Identity and economic performance of immigrants: Evidence from Italy[*]

G. S. F. Bruno[†], O. Dessy[‡]

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Abstract

We estimate the impact of economic-performance indicators on the identity formation of the immigrants in Italy. We apply a quadrivariate recursive probit model to the 2008-2009 survey of ISMU to estimate the joint impacts of the employment and the housing statuses on four dimensions of ethnic identity, integration, separation, assimilation and marginalization.

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[†]Bocconi University, Milan

[‡]CELPE, University of Salerno

1   Introduction

In the last decades Italy has experienced an important change from a country characterized by strong out-migration flows to a country giving hospitality to a growing number of immigrants coming from many countries. According to Blangiardo and Cesareo (2011) Italy has reached the remarkable size of about 4,8 millions immigrants in 2010.

This immigration flow has important qualitative aspects: many different ethnic minorities are non-homogeneously distributed across the Italian regions, where the economic conditions and cultural backgrounds can be extremely different. The Italian government has not followed clear integration policies, as for example other European countries such as France, Germany and the UK where the immigrating history is much older than in Italy. So if France has implemented a model of total assimilation of immigrants to their national culture, in the UK a general attitude to respect immigrants' home countries identities is generally observed, although full access to English cultural an social models has been guaranteed. Different is the case of Germany, where the migration history has characteristics similar to Italy's: no strong link to former colonies, and therefore people coming from many countries, and quite a recent economic development. But differently than in Italy, the German government has followed a clear model of integration, maintaining and supporting (at least at the national level) immigrants' safeguard of their own home identities, although this may have been detrimental to the development of their sense of belonging to the host country.

Many recent dangerous episodes involving immigrants in the European countries have raised concerns about the social costs involved by any integration plan implemented by the governments. From an economic point of view, the question arises as immigrants' economic performance (in terms of employment probability or assimilation of wages to natives) is satisfactory. In fact, a bad economic performance might be related to the formation of so called *oppositional identities,* with social negative drawbacks. But the direction of causality is not clear as both the economic performance and ethnic identity are endogenously determined.

The issues arise of: 1) how to measure empirically ethnic identity; and 2) how to take into account of the endogeneity problem when analysing the relationship between ethnic identity and any measure of economic performance. The majority of the studies available in this literature use subjective information about the commitment of immigrants either to the host or the home country for measuring ethnic identity, very rarely this information is available in both the directions. This implies the rather weak assumption that the two are mutually exclusive. Constant, Gataullina, and Zimmermann (2009) introduce bi-dimensional measures of ethnic identity using the GSOEP data for Germany, where people report their attachment to both the culture of the home and the host country. Then, using a two-stage-least-squares approach, they regress these measures on indexes of economic performance without taking into account the endogeneity problem. Replications of this method of analysis have been carried out for other few countries: Nekby and Rodin (2010) for Sweden; and Drydakis (2011),

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Drydakis (2012)for Greece.

In this paper we analyse the Italian case using Fondazione ISMU (Foundation for Initiatives and Studies on MUltietnicity) data collected between October 2008 and February 2009 through a questionnaire asked to more than 12,000 foreign immigrants aged more than 18[1]. To date they are the only set of data in Italy that oversamples foreign immigrants, therefore they are highly representative of this population. Morever, they are collected with the specific purpose of studying the concept of integration and provide two variables asked symmetrically in the direction of the host and the home country, therefore allowing to construct general two-dimensional measures of identity à la Zimmermann. We use such bi-directional information to construct a recursive multivariate probit model, which allows to accommodate the endogenous determination of ethnic identity and economic performance.

The paper is organised as follows. Section 2 revises the literature. In Section 3 we provide details of the ISMU data. Section 4 presents the empirical model estimated and the estimation results. Section 5 concludes.

2   The literature

The economic literature on immigrant's integration starts with an *econometric approach*. The idea is that integration is a process of accumulation of human capital of the arrival country, so that immigrants become more and more as productive as natives. This *assimilation process* is measured in terms of reduction of the gap between immigrants and natives in terms of: a) wages; or b) occupational characteristics. Evidence from the US comes either from *cross-sections* (Chiswick (1978), Lalonde and Topel (1992), Carliner (1980), Borjas (1982) and Abbot and Beach (1993) among others) or from *longitudinal data* (Borjas (1985), Jasso and Rosenzweig (1986, 1990), Bloom and Gunderson (1991), andSchoeni (1998) the first ones). The problem with cohort studies is that assimilation-effect is confounded with cohort-effect since they compare different individuals of different ages, arrived in the country in different time-periods, at the same time. *Longitudinal data* allow instead to estimate the selection bias which may contaminate cross-sectional comparisons and to establish a relationship between cohort quality and immigrant self-selection. These studies find that the assimilation process is much slower than 10 years in the US, and wages of immigrants can also never reach those of natives. Therefore immigrants in the U.S. were not necessarily positively-selected.

Kossoudji (1989) and Friedberg (1992) demonstrated that the age of immigrants at the time of arrival in the new host country plays a decisive role in their earnings assimilation: those migrating as children have more or less same profile than natives. Assimilation for these immigrants is therefore not a labor market phenomenon but the result of acculturation. Others (Chiswick (1986), Borjas (1992), Lalonde and Topel (1991) and Lalonde and Topel (1992)) give further evidence of retard assimilation due to within cohort differences (declining skill of more recent cohorts) and across cohort differences

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[1]Access to data is restricted but not exclusive.

(changing national origin composition of immigrants). Different results are due to different variables chosen, and different comparison group (intra-ethnic or ethnic-native).

The process of assimilation is also characterized by gender effects. Overall (Fraundorf (1978), Long (1980), Fiedl-Hendrey and Balkan (1991)) women perform better than men, but the advantage declines over time - because when husbands' earnings increase they switch to non-market activities and their earnings decline. Also, female assimilation varies considerably across country of origin. Schoeni (1998) considers women with life-cycle data and finds that cross-sections overestimate assimilation: it occurs after 10 years of arrival.

Occupation is also an important variable to be examined: self-employed immigrants earn not only more than employees immigrants but also more than self-employed natives in the U.S. (Borjas (1986)), in Germany the gap is zero but immigrants receive a premium if German-educated (Constant and Zimmermann (2006))

Other studies (Piore (1979) , and Miller and Chiswick (2002) among others) control for additional characteristics of the host country labour market (institutional variables, network effects, demographics) and for the important role of the business cycle in the assimilation process. In some countries such as Germany and France assimilation does not take place at all.

Other facets of immigrant performance are important and can offer key insights to an operative migration policy, in particular their performance with regard to housing, wealth, education, crime, and intergenerational assimilation.

2.1 From assimilation to oppositional ethnic identities

The problem with the former studies of assimilation, despite the on-going enrichment of details, is that they are mainly concentrated on the analysis of wage gaps, without considering how the social integration process develops, together with the process of formation of *ethnic identity*. To this purpose, the recent economic literature has considered immigrants' integration process in the more general context (and as a special case) of the process of social identity formation. But the process of *ethnic identity* formation is quite complex, since it depends on the exquisitely subjective mix of cultures of the home and the host country.

How identity forms and manifests is a dynamic process linked to social interactions. Norms, values and rules which bind members of a social group are inherent in the formation of social identities. When conflicts arise, identities may result in suboptimal behavior. Sociologists are well aware of these issues: Massey and Denton (1993) suggest that segregated neighborhoods can create the structural conditions for some individuals to develop an *oppositional* culture that devalues work, schooling and marriage and impedes success in the larger economy.

In economic theory Sen (1977) introduced the concepts of *sympathy* and *commitment* as part of the utility maximizing function. how ethnic and social identity explain individuals' economic behavior.

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Akerlof (1997) and Akerlof and Kranton (2000) introduce for the first time in the individual utility function the variable *self-identification.* Individuals make economic decisions based on their ideal *self.* Then, if this status will be reached, the utility will increase otherwise utility will decrease, with consequences both on their own behavior and their peers'. But the process of formation of identity is taken as given, does not explicitly allow for identity choice. Benabou and Tirole (2007) propose a sophisticate model in which individuals consider a wide class of individual beliefs, among which also the sense of their identity. Bowles, Gintis, and Osborne (2001) take into account also gender and ethnic differences.

Some models have tried to explain the formation of *oppositional identities* i. e. why individuals belonging to minority social (but then also ethnic) groups implement strategies of *cultural differentiation/opposition* from the majority's culture. According to these models individuals can reject the majority's culture and deliberately join the minority's culture even though they pay the price of an economic lack of success (see Austen-Smith and Freyer (2005),Fang and Loury (2005), Bisin, Topa, and Verdier (2004), Fearon and Laitin (2000), Kuran (1998)). Darity, Mason, and Stewart (2006)'s *evolutive game theory* model, explains how in the long run the process of construction of ethnic identity can have two outcomes: either total identification with the culture of origin or total assimilation to the host country. This second outcome has a positive impact on immigrants' economic performance. Ogbu (1999) shows that, since economic performance depends on assimilation, minority groups can develop conflictual behaviors due to their economic disadvantage. This can be a danger for the host country. ?show that, as a consequence, a stronger sense of identity can be developed more easily in a mixed context than in a segregation context. In fact, in a mixed environment it is easier to develop inter-groups' comparisons of behavior, i.e. conflicts. Battu, McDonald, and Zenou (2007) focus on another motivation for the development of conflicts. People decide to remain linked to minority's culture not because they feel losers with respect to the majority, but because they cannot reject their similar's pressure, even though then they have negative economic consequences (in particular adverse labor market outcomes).

From here many empirical works have been produced, in which labour economists try to explain education choices, integration in the labour market, and wage differentials with some measure of identity. Focussing on the relationship between ethnic identities and employment outcomes we find a number of studies carried out on UK data that estimate a price for oppositional identities of about 6%-7% less probability of being occupied: Blackaby et al. (1997), A. Bisin and Zenou (2006), Battu and Zenou (2010), Manning and Roy (2010). Casey and Dustmann (2010)develop a model of intergenerational oppositional identity formation and consequences on the labor market in Germany. Mason (2004)estimate that Hispanics in the US can increase their earnings if they abandon their own culture for assimilation to the local culture. Pendakur and Pendakur (2005)consider the importance of ethnic identity (of immigrants, native-born, Aboriginals...) for the quality of jobs found (occupational prestige scales) and the use of informal networks to find a job.

The problem with the *oppositional identities* approach is that the process of identity formation is *mono-dimensional* in the sense that the home and the host culture are in antithesis: one excludes the other. The home country's culture's has negative economic consequences, even though the direction of causality is not clear. But more general models and measures of ethnic identity can be found in the literature.

2.2 Cross-culturization: a bi-dimensional identity concept

According to the *socio-psychological approach* (*Berry (1980), Berry (1984), Berry (1997), Phinney (1990)Phinney (1992)* and Phinney et al. (2001)) the process of identity formation is not linear but '*bi-dimensional'* in the sense that the acquisition of the host country (majority)'s culture not necessarily excludes the sense of identification with the home country (minority). The model of *Berry (1997)* can be explained using Figure1.
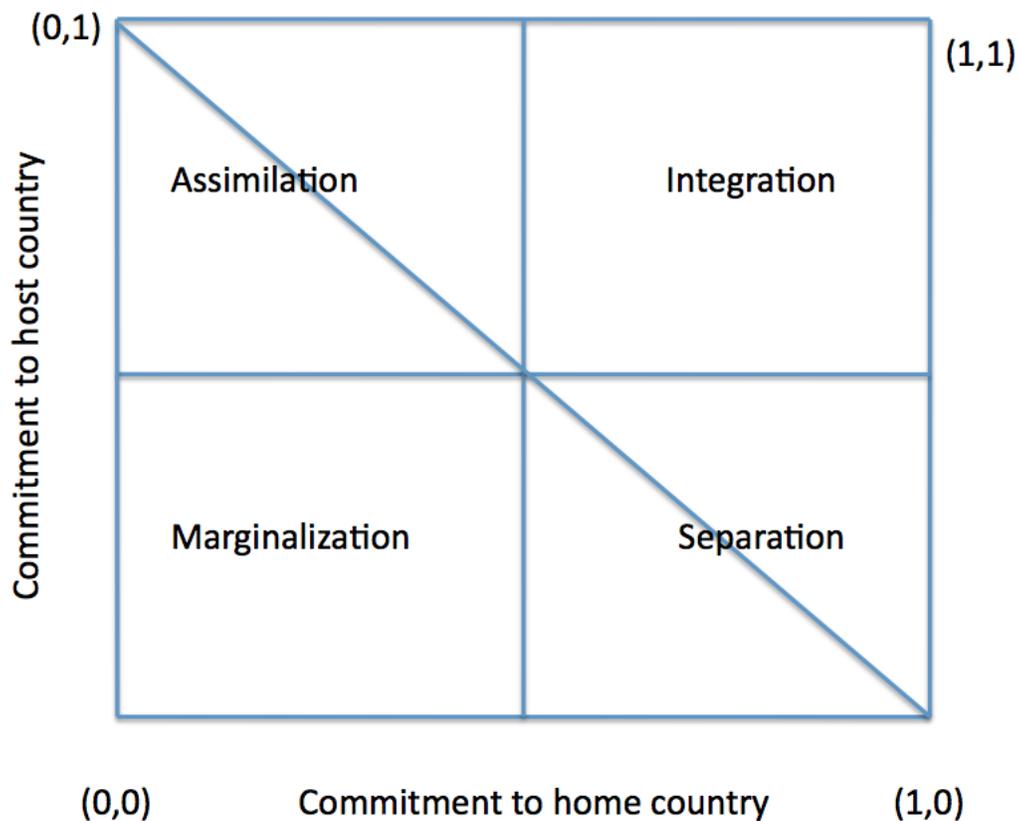

Fig. 1. The two-dimensional ethnosizer

Imagine to represent the relationship between commitment to the origin and commitment to the host country on a bi-dimensional graph with the two axis dedicated, and suppose that we can measure each type of commitment on a 0-1 scale. All the points for which the two commitments are mutually exclusive (*opposition identities*'s assumption) lie on the diagonal from (1,0) to (0,1). The two extremes of the diagonal are the (0,1) point of maximum commitment to the host country, that denotes full adaptation of immigrants, and the (1,0) point of maximum commitment to the home country, that denotes the maximum level of *ethnicity* in the sense that ethnic identity has not been affected by the host country. In this context ethnic identity is considered as a personal mix between the sense of belonging to the home or the host country, i.e. as the result of a dynamic acculturation process that happens in a trans-national dimension and (differently from what implied by the *oppositional identity's* assumption) can generate more than two extreme outcomes because commitment to the home and the host countries can also co-exist, although with different strengths. According to the definitions in Berry (1997), when a strong identification with the host culture is coupled with a weak dedication to the ancestry the immigrant's type of acculturation is called *Assimilation* and any ethnic identity measure falls in the upper-left quadrant; any point in the upper-right quadrant (strong dedication to both the home and the host culture) describes the process o*f Integration*; the state opposite to Assimilation is called *Separation* (lower-right quadrant); and the case of weak dedication to both home and host country is referred to as *Marginalisation* (lower-left quadrant).

The translation of Berry (1997)'s model into an empirical economic model has been proposed in the literature in Constant, Gataullina, and Zimmermann (2009). In this study the authors propose an index *(the ethnosizer)* where Berry (1997)'s 4 strategies of acculturation are measured for Germany thanks to the availability in the *German Socio Economic Panel (GSOEP)* of information about many aspects of identities' formation (language, culture, social relations, political status etc.) perfectly symmetrical with respect to the home and the host country. From an empirical point of view, it is only thanks to the availability of information in these two dimensions that concepts more complex than *oppositional identities* can be explored. This is a clear advantage since the existence of *oppositional identities* (either assimilated or separated) can be tested against the existence of more *extreme identities* (integrated and marginalized). Along the diagonal of fig. 1 it is possible to the define what Constant, Gataullina, and Zimmermann (2009) call the *one-dimensional measure of ethnic identity or ethnosizer,* that implicitly captures the idea of immigrant low/high assimilation in economic research, one that is easy to measure because in practice requires information on the commitment only for one country. The *two-dimensional ethnosizer*, that instead requires information on the commitment to *both* the home and the host cultures, and about as many aspects as possible (values, norms, languages, culture, etc.) can be any point in the area delimited by the points (0,0), (0,1), (1,1) and (1,0).

The German GSOEP presents five aspects in bi-dimensional pairs of questions: language, visible cultural elements, ethnic self-identification and future citizenship. Overall Constant, Gataullina, and Zimmermann (2009) find a positive associations between commitment to the host country and work

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participation, earnings and housing decisions.

The availability of bi-dimensional information for other countries is rather scarce. In the (economic) literature we find further evidence only for Sweden (Nekby and Rodin (2010)) and Greece(Drydakis (2011), Drydakis (2012)).

Nekby and Rodin (2010)use the Follow up Surveys of Pupils from Statistics Sweden for the year 1995. Only one bi-dimensional question is asked about: *'To what degree do you feel affinity to your original background culture?'* and *'To what degree do you fell affinity to Swedish culture?'*. Applying Constant, Gataullina, and Zimmermann (2009)'s empirical model they do not find a great difference in terms of probability of employment between integrated and assimilated. Therefore, a strong attachment to own culture is not per-se detrimental, as long as it does not lead to separation.

Drydakis (2011) and Drydakis (2012) are based on the February 2009 - July 2010 cross-section of the Greek Migration Study, carried out in the six largest cities in Greece, where immigrants are most heavily concentrated. The sample consists of 1,837 individuals. One nice aspect of this survey is that the 4 possible strategies of acculturation are directly proposed as question to answers on five aspects: language, cultural habits, ethnic self-identification, ethnic network and future citizenship plans. Therefore they are not derived from the crossing of the pair of identical questions in the 2 dimensions as with the other studies in the literature.

Koczan (2013)studies Turkish and ex-Yugoslavian second generation immigrants in Austria and Germany, a restricted sample of 10,000 respondents collected in 2007. He compares a second-generation group and a 'native' group of people aged between 18 and 35. The data contain very detailed information on the process of formation of identity so that bi-dimensional measures of ethnic identity can be constructed and a number of economic outcomes: education, employment, and political orientation.

Although with different data and number of aspects available for constructing the ethnosizer, all the studies mentioned above follow an approach into two separate stages. First, they analyze the determinants of the four ethnic identity outcomes separately through OLS regressions. Then, in the spirit of Akerlof (1997) and Akerlof and Kranton (2000), they work out correlations between some measures of economic performance and ethnic identity.

Epstein and Heizler (2014) provides a theoretical framework for the empirical results based on the bi-dimensional ethnosizer.

2.3   Previous evidence for Italy

The literature about ethnic identity and economic performance in Italy is rather scarce. DePalo, Faini, and Venturini (2006) analyze the determinants of immigrants ethnic identity measured indirectly only as sense of belonging to Italy. The economic performance assessed through the probability of being employed is studied inMazzanti et al. (2010) in relationship to the degree of education, and measures of reputation and network of immigrants without considering measures of ethnic identity. A classical

analysis of wages assimilation is given inFaini et al. (2009).

3   The data

The data used for our analysis have been collected by Fondazione ISMU (Foundation for Initiatives and Studies on MUltietnicity) between October 2008 and February 2009 through a questionnaire asked to more than 12,000 foreign immigrants aged more than 18[2]. The method of collection called *by centres*[3], allows to construct proper weights of observations so that, although collected for a number of regions, data are representative of the whole Italian population of foreign immigrants. In particular, the regions covered are 13: Piemonte, Lombardia, Trentino Alto Adige, Veneto, Emilia Romagna, Toscana, Marche, Abruzzo, Lazio, Campania, Molise, Puglia, Sicilia.

Various are the advantages of using ISMU data. First of all, to date they are the only set of data in Italy that oversamples foreign immigrants, therefore being highly representative of this population. Second, they are collected with the specific purpose of studying the concept of integration. Third, they provide two variables asked symmetrically in the direction of the host and the home country, therefore allowing to provide two-dimensional measures of identity à la Zimmermann. The first question is a general self-assessment of the sense of belonging to a country: "How much do you feel you belong to Italy?" and "How much do you feel you belong to your home country?" . The second question asks: "To what extent are you interested in knowing what happens in Italy?" and "To what extent are you interested in knowing what happens in your home country?". In both cases individuals can answer one of the four levels: "not at all","a little", "rather/sufficiently", and "a lot". The two lowest levels of intensity have been aggregated and valued 0, and the two highest levels have been aggregated and valued 1.

ISMU data provide also some measures of economic performance previously used in the literature: 1) occupation; 2) wages (in brackets); and 3) housing characteristics.

As explanatory variables we have: sex, age and age at arrival, ethnicity (aggregated in four groups: Eastern-Europe, North-Africa, Other-Africa, Latin America), education (available in four levels: none, compulsory, secondary, laurea and more/tertiary. Notice that those are the degrees achieved in the home country, and therefore can be heterogeneous), religion (catholic, muslim, orthodox, copto, evangelistic/evangelical, other christian, hindu, sikh, other, none), region (aggregated in North, Centre, South).

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[2]Access to data is restricted but not exclusive.

[3]Details of the sampling method can be found in Appendix 1/ Blangiardo and Cesareo (2011)

4   The empirical model

Our data contain various measures for the immigrants' economic performance. We try to estimate the ethnic-identity effects of two of them jointly, the employment status (occupied or not) and the housing status (with or without an owned home). We estimate average treatment effects (ATEs) in the context of a recursive quadrivariate-probit models, where the first two equations describe the immigrant's latent commitment to the culture of host, y_1^*, and home country, y_2^* and the last two equations describe the immigrant's propensity to find an occupation, y_3^*, and to own a home, y_4^*, with the resulting binary variables, $y_3 = \mathbf{1}\,(y_3^* > 0)$ and $y_4 = \mathbf{1}\,(y_4^* > 0)$, used as joint measures of economic performance in the two ethnic-identity equations:

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\begin{aligned}
y_1^* &= \alpha_1 + \lambda_{13}y_3 + \lambda_{14}y_4 + \mathbf{x}'\boldsymbol{\beta}_1 + q_1 + \varepsilon_1 \\
y_2^* &= \alpha_2 + \lambda_{23}y_3 + \lambda_{24}y_4 + \mathbf{x}'\boldsymbol{\beta}_2 + q_2 + \varepsilon_2 \\
y_3^* &= \alpha_3 + \mathbf{x}'\boldsymbol{\beta}_3 + q_3 + \varepsilon_3 \\
y_4^* &= \alpha_4 + \mathbf{x}'\boldsymbol{\beta}_4 + q_4 + \varepsilon_4,
\end{aligned}
$$

$\boldsymbol{\beta}_1$ and $\boldsymbol{\beta}_2$ present exclusion restrictions. In each equation $i = 1, 2, 3, 4$ we have a conventional error term ε_i and a latent heterogeneity component q_i. Combining the outcomes of $y_1 = \mathbf{1}\,(y_1^* > 0)$ and $y_2 = \mathbf{1}\,(y_2^* > 0)$ leads to the classification in Berry (1997) (Fig. 1), where ethnic identity is the outcome of an acculturation process over a trans-national dimension, i. e. a personal mix between the sense of belonging, or commitment, to the home or the host country. We measure either commitment (respectively y_1 and y_2) on a 0-1 scale and represent them on the axes of the graph. According to Berry (1997)'s psychological theory, there are the following outcomes: 1) *Integrated* ($y_1 = 1, y_2 = 1$); 2) *Assimilated* ($y_1 = 1, y_2 = 0$); 3) *Separated* ($y_1 = 0, y_2 = 1$); and 4) *Marginalized* ($y_1 = 0, y_2 = 0$).

We consider two questions about a general self-assessment of the sense of belonging to home/host country: "How much do you feel you belong to Italy?" and "How much do you feel you belong to your home country?". In either question the possible answers are: "not at all","a little", "rather/sufficiently", and "a lot". The two lowest and highest intensity levels have been aggregated and valued 0 and 1, respectively, replicating the cases of Figure 1.

The few empirical applications based on the the two-dimensional ethnosizer (Constant, Gataullina, and Zimmermann 2009 for Germany, Nekby and Rodin 2010 for Sweden, and Drydakis 2012 for Greece) follow an approach into two separate stages. First, they analyze the determinants of the four ethnic-identity outcomes separately through four regression equations. Then, in the spirit of Akerlof (1997) and Akerlof and Kranton (2000), they investigate the relationship between some measures of economic performance and ethnic identity, but no account for the possible endogeneity of the two dimensions is provided.

Our model allows the joint determination of the two ethnic-identity dimensions along with the

economic-performance indicators. Its recursive structure, then, permits to identify a causal link from the latter to the former. The $\mathbf{x}$'s are age, age at arrival, their squares and interaction, binary indicators for: sex, religion (catholic, muslim, orthodox, copto, evangelistic/evangelical, other christian, hindu, sikh, other, none), Italian macro-regions (North, Centre and South) and their interactions with age and age at arrival, education (none, primary, secondary, tertiary/more) and country-of-origin (aggregated into five groups: Eastern Europe, Asia, North Africa, Other Africa, Latin America). Notice that for identification the Italian macro-regions dummies, by themselves and interacted with age and age at arrival, are excluded from the two ethnic-identity equations, y_1^* and y_2^*.

We maintain that the latent heterogeneity components $\mathbf{q}$ are independent of the $\mathbf{x}$'s and do not impose restrictions on the $\boldsymbol{\beta}$'s, beyond the exclusion restrictions in the two ethnic identity equations. Given this, multivariate probit with a correlation-form error covariance matrix yields consistent ATE estimators under an arbitrary covariance matrix for the $\mathbf{q}$'s, as established in Bruno and Dessy (2016). We consider the four ATEs for y_t averaging over y_s, $s,t=3,4$ and $s \neq t$:

$$ATE_{y_t}(k_1, k_2) = E_{\mathbf{x}_2, \mathbf{q}} \left[Pr\left(y_{1t}^1 = k_1, y_{2t}^1 = k_2 | \mathbf{x}_1^0, \mathbf{x}_2, \mathbf{q} \right) - Pr\left(y_{1t}^0 = k_1, y_{2t}^0 = k_2 | \mathbf{x}_1^0, \mathbf{x}_2, \mathbf{q} \right) \right],$$

where $k_1, k_2 = \{0,1\}$, $y_{it}^1 = \mathbf{1}\left(\varepsilon_i > -\alpha_i - \mathbf{x}'\boldsymbol{\beta}_i - \lambda_{is}y_s - \lambda_{it} - q_i \right)$, $y_{it}^0 = \mathbf{1}\left(\varepsilon_i > -\alpha_i - \mathbf{x}'\boldsymbol{\beta}_i - \lambda_{is}y_s - q_i \right)$, $i = \{1,2\}$ and $\mathbf{x} = (\mathbf{x}_1' \ \mathbf{x}_2')'$. Vector $\mathbf{x}_1^0$ indicates a reference individual who is a male, catholic or muslim, living in the north macro-region, of current age and age at arrival equal to the sample-mean points, 38 and 32 years respectively. Vector $\mathbf{x}_2$ contains education and country-of-origin dummies.

We use `cmp` (Roodman (2011)) for estimation. Our implementation of `cmp` computes the quadrivariate normal distribution in the log-likelihood through the GHK algorithm, using 997 integration points (a prime number well beyond the `cmp`'s default of 5), obtained from an Halton sequence with basis 2 and 3.

Table 1 reports the estimates of $ATE_{y_3}(k_1, k_2)$ and $ATE_{y_4}(k_1, k_2)$ for a catholic and a muslim. For either group, we find that being employed causes a significantly greater chance of being separated and a significantly lower one of being assimilated. The employment impact on marginalization and integration is instead never significant. The housing status is never significant.

The emerging picture seems to suggest that labour policies only aimed at improving the economic performance of immigrants may bring about the undesired effects of more separation and less assimilation, with an uncertain impact on integration, confirming the findings in Bruno and Dessy (2016). The housing status instead does not seem to play a role in the ethnic-identity formation of the immigrants.

Table 1: ATE_{y_3} and ATE_{y_4} - Recursive quadrivariate probit model of ethnic identity ($age = 38$, $age\ at\ arrival = 32$, $sex = male$, $religion = catholic/muslim$, $area = North$)

	integrated	assimilated	separated	marginalized
ATE_{y_3} for a catholic	-0.170	-0.168***	0.353***	-0.016
	(0.109)	(0.048)	(0.085)	(0.020)
ATE_{y_3} for a muslim	-0.152	-0.173***	0.337***	-0.011
	(0.106)	(0.052)	(0.078)	(0.017)
ATE_{y_4} for a catholic	-0.076	0.009	0.054	0.012
	(0.081)	(0.028)	(0.087)	(0.015)
ATE_{y_4} for a muslim	-0.079	0.011	0.057	0.010
	(0.084)	(0.030)	(0.089)	(0.013)
$\hat{\lambda}_{13}$, $\hat{\lambda}_{23}$, $\hat{\lambda}_{14}$, $\hat{\lambda}_{24}$	-0.903***, 0.967***, -0.181, -0.153			
cov12, cov13, cov14,cov23, cov24, cov34	-0.324***, 0.546**, 0.142, -0.333***, -0.030			

Estimated by `cmp` with 997 antithetic Halton draws with square-root-scrambling. Standard errors in parentheses.

5   Conclusions

Applying recursive quadrivariate probit to the ISMU data, we have estimated the ethnic-identity effects of two variables of economic performance for the immigrants: the employment and the housing statuses. The recursive framework was key to deal with the potential endogeneity of the foregoing treatment variables, which is quite an advance in the applied literature on immigrants identity. Our estimates have a clear-cut policy implication. Labour market policies targeted exclusively at improving the employment status of the immigrants may bring about the effects of more separation and less assimilation, with an uncertain impact on integration.

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