

Migrants, Ethnicity and Employment

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Abstract

A model is set up where migrants must choose a level of social traits and consumption of ethnic goods. As the consumption level of ethnic goods increases, the migrants become ever more different to the local population and are less assimilated. Less assimilation affects the reaction of the local population to the migrants and the willingness of the local population to accept them. This affects wages and unemployment. We show that increasing the unemployment social benefits of migrants increases the consumption of ethnic goods, thus creating a trap wherein the willingness of the local population to accept the migrants into the economy decreases and so increases the probability of the dependence of the migrants on the welfare state.

Keywords: Welfare state, Social benefits, Ethnic goods, Social trait, Assimilation, Unemployment.

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1. Introduction

In this paper we wish to look at the relationship between the welfare state¹, assimilation and participation in the labor market of the migrants. We consider the relationship between the migrants' consumption of ethnic goods and the willingness of the local population to accept them into the economy. This willingness affects the productivity and the wages of the migrants, and thus their employment.

Migrant participation in labor markets is quite complex and, in many ways, different from that of the local population. Studies of migrants around the world show, with few exceptions, that they tend to earn wages substantially lower than those of comparable local population (see for example Chiswick, 1978 and Borjas, 1990). To a degree, this reflects a failure on the part of the migrants to undertake the effort to assimilate. The “lack of effort” can arise from the desire to maintain a cultural heritage or separate identity, which would be lost or reduced if the group assimilated. The failure to take active steps to assimilate can also arise in the face of high adjustment costs, such as inadequate language skills, inter-generational familial conflicts, and a lack of knowledge about the host country's labor market.

Various indicators are used to measure the degree to which migrants have assimilated. The most common measures, in the economics literature, are wages and earnings, and there is an extremely large literature that examines the rate and degree of decline in wage and earning differences among groups. Other indicators include labor force participation, poverty, and education, which is now more frequently examined over several generations. Moreover, for immigrants and their descendants, as the length of time in the host country increases, assimilation occurs and immigrant earnings tend to approach those of the comparable workers. On occasion, migrants out-perform those workers. Recently Constant, Gataullina and Zimmermann (2006) presented the *ethnosizer*, which measures the ethnic identify of a migrant rather than his ethnicity, using information such as language, culture, societal interaction, history of migration, and ethnic self-identification. Using the GSOEP 2002 data, they show that ethnic identity persists, stronger in specific groups such as females, Muslims and those that are at an older age at the time of entry, while those with closer cultures such as Catholics and other Christians assimilate more easily.

¹ In all EU countries, immigrants are less likely to be on old-age and health benefits because they are younger. Therefore our analysis concentrates on unemployment benefits.

Assimilation of migrants, in the local culture, is a function of two main elements: 1. The extent to which the migrants wish to assimilate, the effort they invest to stay different from the local population, holding on to their heritage, and the consumption of ethnic goods, which distinguishes them from the local population. 2. The degree to which the local population welcomes the migrants. Often, the local population is less than welcoming, blaming the migrants for depressing wages and displacing local workers – i.e., causing unemployment of the local population.² This presumption has very strong political implications and is implicit in the calls for increased regulations of immigration, that is heard worldwide. Yet, there is mixed evidence on the impact of the migrants on local worker's majority wages and employment – it depends on whether they are substitutes or complements (Gang and Rivera-Batiz 1994). This perception exists whether migrants actually lower wages and increase unemployment or not,. Because of this the local workers may take active steps to discourage the migrants – discrimination, isolation, and so on.³

Local workers and migrants differ in many ways. One dimension that distinguishes between the local population and the migrants is the consumption of specific ethnic goods: the choices, of ethnic and religious traits, are determined by the consumption of these items. Social customs and the consumptions of ethnic goods take many forms. The simplest type to consider is religion. In all religions, individuals have to choose how intensely they wish to keep the laws of their religion. For example, in Islam it could be praying five times a day, going to Mecca once a year, their dress code, not eating certain specific foods like pork etc. A Greek immigrant to the USA has to decide if he will keep all the Greek traditions, will he talk Greek at home? Will he send his kids to Sunday Greek school etc.? The level of consumption of ethnic goods may differ from individual to individual. This choice will have an effect on the way the local population accepts the migrants.

The question of assimilation and integration into the labor market of the host country has been analyzed in the literature (see for example, Boeri, Hansen and McCormick, 2002, Bauer, Lofstroem and Zimmermann, 2000 and Venturini, 2004). According to the standard economic models in this field, the degree of assimilation is influenced by individual factors, the characteristics of the home and host countries,

²On assimilation and international trade see Epstein and Gang (2006).

³ The 1997 Eurobarometer survey contained a question on racism. Nearly 33 percent of those interviewed openly described themselves as “quite racist” or “very racist”.

the migration motive, and the expected migration duration. The greater the similarity between the sending and the receiving countries, i.e. the type of ethnic goods each country consumed, the more rapid is the assimilation.

Migrants have to choose their actual level of social traits. Migrants take as given the social traits of their surroundings, which determine the social practices they wish to uphold. Changing a person's traits has a cost. For example, going every Sunday to church, praying a few times a day, not working on the Sabbath, not eating specific type of foods or at certain places, wearing specific clothes etc. all have opportunity costs. On the other hand, there are benefits from keeping their ideal social trait and any deviation also has a cost. Bisin and Verdier (2000) developed an economic framework, which studied a similar type of evolution about the persistence of ethnic and religious traits and the role of marriage in the development of the cultural traits of children. In contrast to Bisin and Verdier (2000), we look at how the wage structure and unemployment benefits are affected by the choice of the migrants. Looking at a specific group, Berman (2000) considers the case of the Israeli Ultra-Orthodox men, who study full-time in yeshiva till age 40 on average. The paper looks at the questions of why fathers, with families living in poverty, choose yeshiva over work? Berman (2000) shows that Yeshiva attendance signals commitment to the community, which provides mutual insurance to members. Our paper differs from this approach since we do not consider the specific type of economy where devotion creates a signal to the community and provides benefits to the individual from such devotion.

The growth perspectives of European Union member countries are seen to be crucially related to the challenge of mobilizing people to work. One issue is that non-economic migrants have more difficulties in economic performance and labor market integration, and provide a larger potential burden to the social security systems than economic migrants. Recent work in Denmark and Germany (see Tranaes and Zimmermann, 2004, Schultz-Nielsen and Constant, 2004, Constant and Zimmermann, 2005 and Constant, Gataullina and Zimmermann, 2006) has provided new evidence, which indicates that an ever-rising share of immigrants is unavailable to the labor force. Instead, migrants arrive as refugees, asylum seekers or for family reunification purposes. Differences in labor market attachment might be due to differences in individual characteristics across ethnicities and within ethnicities, as we claim in this paper.

We set up a model where migrants have to choose their level of social traits and consumption of ethnic goods. Each migrant has his/her own ideal social traits and, given the average level in society, choose their consumption level. As the consumption of ethnic goods increases, the migrants become more unlike the local population and are less assimilated. Less assimilation affects the reaction of the local population to the migrants and their willingness to accept them. This affects wages and unemployment. We show that unemployment social benefits affect the migrant's social chosen traits. Counties providing high welfare benefits cause a trap wherein migrants, receiving high social welfare benefits, consume larger amounts of ethnic goods. This decreases the willingness of the local population to accept the migrants into the economy and thus increases the probability of the migrants being dependant on the welfare state.⁴

2. The model

2.1 Production

Consider a firm that has two factors of production: local workers, L_L , and migrants, L_M . For simplicity, we assume that there is only one group of migrants. We assume that migrants and the local population are not identical. As long as the migrants hold on to their ethnicity, the local population will not recognize them as full substitutes to the local population and the local workers will not always be willing to cooperate entirely with them. For example, if a Moslem migrant prays five times a day, this may well disturb his interaction with the local workers and, as such, the local worker may not want to work enthusiastically with him. If a migrant Jew will only eat kosher food, this may limit the places the workers can go to a "working lunch" and may affect productivity and the willingness of the local population to work with the migrants, etc. In other words, migrants, that hold on to their ethnicity, may affect there productivity via their interaction with the local population.

We normalize the efficiency level of local workers to unity and the migrants' productive/efficiency level to equal $d(\cdot)$. $d(\cdot)$ plays an important role in the determination of production and wages; aside from these, labor is homogeneous.

⁴ This may help understanding the phenomena under which immigrants (Germany, Sweden and Denmark) account for approximately 10 percent of the total population and are recipients of over 30 percent of the total cash welfare expenditures (Wildasin, 2004).

$d(\cdot)$, the migrants' productive/efficiency level ($0 < d(\cdot) < 1$), is a function of the level of consumption of ethnic goods. As a result of the consumption of these goods the level of efficiency of the migrants decrease, as stated above this can be a result of different activities by the local population such as harassing the members of the migration group, not cooperating with them, discriminating against them, and so on. Such activities decrease the migrants' productivity and thus their efficiency.⁵ ⁶ $d(\cdot)$ reflects the productivity and efficiency of the migrants, relative to the local population.⁷

The representative firm's production function is given by

$$(1) \quad Q_t(L) = f(L_L + d(\cdot)L_M),$$

such that
$$\frac{\partial f(L)}{\partial L} > 0 \quad \text{and} \quad \frac{\partial^2 f(L)}{\partial L^2} < 0 .$$

We assume decreasing returns to scale for labor.

Let w_L be the local worker's wage, and w_F be the migrant's wage. We assume that the wages the local population and the migrants receive equals their marginal product values. We could assume that the local population has market power over their employers; this would not change our results.

Normalizing the price of the product to unity, the profits of the firm are given by

⁵ This is similar to the cooperation and harassment activities described in insider-outsider theory (Lindbeck and Snower, 1998).

⁶ Assimilation is not always beneficial for the minority; see Epstein (2003) for a discussion of migrant assimilation. For now, we ignore such possibilities; we will return to discuss them later in this paper.

⁷ A different reason for the different in the levels of efficiency between migrants and the local population can be seen in Kahanec (2006). Kahanec (2006) shows that in a world where heterogeneous skills are available in skill-specific social networks these efficiency differentials systematically expose minority and majority peoples to different incentives as concerns skill choice and, depending on the equilibrium organization of skill acquisition, make them acquire different (combinations of) skills. An important consequence of such differentiation is that wages per efficiency unit of minority and majority labor typically differ, since these are no longer perfect substitutes.

$$(2) \quad \pi(.) = f(L_L + d(.)L_M) - (w_L L_L + w_F L_M) .$$

The first order conditions for maximization are

$$(3) \quad \frac{\partial \pi(.)}{\partial L_L} = f' - w_L = 0 \Rightarrow f' = w_L ,$$

and,

$$(4) \quad \frac{\partial \pi(.)}{\partial L_M} = d(.)f' - w_F = 0 \Rightarrow d(.)f' = w_F .$$

Equation (3) represents the wage conditions for the local population workers and (4) represents the wage conditions for the migrants, since $0 < d(.) < 1$ the wages the migrants earn are lower than that of the local population. The ratio of the wages: $\frac{w_F}{w_L}$

equals to $d(.)$. We now wish to discuss what determines $d(.)$. Let us look at the determinacy of $d(.)$ which, as we discussed above, is a function of the consumption of ethnic goods by the migrants. The consumption of ethnic goods is by both employed and unemployed migrants and will have an effect on the productivity of the migrants via the willingness of the local population to work, cooperate and coordinate production with the migrants.

In the next section we will determine the optimal consumption of ethnic goods via determining the social traits that the migrants will decide to adopt. After which we will return to the wage structure and the productivity of the migrants.

2.2 Ethnic Goods

Each individual (family) has to choose his/her social trait level. This social trait can be seen as ethnic goods consumed by the individual. The payoff of a migrant is given by v which is a function of five components: (i) the ideal level of the social traits that this individual (family) believes it should be at, I ; (ii) the actual level of the social traits the migrant decides to follow, x ⁸; (iii) the average level of the traits under which

⁸ One could think of x as the level of ethnic identity as measured by the *ethnosizer* index (see Constant, Gataullina and Zimmermann, 2006).

the migrant congregation is currently at, B ; (iv) the earning of the immigrant, er and (v) the effort invested by the migrant at the workplace, e – those that are unemployed invest zero effort ($e=0$). Below we explain how each of the different variables affects the payoff function of the migrant.

We assume that the migrants differ in only one dimension and that is the ideal level of social traits they believe they should hold. It is assumed that migrants are distributed uniformly across different levels of the ideal social traits on the interval $[\underline{I}, \bar{I}]$: $I_i \sim U(\underline{I}, \bar{I})$.

Migrant i 's payoff equals to:⁹

$$(5) \quad v_i = -u(I_i - x_i) - c(B - x_i, er_i) - e$$

The payoff function, v , is a function of two components: *a.* the utility of practicing social traits at a level of x_i , $u(I_i - x_i)$ and *b.* the cost of choosing such social trait levels, $c(B - x_i, er_i)$. In our analysis, we assume that the migrants do not have a direct utility from earnings. The reason, we assume this, is to emphasize the choice of social traits. If we would add a direct utility from earnings, our results would be enhanced. Let us now look into each of the components in more detail:

a. Utility: $u(I_i - x_i)$ is the migrant's decrease in utility after choosing an actual level of ethnic goods, level x , while his ideal level is I . The individual's utility decreases if the individual deviates from his ideal level of observation. This deviation can go both ways. Increasing the actual level over the ideal or decreasing the level below the ideal, which will cause the utility to decrease. It is clear that the migrant would prefer to be at his/her ideal point, however this is not always possible. Notice that, if the migrant chooses a trait level, that equals his/her ideal level, he/she will be at the maximum utility level.

⁹ The results would not change if we have a more complex function such as

$$v_i = -u((I_i - x_i), er_i) - c((B - x_i), er_i) - e \text{ or}$$

$$v_i = -u((I_i - x_i), er_i) - c((B - x_i), er_i) + er_i - e$$

To simplify, we assume the following specific function (our main results will not change by assuming a general function with some realistic constraints on the first and second derivatives; we will get back to this later):

$$(6) \quad u(I_i - x_i) = (I_i - x_i)^2$$

Namely, deviating from the ideal point, I_i , decreases the utility. Thus, if we change the actual level x_i and get closer to the ideal point, I_i , then the decrease in the utility, $u_i(\cdot)$, will be smaller and thus the utility increases. If we increase the actual level beyond (or decrease it below) the ideal point, then the utility will decrease as a result of such a deviation.

b. Cost: Let us consider the second part of the migrant's payoff, the cost of consumption of a trait at level x : $c(B - x_i, er_i)$. It is assumed that the average trait level in the sociality of the migrants is at level B . It is also assumed that it is easiest for the migrant to "consume" at the average level B . However, if the migrant wants to deviate from this level, it will cost him/her, since it will be harder to practice his/her social traits when they differ from the average level. This puts the migrant in the environment where he/she lives, and should he wish to deviate from it, he must invest more effort - thus the further away he/she wishes to be from the average social trait levels in his society, the harder it will be for him. The bigger the change, in the "consumption" of ethnic goods, from the average level that the migrant decides on, (either increasing or decreasing it), the higher the cost of adjustment. However, as earnings increase, the cost of deviating from the average level, B , decreases since the wages substitute for the deviation from the average trait level. The migrant can use his earnings to buy such ethnic goods (like traveling to their home country frequently, buying specific types of food, etc.) simply by a substituting effect. A different way of looking at this is that, as earnings increase, the migrant cares less about the average level in his society. The earnings of a migrant will equal the wages, w_F , in the case of the employed migrants, and will equal the social benefits of the unemployed, sb . To simplify, we assume the following specific function (our main results will not change by assuming a general function with constraints on the first and second derivatives):

$$(7) \quad c(B - x_i, er_i) = \frac{(B - x_i)^2}{er_i}$$

namely, if we get closer to the given average level B the cost of changes will be smaller for the migrant. It is assumed that the number of migrants is large enough so that each one does not have market power in terms of affecting B . In other words, each migrant sees the average social trait level as given, B , thus when determining the optimal trait level, the migrant does not take into account the effect it may have on the average level of the social trait in his/her society. Moreover, if a migrant wants to decrease his level below the average it also has its costs, as the surroundings will not always accept his deviation from the average social trait (this can be via different means, such as affecting the children, not receiving the basic social traits the family wishes to obtain etc.). As the earnings of the individual increase, the individual's cost, of deviating from the average level of consumption of traits in the society, decreases. Later on we calculate B in equilibrium.

We have assumed symmetric payoff functions. Thus a deviation in each direction has the same consequence on the payoff function of the migrant. In other words, increasing the trait or decreasing the trait, by one unit over or below the ideal level, will have the same effect on the migrant's payoff function. In reality it may well be that the cost and utilities are not symmetric, namely, increasing the level of consumption of the ethnic goods decreases the utility by less than the change in the other direction. This, of course, will be a function of the migrants' preferences. If the migrants care about their special social traits, they may prefer to increase their actual traits above the ideal, rather than decrease them.

Given the above specific utility and cost functions, we may rewrite the migrants' payoff function (5) in the following way:¹⁰

$$^{10} \text{ In a more general form } v_i = - \frac{\left((I_i - x_i) + (K_y - er_i) \right)^2}{er_i} - \frac{\left((B - x_i) + (K_y - er_i) \right)^2}{er_i} - e_i$$

Where it is also assumed that the utility, obtained from earnings, differs if a migrant is employed or not, will be reflected in the parameter K_y where $y = e, u$ for migrants that are employed (e) or unemployed (u). It is assumed that K_y is large enough so that $K_y - er > 0$ for all er . Moreover, it is assumed that the utility an employed migrant obtains from certain earnings is higher than that of an unemployed migrant with the same earnings. The idea is that migrants also obtain benefits from being employed. This assumption is not critical for the results. However it makes the story more realistic. Therefore it is assumed that $K_e < K_u$. Choosing this specification will not change the results.

$$(8) \quad v_i = - (I_i - x_i)^2 - \frac{(B - x_i)^2}{er_i} - e_i$$

A migrant chooses the optimal level of consumption of ethnic goods – stoical traits that maximizes his payoff function v . The first order condition is given by:

$$(9) \quad \frac{\partial v_i}{\partial x_i} = 2(I_i - x_i) + 2 \frac{B - x_i}{er_i} = 0$$

The second order condition is satisfied: $\frac{\partial^2 v_i}{\partial x_i^2} = -2 \left(1 + \frac{1}{er_i} \right) < 0$.

Solving the first order condition gives us the following optimal level of consumption of ethnic goods – social traits of the migrant which equals:

$$(10) \quad x_i^* = \frac{er_i I_i + B}{er_i + 1}$$

$$\text{Thus, } \frac{\partial x_i^*}{\partial I_i} = \frac{er_i}{1 + er_i}; \quad \frac{\partial x_i^*}{\partial B} = \frac{1}{1 + er_i}; \quad \frac{\partial x_i^*}{\partial er_i} = \frac{I_i - B}{(1 + er_i)^2};$$

As we can see from (10) we obtain that:

$$\frac{\partial x_i^*}{\partial I_i} > 0; \quad \frac{\partial x_i^*}{\partial B} > 0$$

(11) and

$$\frac{\partial x_i^*}{\partial er_i} > 0 \quad \text{if } I_i > B \\ \frac{\partial x_i^*}{\partial er_i} = 0 \quad \text{if } I_i = B \\ \frac{\partial x_i^*}{\partial er_i} < 0 \quad \text{if } I_i < B$$

Thus,

- (i) *The actual level of consumption of ethnic goods (social traits level) of a migrant will increase as his/her ideal social traits increase: $\frac{\partial x_i^*}{\partial I_i} > 0$.*

Those with high ideal levels will actually consume higher levels of these traits and those with low ideal levels will consumer lower levels.

- (ii) *The actual level of ethnic good consumption (social trait level) of a migrant will increase as the average level of consumption of social traits in the society, B , increases, $\frac{\partial x_i^*}{\partial B} > 0$.*

If the average level is higher, it is easier for the migrant to consume higher levels. However, he also has a cost when decreasing or increasing his/her own social traits as there will be pressures from the different migrants surrounding him.

- (iii) *As the earnings of a migrant increase, the consumption of ethnic goods – social traits - will increase (decrease) if the ideal level is greater (smaller) than the average level in the sociality. Namely, as income increases migrants will choose an actual trait closer to their ideal point.*

This result tells us that there is a substitution between the consumption of social traits and other products. In lower income levels, the migrant can increase his payoff by consuming at a closer level to the average level in his society. Since the migrant obtains a benefit from consumption of social traits and ethnic goods, the migrant can increase his payoff by increasing his social traits and making it closer to his ideal. As income increases the cost of deviating from the average level in his congregation decreases and enables him to be closer to the ideal level.¹¹

Let us now substitute the optimal level of consumption of ethnic goods, x_i^* , as calculated in (10) into the migrants' payoff function and obtain their optimal payoff in equilibrium:

¹¹ This result is also obtained when the payoff function equals

$$v_i = - \left(-(I_i - x) + (K_y - er) \right)^2 - \left((B - x) + (K_y - er) \right)^2 - e$$

The substitution, between earnings and consumption of ethnic goods, is basically presented in this form of the payoff function.

$$(12) \quad v_i^* = -\frac{(I_i - B)^2}{1 + er_i} - e$$

As we can see from (12) the equilibrium optimal payoff of the migrant is positively related to his/her earnings, er : $\frac{\partial v_i^*}{\partial er_i} > 0$; are negatively related to the effort invested at the workplace, e : $\frac{\partial v_i^*}{\partial e} < 0$; and the optimal payoff depends on the difference between the ideal level of social traits of the migrant, I , and the average level in the society, B : $\frac{\partial v_i^*}{\partial (I_i - B)} < 0$. As the difference between the two increases, the utility of the migrant will decrease, since the cost to the migrant of changing his consumption of ethnic goods increases. If $B=I_i$, namely for the migrant, his ideal level equals the average level in the society, this utility will be at maximum since $x_i^* = I_i=B$.

Denote by v_{ie}^* the payoff of the employed migrant. Assume for now that all individuals employed have the same wages w_F . Remember that an employed migrant may have an increase in income as a result of moving from unemployment to employment, however he/she also encounters a decrease in utility as a result of effort invested in the workplace at a level of e ,¹²

$$(13) \quad v_{ie}^* = -\frac{(I_i - B)^2}{1 + w_F} - e$$

Denote by v_{iu}^* the payoff of the unemployed migrant (in this case the effort invested equals zero: $e=0$),

$$(14) \quad v_{iu}^* = -\frac{(I_i - B)^2}{1 + sb}$$

¹² See for example Shapiro, and Stiglitz (1984) and Epstein and Hillman (2003).

Let us now consider the case where an immigrant has to choose whether to be employed or unemployed. The migrant will choose to be employed if his payoff from being employed, v_{ie}^* , is greater than his payoff from being unemployed, v_{iu}^* . Therefore, the migrant will choose to be employed if and only if it holds that

$$(15) \quad v_{ie}^* > v_{iu}^*$$

If the social benefits, of the unemployed migrants, equal the wages earned by him/her, it is clear that the migrants will prefer to be unemployed. Therefore, *in order for the migrants to be willing to be employed the difference between the social benefits of the unemployed and the wages of the employed must be sufficiently large.*

Notice that a migrant determines his social traits also as a function of his employment status as seen in (12). Therefore part of the consumption of social traits is a direct function of the employment status of the migrant. Denote by I^* the level of the ideal consumption of ethnic goods that will make an individual indifferent to whether he/she is employed or not. From comparing (13) and (14) we can calculate the level of the ideal social traits that will make a migrant indifferent. Namely, I^* must satisfy the following equality:

$$(16) \quad v_{iu}^* = -\frac{(I^* - B)^2}{1 + sb} = -\frac{(I^* - B)^2}{1 + w_F} - e = v_{ie}^*$$

Rewetting (16) we obtain,

$$(17) \quad I^{*2} \left(\frac{1}{1 + sb} - \frac{1}{1 + w_F} \right) - 2I^* B \left(\frac{1}{1 + sb} - \frac{1}{1 + w_F} \right) + B^2 \left(\frac{1}{1 + sb} - \frac{1}{1 + w_F} \right) - e = 0$$

Solving (17) we obtain that the ideal social traits that will make a migrant indifferent

$$(18) \quad I_1^* = B - \frac{\sqrt{e(1 + sb)(1 + w_F)}}{\sqrt{w_F - sb}} \quad \text{and} \quad I_2^* = B + \frac{\sqrt{e(1 + sb)(1 + w_F)}}{\sqrt{w_F - sb}}$$

We conclude that for a given wage level then for levels of I , which are higher than I_2^* or lower than I_1^* , (17) becomes positive, therefore if $I_i > I_2^*$ or $I_i < I_1^*$ individual i will choose to be employed and if $I_2^* < I_i < I_1^*$ individual i will choose to be unemployed. However it is not clear what the relationship is between I_2^* , I_1^* and \bar{I} and \underline{I} . Therefore we should now calculate the expected consumption of ethnic goods, B , and then look at this relationship.

Expected Consumption of Ethnic Goods

Let us now calculate the expected amount of consumption of ethnic goods by both the employed and unemployed migrants. From eq. (10) we know that the consumption of ethnic goods is given by

$$(10) \quad x_i^* = \frac{er_i I_i + B}{er_i + 1}$$

Individuals that have a higher level of ideal social traits than I_2^* or lower than I_1^* will be employed and will consume ethnic goods at a level of

$$(19) \quad x_{ie}^* = \frac{w_{F_i} I_i + B}{w_F + 1}$$

and those that have an ideal level that is between I_2^* and I_1^* will be unemployed and will consume ethnic goods at a level of

$$(20) \quad x_{iu}^* = \frac{sb I_i + B}{sb + 1}$$

Denote by $E[X^*]$ the expected amount of consumption of ethnic goods by all the migrants together. By definition $E[X^*] = B$:

$$(21) \quad E[X^*] = \int_{\underline{I}}^{I_1^*} x_{ie}^* f(I) dI + \int_{I_2^*}^{\bar{I}} x_{ie}^* f(I) dI + \int_{I_1^*}^{I_2^*} x_{iu}^* f(I) dI$$

Since I_i is uniformly distributed over $[\underline{I}, \bar{I}]$, $f(I)$ equals $\frac{1}{\bar{I} - \underline{I}}$. Rewriting (21) we obtain,

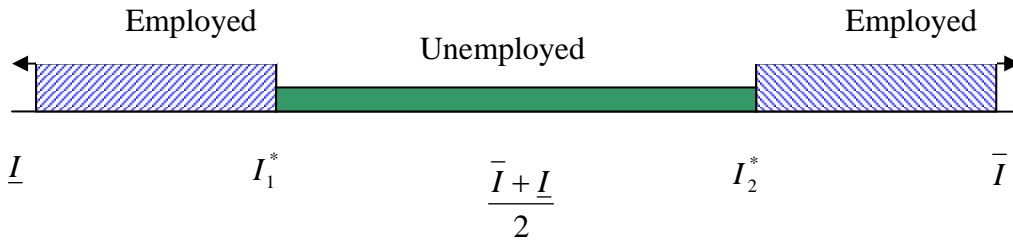
$$(22) \quad E[X^*] = \frac{1}{(\bar{I} - \underline{I})} \int_{\underline{I}}^{I_1^*} \left(\frac{w_F I_i + B}{w_F + 1} \right) dI + \frac{1}{(\bar{I} - \underline{I})} \int_{I_2^*}^{\bar{I}} \left(\frac{w_F I_i + B}{w_F + 1} \right) dI + \frac{1}{(\bar{I} - \underline{I})} \int_{I_1^*}^{I_2^*} \left(\frac{sb I_i + B}{sb + 1} \right) dI$$

Plugging in equ (18) into equ (22) and using the identity $E[X^*] = B$ we obtain,

$$(23) \quad E[X^*] = B = \frac{\bar{I} + \underline{I}}{2}$$

Moreover, because of the symmetry, the average level of consultation of ethnic good of the employed and unemployed *separately* equal to B .

Figure 1



In other words those migrants that have a low ideal preference (and want to be part of the community¹³), will have a higher probability of being employed. At the same time, the migrants with very high preferences will choose to be employed to help

¹³If they didn't want to be part of the community, they would not have encountered a cost of being far from the average level. Therefore it is assumed, that these individuals wish to be in the community and their ideal level is greater than zero. Moreover, they cannot get such ethnic goods elsewhere.

obtain resources and be further away from the average level of observation B and closer to their own ideal level. These migrants have a high cost and loss of benefit from not being at their ideal point. In other words, migrants, with high or low levels of ideal preferences, will choose to be employed rather than unemployed. The cost, of being close to their ideal point, is high and thus, if their earnings increase, they will be able to be closer to their ideal point. Those migrants that are in the center will choose to be unemployed.

Social Benefits, Unemployed and the Consumption of Ethnic Goods

Let us now consider changes in the wages and the unemployment benefits. From (18) we obtain that,

$$(24) \quad \frac{\partial I_1^*}{\partial w_F} > 0, \frac{\partial I_2^*}{\partial w_F} < 0 \quad \text{and} \quad \frac{\partial I_1^*}{\partial sb} < 0, \frac{\partial I_1^*}{\partial sb} > 0$$

Increasing the wages of the employed will first of all increase the number of employed. Those, who were employed and continue to be employed, will be even closer to their ideal level, and those, who were unemployed and become employed will allow themselves to consume levels closer to their ideal. On the other hand, an increase in the unemployment benefits will increase the number of unemployed. Those, who were unemployed, will have an actual trait closer to their ideal level. As a result of an increase in the employment benefits those, who became unemployed will move away from their ideal level and closer to the average level in the congregation, B .

Therefore, *increasing wages will increase the number of employed and will decrease the difference between the employee's actual trait level and their ideal. Increasing unemployment benefits will increase the number of unemployed. Those, who were unemployed, will consume ethnic goods closer to their ideal level and those, who were employed and became unemployed will move away from their ideal level.*

2.3 Ethnic goods and production

Let us now return to the connection between the consumption of ethnic goods and production. From (3) and (4) we know the conditions for the determination of employment of the local workers

$$(3) \quad f' = w_L,$$

and the migrants,

$$(4) \quad d(.)f' = w_F.$$

Let us now discuss the parameter $d(.)$. The parameter $d(.)$ is the level of non-assimilated migrant. This parameter is determined by the actions taken by the migrant and the general attitude of the population to the migrants. The attitude to the migrants is reflected by the average level of consumption of ethnic goods, $E[X^*] = B$, which is a function of both the employed and unemployed migrants. The more ethnic goods the migrants consume, the more they distinguish themselves from the local population. This will decrease the willingness of the local population to work with them and will increase the "harassment" activities of the local population. It is therefore assumed that the parameter $d(.)$ is a function both of the consumption of the ethnic goods of the unemployed and employed and the individual level of the worker x_i^* : $d_i(E[X^*], x_i^*)$ such that

$$(25) \quad \frac{\partial d_i(E[X^*], x_i^*)}{\partial E[X^*]} < 0 \quad \text{and} \quad \frac{\partial d_i(E[X^*], x_i^*)}{\partial x_i^*} < 0$$

As we have shown above, the consumption of ethnic goods is a function of different parameters. In particular, it is a function of the wages the employed migrants earn, w_{iF} , and the unemployment benefits sb . Therefore we may write d as a function of wages and unemployment benefits.

$$(26) \quad d_i(.) = d\left(E\left[X^*(w_{iF}, sb), x_i^*(w_{iF}, sb)\right]\right)$$

Let us return first to the optimal level of consumption of ethnic goods of the employed. When determining the optimal level in (10) we did not take into consideration that, as the level chosen by the migrant increases, the earning will decrease and as a result the utility will decrease. We writing (8) we obtain,

$$(27) \quad v_i = - (I_i - x_i)^2 - \frac{(B - x_i)^2}{w_F(x_i)} - e_i$$

Maximizing (27) with regard to x_i we obtain the following first order condition:

$$(28) \quad \frac{\partial v_i}{\partial x_i} = 2(I_i - x_i) + \frac{2(B - x_i)}{w_F(x_i)} + \frac{(B - x_i)^2}{(w_F(x_i))^2} \frac{\partial w_F(x_i)}{\partial x_i}$$

Denote the consumption of ethnic goods that satisfies (28) by x_i^{**} . Let us now look at (28) the value of consumption of ethnic goods at the former level, which didn't take into consideration the effect on wages as presented in (10) $x_i^* = \frac{er_i I_i + B}{er_i + 1}$:

(29)

$$\left. \frac{\partial v_i}{\partial x_i} \right|_{x=x_i^* = \frac{w_F I_i + B}{w_F + 1}} = \left(2(I_i - x_i) + \frac{2(B - x_i)}{w_F(x_i)} \right) \Bigg|_{x=\frac{w_F I_i + B}{w_F + 1}} + \left(\frac{(B - x_i)^2}{(w_F(x_i))^2} \frac{\partial w_F(x_i)}{\partial x_i} \right) \Bigg|_{x=\frac{w_F I_i + B}{w_F + 1}}$$

From (9) it is clear that $\left(2(I_i - x_i) + \frac{2(B - x_i)}{w_F(x_i)} \right) \Bigg|_{x=\frac{w_F I_i + B}{w_F + 1}} = 0$. Since $\frac{\partial w_F(x_i)}{\partial x_i} < 0$,

$\left. \frac{\partial v_i}{\partial x_i} \right|_{x=x_i^* = \frac{w_F I_i + B}{w_F + 1}} < 0$. Therefore $x_i^{**} < x_i^*$. In other words,

Since wages are negatively related to the consumption of ethnic goods of the worker, the employed migrants will decrease their consumption of ethnic goods relative to the

level consumed when the wages are independent of its consumption. As a result, the employed workers will decrease their consumption of ethnic goods and their average level of consumption in the economy will decrease. Therefore the new average level of consumption of ethnic goods, $E[X^{**}]$, will be lower: $E[X^{**}] < E[X^*] = B$.

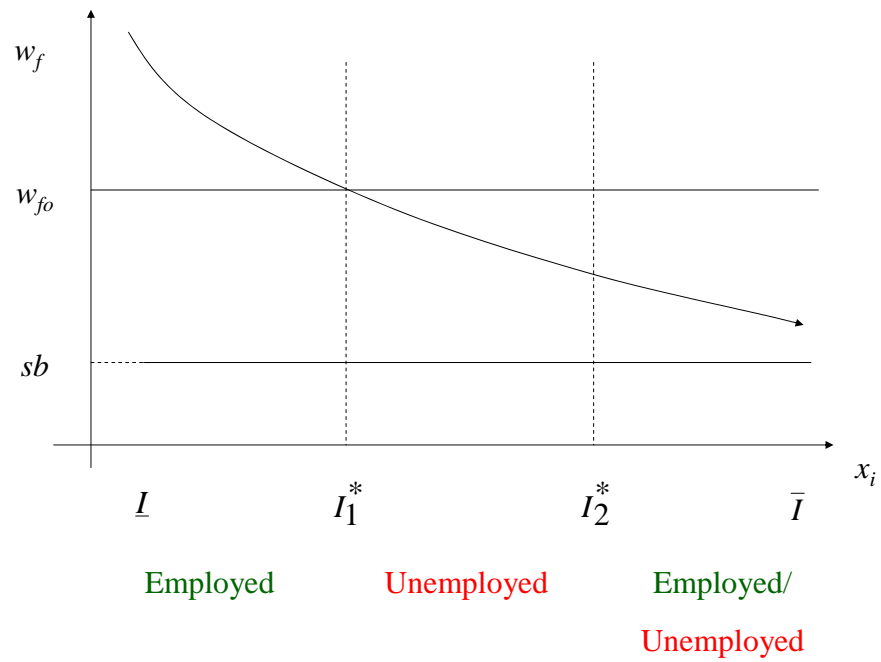
So that employed migrants decrease the average consumption of ethnic goods¹⁴

The effect presented above is only one of two effects that exist with regard to wages being a function of the consumption of ethnic goods. Returning to (25) we observe, that as the level of consumption of ethnic goods increases, an increase in x , wages fall: $\frac{\partial d_i (E[X^*], x_i^*)}{\partial x_i^*} < 0$. Therefore those migrants, that have a high level of consumption of ethnic goods, will have a wage lower than those with a low consumption level. Thus wages will be negatively related to the ideal level of the employed migrants.

Let us look at the situation described in figure 2. In the case where wages are fixed and do not depend on the level consumption of ethnic goods the wage was set at w_{fo} . Given w_{fo} and the social benefits sb we obtained the cutoff points I_2^* and I_1^* . Now assume that wages decrease with the increase in the consumption of ethnic goods: $w_f(x)$. For simplicity assume that $w_{fo} = w_f(x(I_1^*))$. It is clear that for levels of consumption of ethnic goods under I_1^* the migrant will choose to be employed. However, since at I_1^* the migrant is indifferent about being employed or unemployed, for any positive decrease in wages the migrant will no longer be indifferent and will prefer to be unemployed. Since the utility of an individual at I_2^* and I_1^* are identical, a decrease in wages at I_2^* (wages under w_{fo}) will make the migrant prefer to be unemployed. Thus, since wages decrease with an increase in the consumption of ethnic goods, all those that have an ideal level above I_1^* will choose to be unemployed and those with an ideal level under I_1^* will choose to be employed..

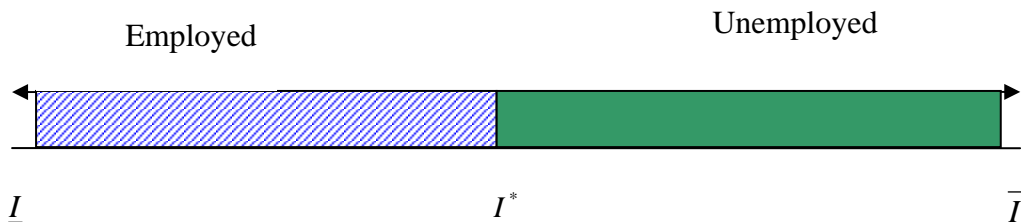
¹⁴ If the utility was directly affected by earnings, then the average level of consumption of ethnic goods would have decreased further.

Figure 2



In general, if the sensitivity, of wages to the consumption of ethnic goods of the migrants, is sufficiently high we will see that those with low ideal levels will be employed and those with high ideal levels will be unemployed:¹⁵

Figure 3



¹⁵ The cutoff level I^* may not be identical to I_1^* .

Those that have ideal preferences lower than I_1^* will chose to be employed and those with ideal preference above I_1^* will chose to be unemployed.¹⁶

Changes in the social benefits of the unemployed migrants

Now let us consider the case where the social benefits increase. Increasing unemployment benefits will increase the unemployed level.

Let us now consider what will happen to wages. To simplify our analysis we assume that the wages of the local population are fixed at a level of w_L .¹⁷ From (3) and (4) we obtain:

$$(30) \quad d\left(E[X^*(w_F, sb)\right] w_L = w_F$$

Increasing wages increases the number of employed and decreases the average consumption of ethnic goods $\frac{\partial E[X^*(w_F, sb)]}{\partial w_F} > 0$. It is assumed that there exists a wage w_F that solves (30) and that the wages are greater than one.

$$(31) \quad \frac{\partial d\left(E[X^*(w_F, sb)\right]}{\partial E[X^*]} \frac{\partial E[X^*(w_F, sb)]}{\partial w_F} w_L = 1$$

¹⁶ If we would assume that a high level of actual consumption of social traits provides the individual with recognition of the community status and, as Berman (2000) shows, it signals commitment to the community, which provides mutual insurance to those consuming high levels of social traits. In such a case, the utility would have an extra component, which would be related positively to the individual consuming a social trait higher than that of the average. It is clear from the analysis presented above that if this utility obtained from higher levels of consumption of ethnic goods we will obtain that only the individuals consuming lower levels of ethnic goods will be employed and those consuming high levels will be unemployed.

¹⁷ This assumption is not essential for the results, however it will simplify the analysis.

Namely $\frac{\partial d(E[X^*(w_F, sb)])}{\partial E[X^*]} \frac{\partial E[X^*(w_F, sb)]}{\partial w_F} = \frac{1}{w_L}$ thus $0 < \frac{dd(E[X^*])}{dw_F} < 1$. The

solution of (31) can be seen by using figure 4: the 45^o line intercepts with the function $d w_L$ at the equilibrium wage of the migrations.

Now consider the case where unemployment benefits sb increase. As we have shown above, increasing sb will increase the unemployment level and will increase the consumption of ethnic goods: $\frac{dd(E[X^{**}])}{dsb} = \frac{\partial d(E[X^{**}])}{\partial E[X^*]} \frac{\partial E[X^{**}]}{\partial sb} < 0$. Since wages will now decrease, the consumption of ethnic goods will increase, which will again decrease wages.

Increasing the social benefits of the unemployed will increase the consumption of ethnic goods by the migrants. In order for (30) to hold, the wages of the migrants must decrease. Decreasing the wages of the migrants will decrease the number of the employed and increase again the consumption of ethnic goods. This is illustrated in figure 5 where a decrease in $d w_L$ results in a decrease in the wages of the migrants. Therefore,

Increasing the social benefits of the unemployed will increase consumption of ethnic goods decreasing employment and wages.

2.4 The consumption of ethnic goods and the family

In this section we wish to consider the case of parents, who have to determine the optimal level of ethnic traits when taking into account the payoff functions of their children. Epstein (2006), in a model that deals with the choice of social traits, compares two different types of situations. In the first, the parents only care about their own payoff and in the second, parents care also about their children's payoff functions. The parents, who take into account the payoff function of their children, maximize the following payoff function:

$$(33) \quad V = v_p + v_c$$

where v_p is the payoff function of the parents and v_c is the payoff function of the children. It is assumed that the payoff function of the children depends on the actual social trait levels chosen by the parents, x_p , and it will cost the children to deviate from this level (in a similar way to B in our model presented above). It has been extensively documented that religious and ethnic traits are usually adopted in the early formative years of the children's psychology and that family and role models play a crucial function in determining their adoption (see for example Erickson 1992, Hayes and Pittelkow 1993). Epstein (2006) shows that parents often choose more extreme social traits than they would have if they didn't have children. The reason for this is that they wish to create a cost for their children from deviating from their ideal. In such a way the parents increase the probability of their children, when adults and choosing their own way, acting in a way similar to that of the parents.

In our framework, this result states that parents with children will have a higher level of ethnic goods' consumption compared to those without children. Single migrants will consume less ethnic goods than migrants that immigrate with their entire family. A migration of families will have a higher level of consumption of ethnic goods and thus lower wages than a migration of single migrants that immigrate without families.

3. Concluding Remarks

We developed a model that deals with the relationship between the welfare state, the choice of social traits, the consumption of ethnic goods and the employment of migrants. We begin by showing that wages earned by the migrants depend on their assimilation level. We then continue to look at the choice of the migrants with regard to the consumption of ethnic goods. This consumption makes the migrants differ from the local population and as a result affects their wages. We show that if wages are a function of the level of consumption of ethnic goods, then those migrants, who have low ideal preferences for consumption of these items, will tend to be employed while the others remain unemployed. The employed migrants will consume levels of ethnic goods, which are closer to their ideal level, while the unemployed will consume at a level closer to the average level of the unemployed. The average level of consumption of ethnic goods of the employed will be lower than that of the unemployed.

In our model migrants have to choose their level of social traits and consumption of ethnic goods. Each migrant has his own ideal traits, and given the average level in the society, chooses his consumption level. As the consumption increases, the migrants become even more different than the local population and are less assimilated. Less assimilation affects the reaction of the local population towards them and their willingness to accept the migrants. This affects wages and unemployment, and thus unemployment social benefits affect the level of the migrant's chosen social traits. Therefore, countries providing high welfare benefits cause a trap, under which migrants receiving these benefits, consume a larger amount of ethnic goods, decreasing the willingness of the local population to accept them into the economy. This unwillingness of the local population to accept them increases their probability of being dependant on the welfare state.¹⁸

Finally, we show the relationship between the consumption of ethnic goods and the status of the migrant – single, versus married with children. We show that parents with children will have a higher consumption level of ethnic goods compared to those without children. As the consumption of ethnic goods increase, wages decrease, and thus a migration of families, rather than single migrants, will decrease wages and increase the consumption of ethnic goods.¹⁹

¹⁸ In the USA in 1996 it was determined that migrants, less than three years in the country, will not receive food stamps. This would increase the consumption of ethnic goods by the unemployed and so decrease the probability of being unemployed.

¹⁹ The results presented also add to the blossoming literature on the majority – minority conflict and resolution, assimilation, and the reestablishment of cultural identity (see, for example, Gradstein and Justman, 2005, Alesina and La Ferrara, 2000, Anas, 2002, Bisin and Verdier, 2000, Dustmann, Fabbri and Preston, 2004, and Lazear, 1999).

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Figure 4

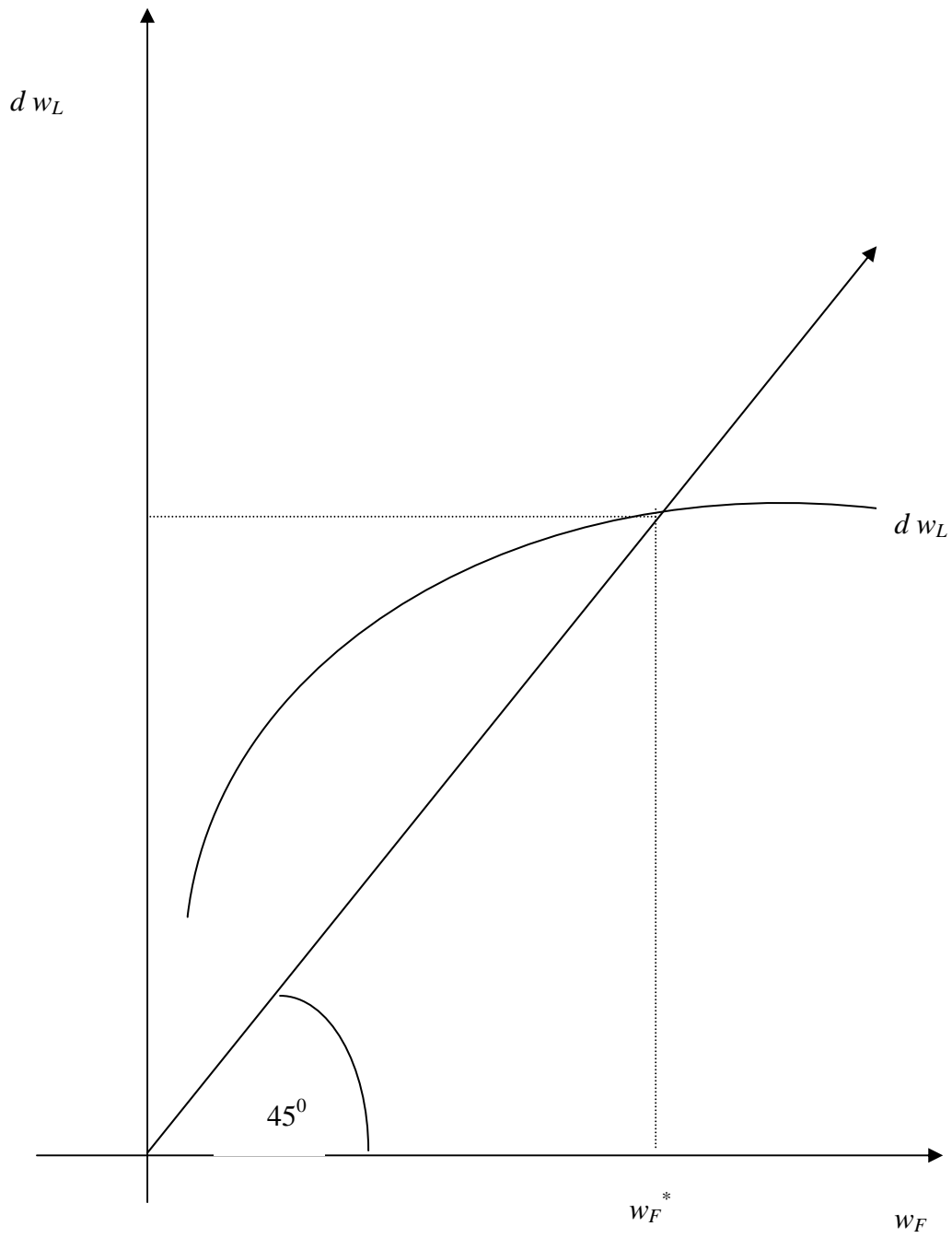


Figure 5

