norms (Bauer et al. 2000; Kónya 2003). The spreading policy as we model it is a free lunch in the sense that no (financial) costs are involved. Voters will unambiguously support such a policy because the marginal utility loss of the policy (lower amount of services) will be negligible, or zero, compared to the utility gain (lower cultural burden of nonassimilated immigrants). As a second policy option, we consider whether native workers will support a tax-financed policy aimed at decreasing the financial costs of assimilation.

The paper is structured as follows. Section 2 develops the basic model and derives the condition for market equilibrium. Section 3 discusses the assimilation decision by immigrant workers. In Section 4, the political demand for immigrants is derived, and we compare this demand to the demand implied by market equilibrium. Given our central result that market equilibrium can imply 'too many' nonassimilated immigrants, it is of interest to consider whether integration policies can be welfare-improving for the natives. This is pursued in Section 5. Section 6 concludes.

## 2 The model

A two-sector economy is assumed. One sector is producing goods using skilled labor, $L$, according to a linear production function $F=F(L)$. The other sector (to be called the services sector) is only using unskilled labor, $U$, according to $G=\beta U$. The labor force consists of immigrants $I=U+M$ and native workers $N$, where $U(M)$ is the number of nonassimilated (assimilated) immigrants. Immigrants who have decided to integrate into the native culture will be employed as skilled workers in the goods sector. Nonassimilated immigrants remain unskilled and will be

employed in the services sector with a wage $w^U$. Native workers are always skilled and receive a wage $w^N$.

At the individual level, natives decide on the consumption of goods and services. At the macropolitical level, they choose the number of immigrants that can be allowed into the country. They decide on the basis of the following log-linear utility function:

$$V^N = \log(f) + \delta \log(g) - q(s)\log(U) \tag{1}$$

where $f$ and $g$ are individual consumption of goods and services, respectively. The last term indicates the disutility native individuals derive from cultural differences with the nonassimilated immigrant population. The parameter $s$ with $0 \leq s \leq 1$ indicates the spreading policy with $s=0$ indicating the absence of such a policy and $s=1$ implying a maximal spreading policy. The function $q(s)$ indicates to what degree such a policy affects the disutility of the natives. It is assumed that $q'(s)<0$, that is, the disutility the natives derive from living with immigrants will be smaller with a more intensive spreading policy.

Individual migrants consume only goods and decide whether to adapt to the native culture or not. Immigrants are heterogeneous with respect to their individual attachment to their native culture. The utility function of a type $j$ immigrant reads[3]:

$$V_j^I = \log(f) + \rho_j(1-c)(1-s)U^\gamma \text{ with } 0 \leq \rho_j \leq 1 \tag{2}$$

The last term measures attachment to immigrant culture where the parameter $\rho_j$ indicates the weight the individual places on culture, and the parameter $\gamma(<1)$ indicates the economies-of-scale of enjoying culture with fellow nonassimilated immigrants. The variable $c$ represents the culture to be adopted by the immigrants, with $c=0$ (c=1) indicating assimilation to their own (native) culture. Notice that in the absence of a spreading policy ($s=0$), the utility derived from sticking to immigrant culture ($c=0$) increases with the number of nonintegrated immigrants. This reflects that if the government does not intervene in the location of immigrants, the tendency to gather together will reduce the incentives for immigrants to adapt to native culture. Individuals will enjoy their own culture more if they can share their feelings with 'enough' fellow nonnatives. If a maximal spreading policy prevails ($s=1$), attachment to culture does not affect utility, and the immigrant will adopt native culture ($c=1$) as a result.

The price in the goods sector is normalized to one. The services price is indicated by $p$. If the price exceed the wage costs of services production, profits will arise. We assume these profits to fall due to the natives. Profits per native capita are equal to

$$\pi = \left(pG - w^U U\right)/N \geq 0 \tag{3}$$

[3] The non-loglinear specification of the cultural aspect is motivated by mathematical simplicity. Notice though the similarity of this specification with the so-called attachment-to-home models proposed by Mansoorian and Myers (1993). We specify the cultural effect as a function of $U$. An obvious alternative would have been to link assimilation to the relative number of non-assimilated immigrants, e.g., $U/N$. This specification leaves all our results unaffected, however.

So, the net income of native individuals equals $y = w^N + \pi$. It can easily be seen that a part $\frac{\delta}{1+\delta}$ of this income will be spent on services consumption. Combining this with Eq. 3 learns that profit per native capita $\pi$ can be written as: $\pi = \delta w^N - (1+\delta)w^U U/N$. As a result, native individuals' net income can be written as $y = (1+\delta)(w^N - w^U U/N)$. In market equilibrium, total supply of services $G=\beta U$ has to equal total demand, which equals $G = Ng = N\frac{\delta}{1+\delta}y/p$. Market equilibrium implies a relationship between the number of nonassimilated migrants and the services price that reads:

$$U = \frac{\delta w^N N}{p\beta + \delta w^U}. \tag{4}$$

Equation 4 represents the demand for nonassimilated immigrants corresponding to the private demand for services by natives, assuming that if profits occur in the services sector, these are paid out to the natives.

In a zero-profits equilibrium where the price of services equals wage costs, i.e., $p = p^m \equiv w^U/\beta$, Eq. 4 reduces to:

$$U^m = \frac{\delta}{1+\delta}\frac{w^N N}{w^U}. \tag{5}$$

where $U^m$ is the demand for nonassimilated immigrants under a zero-profits equilibrium on the services market.

## 3 Assimilation

Immigrants decide whether or not to assimilate, i.e., $c=0$ or $c=1$. As the immigrants are heterogeneous, some individuals can be expected to integrate and some not. Assimilation means that the immigrant will become a skilled worker with the associated higher wage $w^N$. On the other hand, assimilation involves a cost equal to $K$. Indicating the immigrants' wage that is dependent on the assimilation choice by $w^I(c)$ and inserting the consumption choice for goods into the utility function give the immigrants' utility as a function of culture only:

$$V_j^I(c) = \log\left(w^I(c) - Kc\right) + \rho_j(1-c)(1-s)U^\gamma \tag{6}$$

where $w^I(c)=w^U$ if $c=0$ and $w^I(c)=w^N$ if $c=1$. From this, it can be concluded that an immigrant with a utility weight for culture equal to $\rho_j$ will adapt to native culture if and only if the following inequality holds:

$$\rho_j < \widehat{\rho} \equiv \frac{1}{1-s}U^{-\gamma}\log\left(\frac{w^N - K}{w^U}\right) \tag{7}$$

For a given spreading policy $s$ and for given wages and integration costs $K$, the immigrants with an attachment to their own culture that is smaller than the critical value $\widehat{\rho}$ choose to assimilate, while all other immigrants decide not to assimilate. The decision to assimilate is determined by the relative gain in net expenditures on

goods and the number of immigrants. Given a uniform distribution of culture weights on the interval [0, 1], the number of assimilated immigrants equals $M = \widehat{\rho} I$, while $U = (1 - \widehat{\rho})I$. Using these definitions, it can be derived that the relationship between $\widehat{\rho}$ and $I$ is given by:

$$\widehat{\rho}(1 - \widehat{\rho})^{\gamma} = \frac{1}{1 - s} I^{-\gamma} \log\left(\frac{w^N - K}{w^U}\right) \tag{8}$$

It is easy to show that given the restriction $\gamma < (1 - \rho)/\rho$, the critical value of $\rho$ will decrease with an increasing number of immigrants, i.e., $\frac{d\widehat{\rho}}{dI}$ is negative. Allowing in more immigrants thus lowers the relative degree of assimilation. Our model, therefore, has the property, described by Lazear (1999), that clustering together by immigrants makes their assimilation less likely. Given this result, it also holds that $\frac{dU}{dI} = (1 - \widehat{\rho}) - I\left(\partial\widehat{\rho}/\partial I\right) > 0$. In words, increasing the number of migrants will lead to a lower degree of assimilation, as measured by $\widehat{\rho}$, and as a result, the number of nonassimilated migrants will increase along with a higher number of immigrants.

## 4 Immigration policy

In the political sphere, natives decide on the optimal number of immigrants by maximizing Eq. 1 with respect to $U$ or $I$. Irrespective of the price of services consumption $p$ (and thus of the level of the profits $\pi$), it holds that from a macroeconomic perspective, per capita goods consumption by natives equals $f = y - pg = w^N - w^U/N$, where $g = G/N$ is the per capita services consumption and $w^U U/N$ is the per capita costs of services consumption. Given this macroeconomic relation, the political objective function (1) can be rewritten as (deleting constants):

$$V^N = \log\left(w^N - w^U U/N\right) + (\delta - q)\log U \tag{9}$$

The political demand for immigrants follows from differentiating Eq. 9 with respect to the number of immigrants, $I$:

$$\frac{dV^N}{dI} = \frac{-w^U/N}{w^N - w^U U/N}\frac{dU}{dI} + \frac{\delta - q}{U}\frac{dU}{dI} \leq 0 \tag{10}$$

Assuming an interior solution, Eq. 10 implies that under optimal immigration $\left(w^U/N\right)/f = (\delta - q)/U$. That is, the marginal cost of consuming services (in terms of the forgone utility due to the lower consumption of goods) equals the net marginal gain of consuming services. From Eq. 10, an explicit expression for the political demand for nonassimilated migrants can be obtained:

$$U^* = \frac{\delta - q}{1 + \delta - q}\frac{w^N}{w^U}N. \tag{11}$$

Note that due to the assumption that profits completely fall due to natives, $U^*$ only depends on the wage of unskilled immigrants and not on the price of services.

We are now able to consider whether the political demand for immigrants can be reconciled with the demand that is generated by the market, i.e., Eqs. 4 or 5. In the case of a zero-profits equilibrium in the market for services, we can see immediately that $U^* < U^m$ as long as $q > 0$. In other words, a zero-profits equilibrium cannot be politically optimal for native workers. The reason for this is that the market takes account of the production costs $w^U U$ but disregards the disutility emerging from the cultural distance with the marginal nonassimilated immigrant, as reflected by the parameter $q$ which is included in Eq. 11 but not in Eq. 5.

Figure 1 illustrates this. In politics the social marginal benefit (SMB) of unskilled immigrants (and thus of services) is equated to their marginal costs implying that the optimal number of nonassimilated immigrants equals $U^*$. On the services market, however, individuals are willing to buy services until the private marginal benefit (PMB) of consumption equals the price, implying a demand for nonassimilated immigrants at the zero-profit price $p^m \equiv w^U / \beta$ equal to $U^m$.

The gap between the market demand and the political demand for nonassimilated immigrants will imply an upward force on the services price, necessary to clear the market. The key question now is whether the price increase due to the politically driven scarcity of unskilled immigrants is (at least partly) captured by these immigrants in the form of a higher wage $w^U$ or not. We consider two cases.

In the first case, nonassimilated immigrants can easily be sent away and replaced by new unskilled migrants as there is a huge supply of nonskilled migrants willing to work for the given wage. In this case, nonassimilated immigrants have a weak position in the market, and it seems likely that profit-making services-

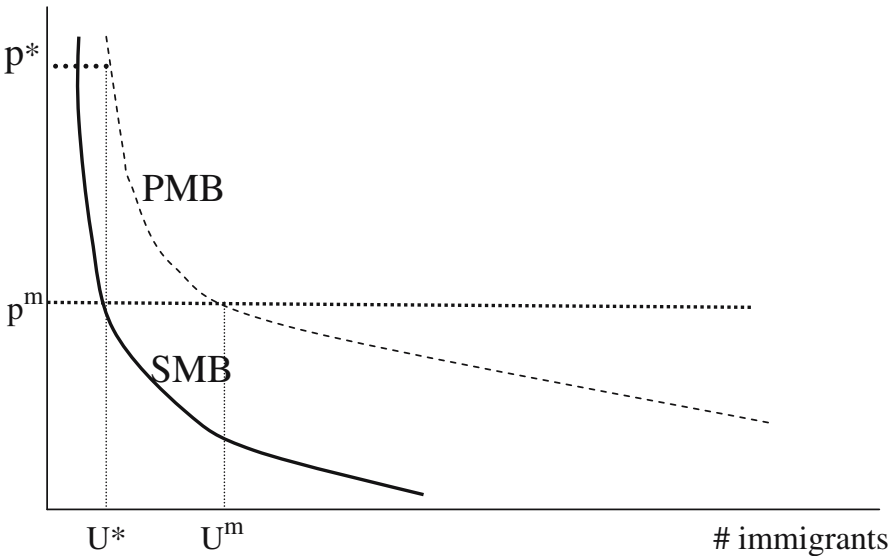


**Fig. 1** Political and market equilibrium

producing firms owned by natives exploit this weak position. That is, the price of services consumption rises, but the wage rate of unskilled immigrants is unchanged, the gap being closed by profits paid out to the natives. Comparing Eq. 11 with Eq. 4, we can calculate the price $p^*$ for which the political demand coincides with the private demand, from which we obtain $p^* = \delta p^* / (\delta - q)$. In this case, the price increase $p^* - p^m = qp^m / (\delta - q)$ can be interpreted as a Pigouvian tax on nonassimilated immigrants that is returned to the natives in a lump-sum way. The externality $q$ created by nonassimilated immigrants has been completely internalized by this implicit tax and the political demand and private demand for immigrants both equal $U^*$.

In the second case we consider, immigrants, once allowed in, cannot be easily sent away. This implies that they have a stronger position on the labor market that may enable them to, at least partly, appropriate the price increase in the form of a wage rise. In this case, the price increase will not lead to equilibrium on the services market as the higher wage $w^U$ implies a decline in the political demand for immigrants, according to Eq. 11. That is, after observing the higher costs of services production, voters would like to restrict the number of immigrants even further. Given the assumption that it is not possible to send off immigrants who initially were allowed to enter the country, the consequence of an increase in the costs of services production will be that the number of immigrants in a country is too large.

Concluding, political and market equilibrium can only hold simultaneously if the services price increases above the costs $w^U / \beta$, and the resulting profit is redistributed to the native individuals themselves. In all other cases, a downward pressure on the demand for immigrants and an upward pressure on the price for services will emerge. If some nonassimilated immigrants are already living in the country and cannot be sent off, the actual number of immigrants will then be larger than the optimal number of immigrants.

Finally, given the upward pressure on the services price, the demand for services on the market might evaporate if an informal services sector exists, where self-production takes place, or where services sector workers are supplying services at prices below the formal price. The relative size of such an informal sector is sensitive to price changes in the formal sector. In particular, a maximum to the price of services may exist. That is, from some level of the price onwards, the formal demand for services will decrease to zero as home production is cheaper than purchasing services on the market. So above this maximum price, the formal sector will be completely replaced by the informal sector, and all nonassimilated immigrants will become redundant.

## 5 Integration policies

From the previous section, we conclude that an optimal immigration policy will not imply market equilibrium on the services market unless the upward pressure on the services price due to the politically driven restriction on immigration is returned to natives in the form of profit payments. If this condition does not hold, then higher services prices imply that the politically determined number of immigrants will be considered too high from the perspective of the native voters. Rising services prices may also go along with substantial unemployment amongst nonassimilated

migrants when market forces push the price of services to a level where home production becomes more attractive than buying on the market.

In actual fact, unemployment among immigrants is, in many European countries, larger than unemployment among the natives, and there is an increasing concern in politics about the large number of nonassimilated migrants. This indicates that, indeed, it is difficult to allow in the optimal number of migrants, and that a tendency to overshoot the admittance of immigrants can be observed. Therefore, it is obviously of interest to consider policies aimed at integrating the immigrants into the native culture as this can provide a utility gain for the natives. We consider two such policies, i.e., spreading policies and subsidies on integration activities.

### 5.1 Spreading policies

In some countries, notably the Netherlands, a policy of spreading the location of immigrants among the native population is a key aspect of policy towards immigrants. The idea is that by spreading immigrants, the burden immigrants impose on natives is minimized, and the incentives of immigrants to adapt to native culture will be maximized. The latter aspect is addressed by the parameter $s$ in the culture term of the utility function of the immigrants, while the former aspect has been modeled by the function $q(s)$ in the utility function of the natives. We have assumed that a spreading policy does not involve costs for the government and is extremely effective. In particular, if the government pursues a maximal spreading policy, $s=1$, all immigrants will adapt to the native culture, as $\widehat{\rho} = 1$ in that case. Given these (obviously nonrealistic) assumptions, we investigate whether for a given number of immigrants and for a given spreading policy with $s>0$, the natives prefer the spreading policy to be intensified, i.e., to have an increase in the value of the policy parameter $s$.

Starting from Eq. 9, the effect of a spreading policy on native utility follows from:

$$\frac{dV^N}{ds} = \frac{-w^U/N}{w^N - w^U U/N}\frac{dU}{ds} + \frac{\delta - q}{U}\frac{dU}{ds} - \frac{dq}{ds}\log(U) \tag{12}$$

The first two terms indicate the net effect spreading has on the utility of consuming goods and services. As spreading increases, the number of immigrants that adapt to the native culture will increase, i.e., $dM/ds > 0$ so that $dU/ds < 0$. On the other hand, spreading decreases the disutility for the native workers due to cultural differences as indicated by the last term. Notice that if the economy happens to be in the market equilibrium with the number of immigrants equal to $U^m$, according to Eqs. 5 and 12, it will reduce to:

$$\frac{dV^N}{ds} = \frac{-q}{U^m}\frac{dU}{ds} - \frac{dq}{ds}\log(U^m) \tag{13}$$

Obviously, $dV^N/ds > 0$ so that the spreading policy brings the uncorrected market equilibrium closer to the political demand equilibrium. More strongly,

however, even if the optimal number of migrants is allowed in, i.e., $U=U^*$, intensifying the spreading policy will imply a utility gain as every nonassimilated worker causes a lower burden. This follows, as in that case, the first two terms on the right-hand side of Eq. 12 disappear.

The spreading policy, as we formulated it, should therefore be an effective and popular policy instrument to smooth the negative side effects of immigration. The reason for this remarkable result is that in the political equilibrium, a decrease in the negative externality attached to nonassimilated immigrants makes it possible to allow more immigrants and consume services more in accordance with market demand. In other words, if a spreading policy is employed, the political demand curve for immigrants, indicated by SMB in Fig. 1, will shift to the right, simultaneously leading to a higher services consumption and a lower cultural burden of nonassimilated immigrants. As a result in the political equilibrium, it is welfare-improving for the natives to apply spreading policies.

### 5.2 Subsidizing integration costs

A second policy to increase the incentive to choose the native culture by immigrants is by subsidizing the integration costs immigrants have to incur at integration. Assuming that native workers finance the subsidies, a more pronounced trade-off between gains and losses of this type of policy occurs. Unlike spreading policy, this type of policy can fail to be supported by the native voter even if unemployment among immigrants prevails. In particular, this policy will not be supported if the marginal cost of the subsidy policy, consisting of the decrease in native net wage due to the subsidy, is larger than the marginal benefit of the subsidy policy, consisting of a decrease in the cultural burden.

## 6 Conclusions

In this paper, we considered an economy where native voters determine the optimal number of immigrants. Immigrants can integrate into the native culture, but if they do not integrate, they will be employed as unskilled workers in the services sector of the economy. We showed that if cultural variables are an important factor in immigration policy, and the market price for services equals the per unit costs, the market equilibrium on the market for low-skill services does not correspond to the political equilibrium. Equilibrium on the market for services where private marginal benefits and marginal costs of consuming services are equal would imply that the disutility of cultural distance between natives and nonassimilated immigrants was not taken into account. As a result, political decision-making on immigration will lead to a lower preferred inflow of unskilled immigrants than the inflow implied by market equilibrium. Market forces will then engender a price increase of services. If this price increase is translated into a higher wage for unskilled migrants, the number of migrants allowed on the basis of the initial market price is no longer the optimal number but has become too high. Moreover, the market for services may collapse if price increases imply that demand and supply for services will shift to the ‘shadow economy’, in turn leading to high unemployment amongst nonassimilated migrants. Assuming that it is not possible

to remove immigrants who were allowed in at an earlier stage, the obvious conclusion would be that disutility of cultural distance in combination with market forces leads to a number of immigrants living in a destination country that is higher than the optimal number. That is, natives will have the feeling that the disutility caused by the presence of nonassimilated immigrants with a different culture is too large compared to the utility of the services they provide.

Only if the increase of the services price does not lead to rising wages for nonassimilated immigrants but goes along with profits in the services sector that are returned to the natives, political and market demand for immigrants will be reconciled. The profit then has the effect of a Pigouvian tax on immigrants that simultaneously corrects for the cultural disutility nonassimilated immigrants are causing and prevents that an increase in unskilled wage will diminish the demand for immigrants.

Apparently, immigration policy does not easily lead to an optimal inflow of immigrants and may well result in a situation with a relatively large disutility due to cultural differences. Other instruments should in that case be used to correct for the suboptimal decisions on immigration. One instrument that we considered was what we called a spreading policy. This policy, actually, is currently much debated in the European immigration countries in view of the existing 'immigrant ghettos' in the big cities in those countries. From our simplified model, we concluded that spreading is a policy that will be unambiguously welfare-improving for natives, even if immigration policy is optimal. Another policy instrument that can correct for the suboptimality of immigration policy is the provision of integration subsidies to nonassimilated immigrants. As this policy entails costs for the native workers, unanimous support for subsidizing immigrants who decide to integrate is not guaranteed.

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