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An Identity-Based Matching Theory Approach to Integration

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Abstract   This paper aims to explain immigration and integration behavior in complex economic system using a framework that emphasizes social identity mechanisms. Immigration concerns individuals' move from one society to another. Integration concerns the evolution of migrants' identities and of consequent behaviors in the matching processes between immigrants and social groups in host countries. I suggest that we switch the basis for motivation to form matching from price to social identities and explain migrants' interactions in host countries in individual-to-group types of interactions rather than the individual-to-individual types of interactions that standard approach employs. Thus, I propose a shift from an isolated individual economic approach through the market mechanism to an identity-based matching theory approach to integration.

Keywords: immigration, integration, identity, search and matching

1.   INTRODUCTION

In the aftermath of Europe's guest workers experience, journalist Max Frisch said, "We wanted a labor force, but human beings came[1]" (1965). Europe had received thousands of people for its postwar recovery process and those who were supposedly worker migrants had been expected to leave when they were no longer needed. However in the end, most of them stayed and integrated into society in different degrees. So it was obvious that they were not only a labor force but also human beings.

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[1] The original quote in German is "Wir riefen Arbeitskräfte und es kamen Menschen" as cited in Sunata, 2011 *Highly Skilled Labor Migration: The Case of ICT Specialists from Turkey in Germany* (p.275).

   Standard economic theory has tended to conceptualize migrants as atomistic economic agents who seek to maximize utilities and are mostly self-regarding and act in isolation. But we cannot understand people on the move only by assuming a single reason behind their behaviors and decisions. Instead, we should understand migration as a movement of heterogeneous individuals with many identities to new societies for multiple reasons. Moreover, integration in the post-migration process needs to be understood as previously different people's different ways of adapting into new societies. Integration outcomes also differ as much as individuals differ in their migration motivations and social identities.

   The paper proceeds as follows. In Section 2, I review how standard economics' search and matching theory is used to explain migration and integration for the case of labor migration. I argue that we need to go beyond standard search theory and try to understand the sources of frictions in integration. In the Section 3, I argue that we should explain post-migration integration in terms of identity-based matching between immigrants and social groups, switching the basis for motivation from prices to social identities, in order to explain migrants' interactions in host countries in terms of individual-to-group types of interactions rather than in terms of individual-to-individual types of interactions that standard approach employs. Thus, I propose a shift from an isolated individual economic matching approach using the market mechanism to an identity-based matching theory approach using social interaction to explain migrants' integration. The Section 4 concludes the paper.

2.   REVISITING MIGRATION AND INTEGRATION WITH SEARCH AND MATCHING THEORY

Migration is the movement or relocation of people from one place to another in pursuit of certain objectives. These objectives are used to distinguish different migration types from each other. Labor migration is one of these types and also the one that is most frequently studied in economics. A labor migrant can be defined as "a person who goes from one place to another especially to find work" (Arnold, 2017, p. 1). According to the OECD numbers, labor migrant trends seem to be decreasing in percentage in comparison to the other types (OECD & EU, 2016); however, ILO estimates have shown that the number of migrant workers in the world was about 150 million of the total migrant population of 232 million in 2013, where the term "migrant worker" is defined as "international migrants who are currently employed or are unemployed and seeking employment in their present country of residence" (ILO, 2015).

   Integration, on the other hand, is the process of becoming an accepted member of a society (Penninx & Garces-Mascarenas, 2016). Once people migrate to a new place, they integrate into that new environment in multiple ways and by various degrees. I suggest that the formation of social relationships offers a deep
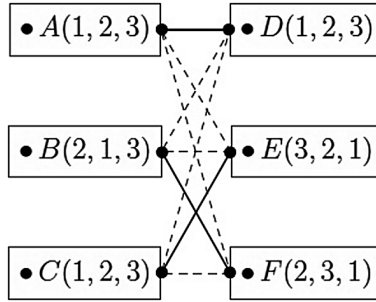
Figure 1: An Example of the Gale-Shapley Matching

theoretical understanding of how migrants integrate and why we observe various integration outcomes in reality. For analyzing the formation of social relationships within the context of migration and integration, I first introduce standard search and matching theory in this section and explain how it can be used as an analytical tool to understand migrants' search and the interaction between immigrants and host societies as matching events. An application of this approach to the case of the labor migration follows.

2.1. Search and Matching Theory

Search theory assumes that individuals search for and choose an optimal strategy from a set of potential opportunities. Choices should be made as quickly as possible to avoid the time cost in decision problems. Matching theory also explains the matching of agents in one set with agents in another. A matching function is like production function; it represents the formation of new relationships between available agents. Using this tool, relationship formation problems are turned into structured matching issues, and therefore, become standard optimization problems that are subject to constraints in different matching cases.

The basic idea of matching goes back to *stable marriage problem*, which is also known as Gale and Shapley Algorithm (Gale & Shapley, 1962). It is a one-to-one model, concerning the matching of individuals in two gender sets for a purpose of getting married. In the Gale and Shapley's model, each man and each woman strictly rank the members of opposite sex with respect to whom they would like to be married. As seen in the example demonstrated on Figure 1, agent-A prefers agent-D to E, and E over F. The same logic applies to all other agents. One side proposes to marry; the other accepts or rejects the proposal. However, matching does not occur as straightforwardly as one might expect. Conflicting preferences may occur. As a result, the algorithm does not stop when everyone is matched up with
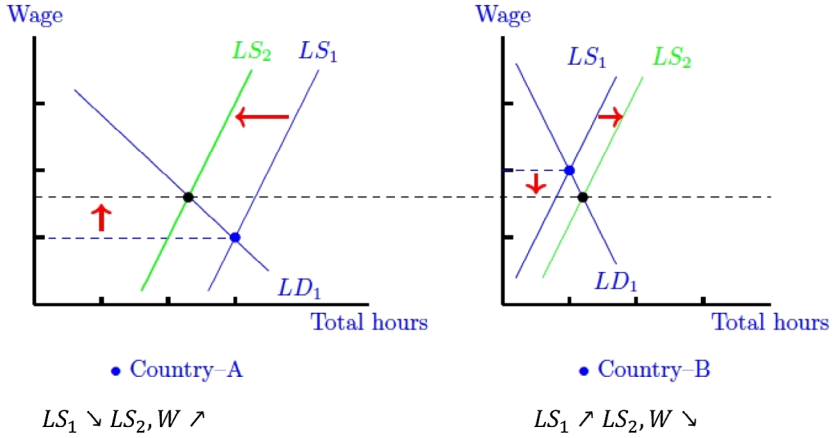
Figure 2: Wage Differentials Adjustment

the best available option but when they are in a stable way. Gale and Shapley show that there is always a stable marriage allocation. In the given example, the stable marriage allocation requires agent-A to match with agent-D, B with F, and C with E.

In economics, the theory is used for analyzing the formation of mutually beneficial links between economic agents. It has been used especially in labor market analyses where the goal is to model exchange processes in the market by a well-behaved function that sums up the encounters between workers in search of jobs and firms with vacancy positions (Cahuc, Marque, & Wasmer, 2008).

2.2. Search and Matching applied to Migration and Integration

Search and matching in the context of migration and integration has also been understood to be a labor market phenomenon. Two economic approaches have dominated the standard literature in labor immigration theory.[2] The first is the neoclassical approach that takes immigration to result from wage differentials (Hicks, 1932) with a strong link to labor economics and development issues (Harris & Todaro, 1970). The relocation decision is made by rational individuals using cost-and-benefit analysis: if the result is expected to provide them with a higher net return in terms of earnings, they are assumed to migrate. This utility-based approach can be expressed as follows:

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[2] For a broader survey of the theories of migration, see Abreu (2012).

People move if,

$$U \text{ (income in destination} - \text{migration costs)} > U \text{ (income in origin)} \quad (1)$$

or stay if otherwise (Bansak, Simpson, & Zavodny, 2015).

At the macro level, wage differentials are seen to move individuals from low wage regions to higher wage ones. As seen on the Figure 2, this increases the labor supply in the high wage region that is country-B, and lowers it in the low wage region that is country-A. In the end of this process, wage differentials are assumed to adjust.

The second approach is human capital theory, which is used to explain the change in earnings with respect to change in skills (see Becker, 1964; Mincer, 1958). On this view, migrants perceive human capital to be a form of lifetime investment (Sjaastad, 1962), and thus they relocate to where the highest returns to skills are available.

Once labor migrants' motive to migrate is explained associated with this form of rationality, their integration is understood to be integration into the host country's economy through market transactions (Algan, Bisin, & Verdier, 2012). Chiswick (1978) proposes a cross-section regression model of the Becker-Mincer model of human capital accumulation to explain integration, whereby immigrants gradually acquire knowledge of the language, customs, and nature of labor markets in the host country, which are factors that tend to raise their earnings (Borjas, 1999):

$$\log_w = x\beta_0 + \beta_1 I + \beta_2 y + \varepsilon \quad (2)$$

The equation above presents the wage rate of a person in host country as a function of x, a vector of socioeconomic characteristics; I, a dummy variable that is 1 if the person is foreign-born and 0 otherwise; and y, that is the number of years that immigrant has stayed in the host country. Studies based on the cross-sectional data have typically indicated β_1 to be negative and β_2 to be positive. That is to say, migrants earn lower than comparable natives because their existing skills are not perfectly transferable to new labor markets. However, when migrants invest in human capital that is rewarded in host countries, their earnings increase and eventually reach those of the natives. When this level of earnings is reached, it is assumed that economic integration is achieved (Constant & Zimmermann, 2011).

In these approaches, immigrants who earn less in their origin country and are motivated to earn more start their search for another country in which they could earn more. Search is costly, because as long as they stay in the decision stage, they keep earning relatively less in their origin country than what they would have otherwise earned somewhere else. Potential migrants then consider possible destination countries and rank them with respect to their expectations about earnings. Countries, on the other hand, accept immigrants regarding their own needs specific to their economic processes and to the extent that the characteristics of immigrants would meet labor needs that they have. Like the matching processes between job
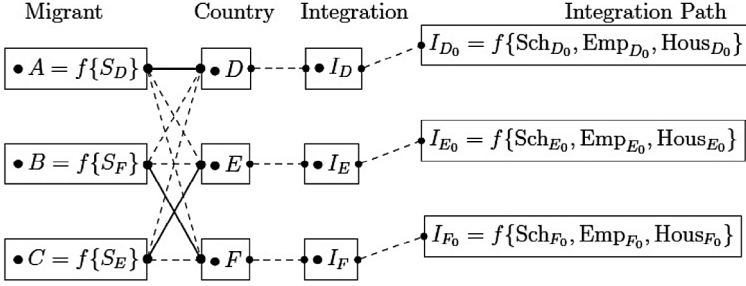
Figure 3: Matching of Labor Migrants and Countries

seekers and job vacancies, earnings-seeker migrants match up with the countries with vacancies open for outside workers. The matching algorithm mathematically settles to equilibrium once everyone is matched up with the best available option in their ranking-based sets. At the macro level, when certain numbers of migrant workers are matched with the needs of countries, the wage differential no longer attracts other immigrants, nor do countries need any outside workers in their labor markets.

Similar to the Gale and Shapley Algorithm introduced in Figure 1, we can visualize the matching of labor migrants and countries as in Figure 3. Assume that migrant-A with skills-D matches with country-D, migrant-B with skills-F matches with country-F, and migrant-C with skills-E matches with country-E. Then, according to human capital approach, it is assumed that migrant-A integrates through the market mechanism in country-D, which is integration- D, and that a certain integration path is assumed to be followed by migrant-A which can consist of the elements like, for instance, schooling, employment, and housing specific to the country-D. Thus, in this approach, there is assumed to be one certain way of integrating into the host country that follows the skills-based matching between the labor migrant and the country. In the case expressed in Figure 3, then, migrant-A follows integration-D, migrant-B follows integration-F, and migrant-C follows integration-E.

Search and matching theory is quite relevant for the studies of migration and integration for the following reasons. First, migrants are *in search of* new destinations for their various migration projects. Understanding this search is important because what they search for gives us insight about why and to where they migrate. Second, they encounter opportunities in their destination countries. Such encounters can be conceptualized as *matching events* between the conditions in these countries and migrants' motives to relocate. Lastly but perhaps most importantly, matching theory is useful because it provides us insights about frictions in markets.

2.3.   Frictions in Matching

Petrongolo and Pissarides (2001) argue that search and matching theory is useful because it offers an attractive way of examining markets with frictions. The usefulness of the matching device is due to its empirical relevance for capturing actual matching events in the market and pointing out the influence of frictions on equilibrium that derive from heterogeneities, information imperfections, and other similar factors. However, they also argue that the model captures the effects of frictions usually without explaining to the source of frictions. This is why they metaphorically call the matching function a *black box*.

The concept of *frictional unemployment* in labor market analysis suggests that job seekers and available jobs might not match, or refuse to match. This is because they are heterogeneous; in other words, when their characteristics, such as skills, wages, location, or taste, do not correspond to each other's. Even if the agents are eventually matched up, non-matching characteristics lower the quality of matching and lead to search-in-job, which is where employed agents keep searching for better matches.[3]

Similarly, the economic integration concept allows us to analyze the convergence of immigrants' earnings to that of natives by skill aspects. As the neoclassical economic approach tends to position labor migrants as if they were motivated and moved only by economic forces (Mezzadra & Neilson, 2013), their integration is also understood to be motivated in regard to these forces. However, this explanation remains limited when it comes to attitudes, habits, and behaviors, especially when migrants' motivation is not based on pure economic reasons, but a mixture of economic, social, and cultural motivations. Relocation might have been driven by economic motivations but this does not lead us to the conclusion that integration follows the same motivations. In effect, various kinds of motivations are nested in real-life behaviors and important for a good understanding of the facts about migration and integration. In contrast to what economics' atomistic individual conception suggests, migrants form social relationships in their host countries and societies beyond their market interactions. Non-market social and cultural interactions can be significant determinants of migrants' integration (Algan et al., 2012). Therefore the *black box* of matching needs to be opened; that is to say, one needs to go further and see what factors explain the sources of frictions in integration: why do migrants not match with the available opportunities even if their relocating had meant to provide them with such opportunities?

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[3] Put in the context of migration and integration, we can transform this concept into *frictional non-integration* where migrants and integration opportunities in receiving countries might not match in the migration market. For instance, *repeat migration* analogously presents an example to search-in-job in that migrants keep searching for better options while already residing in a receiving country. Another example is *return migration*; when migrants' expectations do not correspond to actual conditions of the host country, they return to their country of origin.

3. A SOCIAL IDENTITY-BASED MATCHING APPROACH TO MIGRATION AND INTEGRATION

For a more complete understanding of the heterogeneity of migrants who have mixed motivations in integration processes, I suggest we analyze their search and matching both in identity terms and in terms of individual-to-group type of inter-actions. In this section, I first briefly introduce social identity theory from social psychology and, secondly, introduce a social identity-based matching approach that I propose as a useful analytical tool in comparison to the standard individual-to-individual matching approach that the economics of migration is based on. Lastly, I give a short discussion of the limits of migrants' agency in integration processes when these processes are seen to be as *integrating into established social systems*.

3.1. Social Identity Theory

According to the social identity theory of Tajfel and Turner (1979),[4] individuals see the world in terms of social group categories, identify with some of these groups, and reject others. Such categories are the basis for how individuals evaluate things that they encounter, and therefore, constitute a part of each individual's personal identity. Tajfel and Turner explain the mechanism of social group identification in three mental steps. The first one is *self-categorization*, which denotes one's categorizing and classifying oneself in terms of particular social categories in order to understand the social world. The second step is *social identification*. Individuals identify with some of social categories and subject themselves to the norms of those categories as reference points for their behaviors. This process involves the adoption of the identity of the category. The last step is *social comparison*. Once individuals have categorized themselves as belonging to a category and have identified with the corresponding social groups, they tend to compare it with others. This comparison results in evaluating other individuals as *in-group* or *out-group*; in other words, as '*us*' or '*them*.'

3.2. Social Identity Theory Applied to Migration and Integration

Social identities matter for both migrants and host societies, especially the ones that are linked to social and cultural order such as ethnic, gender, and class identities (Duroy, 2011). The social identity framework is capable of taking account of the heterogeneities whose effects are not captured by simple averaging and which cause differences in integration outcomes. Migrants are subject to mental

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[4] For a summary of social identity approaches and their use in conceptualizing the individuals in economics see Davis (2011, pp. 74–75).

Table 1: Standard Matching Vs. Identity-Based Matching

	Standard matching	Identity-based matching
Matching base	Economic motivations	Multi-dimensional motivations in multiple social identity terms
Interaction level	Individual-to-individual	Individual-to-group
Mechanism	Optimization	Social identity fitness
Agency	Passive agents in closed systems	Active agents in open systems

processes that Tajfel and Turner argue underlie the mechanism of social identity for all individuals. Having categorized the world around them, migrants identify with some of these social group categories and compare themselves with others. Identification with some categories means developing a social identity that is based on belonging and therefore requires behaving correspondingly to that category. Individual preferences are, then framed with regard to these categories and norms, and are therefore, socially constructed (Davis, 2005). Migrants evaluate things on the basis of such categorizations. So social identities generate reference points for migrants' behaviors, and therefore, are influential in their forming social relationships in integration processes.

3.3. Comparing the Social Identity-Based Matching Approach with the Standard Matching Approach

Let me explain the main difference between the social identity-based matching approach and the standard matching approach with respect to points indicated on Table 1.

3.3.1. Matching base and frictions. The first difference concerns the matching base that is the motivation for migrants for forming a match with host countries and opportunities in the host countries. As discussed, standard matching is based only on individual economic motivations. As depicted on Figure 3, migration is assumed to occur in a form of matching that is based on skills, and integration is assumed to follow from that certain matching. So the first matching involving the act of relocation is supposed to lead to an integration path that is motivated by same factors.

In contrast, social identity-based matching is based on multidimensional motivations organized in social identity terms. Rather than seeing migrants as only labor migrants, it recognizes how the mixed and complex nature of different migration cases is taken into account as sources of motivations for migrants' behaviors. We can represent this as immigrants being made up of collections of different social
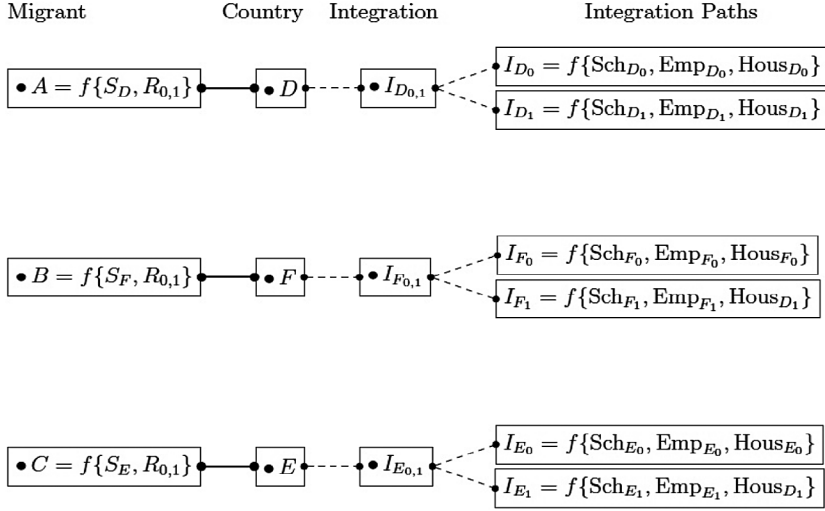
Figure 4: Identity-Based Matching With Integration Paths

identities, which produce multiple motives for migration and different integration behaviors. These multiple social identities include more observable characteristics such as ethnicity, gender, and religion. Or they may include identification with a political view, a neighborhood, a company, a sport team, or in a more general sense, a community of people with the same interests, same sexual orientation, or who have to deal with the same kind of issues that may each be significantly influential on integration outcomes.

Let us assume that migrant-A has, in addition to skills-D that led them to match with country-D, religion-0 or religion-1 which would, in return, have an impact on their integration path. So if migrant-A has religion-0, say, the majority religion in country-D, they take integration path-D-0. But if migrant-A has religion-1, the minority religion in country-D, then the migrant can move towards a totally different integration path that is integration path-D-1, which consists of different schooling (Sch-D-1), employment (Emp-D-1), and housing (Hous-D-1) decisions. See Figure 4.

In effect, even before the act of relocating has occurred, migrants have many prior, home country social identifications. Their relocation might in part have been driven by their search for earning more, but that search is framed by their social identities. On this view, matching frictions are endogenous to people's social identities, thus, need to be taken out of the *black box* and examined in their sources.

3.3.2. Interaction level. In contrast to individual-level incentives and interactions in the standard approach, social identity-based matching employs individual-to-group type of explanations for interactions. Individuals choose to participate in social groups whose characteristics they believe would fit their own the most. Migrants' behaviors in the post-migration integration process, then take the form of prescriptions of the group that they identified with and joined, making integration an individual-to-social matching process (Darity, Mason, & Stewart, 2006).

Matching with groups determine migrants' behaviors with respect to the norms of the group in a different way from how behaviors would have been if migrants were isolated individuals. Yinger (1994) argues that ethnic attachments, as one of the main affiliations that migrants tend to hold, and joining ethnic groups help individuals preserve a sense of community in face of an unfamiliar environment. The same applies for religious identity groups too. By having that social identity and by transferring a pre-migration affiliation to a post-migration affiliation with the corresponding group in the host society, migrants treat other individuals in the group as social identity in-group fellows whose behaviors become a reference point to which migrants tend to converge in their own behaviors. Applying this concept then allows us to consider direct interactions between migrants and host societies rather than those that occur only indirectly through the market mechanism.

3.3.3. Mechanism. The underlying mechanism in the standard matching is optimization. With regard to the preference orders, individuals are assumed to match with the best available options to optimize their earnings, for instance, as expressed in Equation (2) and Figure 3. However, this is a highly limiting assumption about one certain type of rationality that is assumed to lead to only one way of integration, which has the character of a normative argument. This rationality implies that labor migrants would search only for higher earnings and match with countries in which they can obtain these earnings, and that they integrate by converging their earning to that of natives in the host country. This is normative in that migrants should behave in such a way because this is what optimizes and thus what rationality implies for them.

However, in opposition to this normative view, I suggest the underlying mechanism in identity-based matching is, instead, what we can call *social identity fitness*.[5] I argue for this concept based on the evidence from Verkuyten and Martinovic (2012). They examine the interrelationship between ethnicity and religious group identification and finds that Muslim identifiers in the Netherlands with high ethnic identification tend to have low national identification. However, others who do not

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[5] The word "fitness" may attract criticisms if it is considered to mean optimization but in biological terms. I should indicate that, my aim is not to introduce a different type of optimization but rather to emphasize how relationships are formed in interactive social systems that are not limited to the workings of market systems.

identify with Muslims but with high ethnic identification tend to exhibit higher national identification and also have more positive attitudes toward the Dutch out-group. The study suggests, two persons may be same as migrants with high ethnic identifications, but their differences in terms of another social identity can significantly influence their integration outcomes.

The main aim of this social psychology study by Verkuyten and Martinovic is to emphasize the existence and effects of having multiple social identities. Similarly, we can think of economic motivations as involving one identity that comes with corresponding prescriptions such as converging one's earnings to that of natives. What I propose and Figure 4 depicts by introducing one more social identity, a religious social identity, is that labor migrants cannot only be characterized in terms of labor. Instead, the different identities that they possess influence their integration processes. Therefore, optimization of only economic identity, or the idea of optimizing rationally in terms of only one identity, is very limiting.

I use the word fitness to incorporate evolutionary consideration into the analysis of integration. The concept of social identity fitness suggests that action A does not occur because it optimizes in each and every situation; rather, it occurs because it fits a migrant's situation in a particular circumstance. *Social identity fitness* explains how an action that may be advantageous today as migrants may have had advantages of being a member of a religious community in host country may be disadvantageous tomorrow for the interactions with the national out-group in host society, as found in the study of Verkuyen and Martinovic. How one migrant does better in certain terms than the other in integration, then, does not depend on optimizing in one period, but instead on how the collections of migrants' social identities evolve and fit over time in the host society.

This fitness idea brings in another concept: interdependent decision-making and path dependency in matching with groups. Sardinha (2009) suggests ethnicity acts as an *organizational principal* that guides group behavior. When migrants have affiliations with, for instance, an ethnic group, their decisions in the host country such as about schooling, employment, and housing tend to follow the decisions of the others in the group and are thus bounded by what migrants perceive to be in their choice set. We can thus interpret the initial matching with a group as to be a dominant type of matching that tends to be more influential over other later matching events that migrants form in the course of their integration. So the initial matching with social groups in host countries can lead to certain types of integration depending on path dependent patterns of matching. An identity-based matching approach thus suggests that different social group affiliations sort people over different paths, often preventing them from entering other groups.

3.3.4. Agency. Individuals in the standard matching approach are passive agents who have stable preferences and whose search activity can only be matched

with vacancies. This view ignores the complex set of motivations underlying migrants' agency that leads them to move (Arnold, 2017). In the social identity-based matching approach, agents are understood to influence their environments and are influenced by in turn. This is because social identification is not an abstract identification with categories but the product of migrants' concrete involvement with corresponding social groups (Kirman, Horst, & Teschl, 2007). Based on their social identities, individuals choose groups and groups choose members; they constantly influence each other and both are changed over the time. This difference in terms of agency can be seen as a distinction between two different understandings of integration: closed integration systems, as employed in the standard individual-to-individual matching approach, and open integration systems, as suggested by the social identity-based individual-to-group matching approach.

3.4. Integrating into Established Social Systems

When we think of agency in open integration systems, one should emphasize the relationship between individual choice and sociocultural constraints. In social iden-tity analysis, identification with a category or a group often leads one to think that the person would then easily join the corresponding group. For instance, in Akerlof and Kranton's social identity approach (see for instance Akerlof & Kranton, 2000, 2010), an identity function is incorporated into individualistic utility functions. With this, one assumes that the individuals can freely adopt social identities and behave with respect to the prescriptions of the identified group.

If individuals are free to adopt any social identities of their choice, we would expect the migrants who seek to earn more to easily adopt social identities that help them to do so. However, this view misses the fact that, migrants possess a set of social identities from their pre-migration life and then try to match these with a set of social identities in the host society. Furthermore, when joining groups, migrants do not encounter groups only as collection of similar people, but also institutional elements involved within the groups. We can define these institutions as systems of established social rules that are similar to norms or prescriptions of groups that coordinate human behavior and lead it to some sort of recognizable behavioral patterns. Institutional weights do not only explain why behavioral patterns emerge, persist, and evolve, but also whether or not or how easy or difficult it is for migrants to adapt to the groups they wish to join.

When migrants try to enter a social group given their inherited social identities, they then become subject to not only pull or push effects of their inherited social identities, but also institutional forces in the groups that determine their final success regarding entering these groups. So migrants' integration should be seen as to being

into established social systems surrounded with social rules that are not easily or by default satisfied by the migrants.

4. CONCLUSION AND PROGRAMMATIC REMARKS

By revisiting migration and integration in standard search and matching theory, I suggested we explain frictions in integration endogenously, which I argued to be important determinants of integration outcomes. I referred to Petrongolo and Pissarides' *Black Box* metaphor in which they argue that matching theory can ignore how matching occurs or how it doesn't and why. This metaphor has assisted me in applying these questions to the context of migration and integration in connection with labor migration. I discussed the problematic points in the standard economic approach that result from misconceptions and oversimplifications associated with the heterogeneity of labor migrants and the complex nature of their interactions with their environment. I suggested an innovative approach to tackle these problems: a social identity-based matching approach for understanding and examining the complex issues with the concept of integration.

My aim in this paper is to shift the analyses of migration and integration behaviors and dynamics from individual-level incentives to socially constructed ones. Although economic theory tends to make a clear-cut connection between the pre-migration and post-migration behaviors, other social sciences often emphasize the open nature of the integration process as interactive, two-way processes between migrants and host societies.[6] This leads us to the limits on agency by arguing that institutional elements are fundamental determinants in how social identities sort labor migrants into different integration paths. Further discussion of the internal working of these institutional mechanisms is needed in economics, which has recently begun to recognize how social and institutional forces influence the market mechanisms. This short study can also be seen as a call for alternative, more realistic, and more social and evolutionary understanding of the issues in economics by making use of the findings in other social sciences.

ACKNOWLEDGMENTS

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[6] See, for instance, "two-way process" explanation of the interactions in integration by Penninx and Garces-Mascarenas (2016); and Heckmann (2005)'s definition for integration as an interactive process between and mutual change in migrants and the host society.

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