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## Materiali di discussione

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### Emigrants and immigrants networks in FDI

by

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# Emigrants and immigrants networks in FDI.

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## Abstract

This paper studies the relationship between emigration, immigration and the bilateral foreign direct investments (FDI), inward and outward, between Italy and 51 foreign countries. The results suggest that the networks of Italian emigrants abroad significantly promote both inward and outward bilateral FDI. The overall influence of immigrants is weaker. Their role is positively dependent on distance for FDI inward, only.

*Keywords:* Migrants networks, FDI, Italy

*JEL classification:* F21, F23

## Introduction

Together with the Jewish and Chinese, the Italian Diaspora is one of the most important in modern world history. Italians, who emigrated in massive numbers from the mid-1800s to the 1970s, generally maintained enduring and strong relationships with their country of origin. Beginning in the 1970s, Italy aligned with the other developed nations and became a land of net immigration. This paper focuses on the Italian economy and shows that migrants' networks affect bilateral foreign direct investments (FDI) between their origin and destination countries. The literature on migrants' social and business networks has mostly considered bilateral trade (Rauch, 2001), only few exceptions examine FDI (Gao, 2003, Tong 2005). However, it is reasonable to think that, as migrants' links influence the choices of firms regarding trade, they can also affect their investment decisions abroad.

Some theoretical models depict how multinationals choose their mode of entry in foreign markets. In Melitz (2003), monopolistically competitive firms differing in productivity decide whether to export or to invest abroad by comparing the demand and supply conditions at home and abroad. Exports are affected by variable transportation costs, while investments have fixed costs. Investments are preferred when the gap between the expected profits of investing and those of

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exporting outweighs the fixed costs. Investments involve more difficulties than exports, but lead to higher total profits. They are accomplished only by the more productive firms, which also reach larger sizes. In Markusen (2002), the investments of multinationals are of two main kinds: either they are made with the purpose of selling the same goods sold at home abroad (horizontal FDI) or of saving production costs (vertical FDI). In both cases, there are fixed and variable costs associated to the investment.

More generally, it can be thought that these costs are influenced by the existence of informal barriers that impede entry into foreign markets, similar to the informal barriers to trade that are described by the literature on networks. They involve ignorance of economic opportunities, foreign suppliers, consumption and production conditions and distribution channels. As for trade, entry is more difficult when countries are distant, not only geographically, but also culturally and institutionally.

The presence of immigrants at home and emigrants abroad can lower these informal barriers, and with them the threshold above which entry is profitable. In other words, migrants' networks can boost bilateral FDI. Furthermore, their existence may turn out to be especially important for small firms, which typically face the highest difficulties investing abroad, and, in the aggregate, for countries, such as Italy, where there is a wide number of these firms.

### **Specification and results.**

We estimate (*OLS*) a model of FDI taking place between Italy and 51 partner countries<sup>1</sup>, for a time span from 1990 to 2005 (panel data). Unlike most of the literature, we consider both immigrants in Italy and Italian emigrants abroad. We are interested in measuring the effects of the two groups on bilateral FDI and, as explained above, we expect these effects to be positive.

To distinguish between horizontal and vertical FDI, we estimate a gravity model where variables, as in Gao (2003), are: combined GDP (sum of Italian and foreign country GDP), the absolute value of the differences in GDP, and the difference in per-capita GDP. The horizontal model of multinational investments predicts positive coefficients of combined GDP, which are a proxy of total market size, and negative coefficients of the differences in GDP and in per capita GDP. In other words, horizontal FDI should increase with the total size and the similarity between the

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<sup>1</sup> Albania, Algeria, Argentina, Australia, Austria\*, Brazil, Bulgaria, Canada, Chile, China, S. Korea, Croatia, Denmark\*, Egypt, France\*, Germany\*, Japan, Greece\*, Hungary, India, Indonesia, Iran, Ireland\*, Israel, Libya, Luxembourg\*, Malaysia, Morocco, Mexico, Norway, Netherlands\*, Philippines, Poland, Portugal, UK\*, Czech Rep., South Africa, Romania, Russia, Singapore, Slovakia, Slovenia, Spain\*, USA, Sweden\*, Switzerland, Thailand, Tunisia, Turkey, Ukraine, Venezuela. \*: European Union.

outputs of countries. On the other hand, the vertical model predicts a positive coefficient of the difference in per-capita GDP, which is a proxy of the differences in endowments between countries. For example, a relative abundance of natural or labor resources and large GDP size should indicate low production costs, and hence convenience for vertical international integration. Italy is a developed country, hence we expect the horizontal model to apply for inward FDI and less clear cut results for outward FDI (both models should be present). The dummy indicating membership in the European Union (EU) is meant to capture the advantages of the common market, but also cultural and institutional similarities. The other dummy on the quality institutions, takes value 1 when quality is similar or higher than in Italy. All variables, except dummies, are in logs.<sup>2</sup>

Table 1 shows that Italian FDI, both inward and outward, seem to follow the horizontal model. In all specifications the coefficients of combined GDP are significant and positive, while the signs of the two variables on the differences in GDP are negative. In particular, the coefficient of the difference in per-capita GDP, which is crucial to discriminating between horizontal and vertical multinational production, is always negative, and in almost all specifications is highly significant. These results are as presumed for inward FDI, less so for outward FDI. Distance always has a negative sign. This seems to suggest that the overall costs of investing abroad are higher when countries are more distant.

As expected, the emigration variable always has a positive and highly significant impact on FDI, both inwards and outwards: a 10% increase in the stock of emigrants increases inward FDI by 2.5% and increase outward FDIs by 3.5% (Models 5). This shows that the social and business networks of Italians residing abroad have an important influence on the country's bilateral FDI.

On the other hand, the impact of immigrants is in general weaker and less significant.

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<sup>2</sup> Data sources are GDP: World Economic Outlook, IMF; distance: <http://www.wcrl.ars.usda.gov/cec/java/lat-long.htm>; emigrants: AIRE (Ministry of Interior), immigrants and international trade: ISTAT; governance quality index: Kaufmann et al. (2002).

Table 1: Migrants networks and FDI

Variables	FDI inward					FDI outward				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	-19.64*** (-7.13)	-19.54*** (-7.74)	-18.40*** (-6.13)	-21.05*** (-7.35)	-11.66** (-2.04)	-14.34*** (-5.04)	-13.97*** (-6.17)	-10.20*** (-4.13)	-12.32*** (-5.36)	-5.19 (-1.15)
Combined GDP	2.66*** (13.73)	2.10*** (11.06)	1.87*** (7.01)	2.13*** (8.33)	2.12*** (8.33)	2.45*** (12.33)	1.51*** (8.95)	1.29*** (5.95)	1.48*** (7.30)	1.46*** (7.25)
Difference in GDP	-0.64*** (-5.44)	-0.28** (-2.46)	-0.20 (1.60)	-0.23* (-1.87)	-0.25** (-2.07)	-0.69*** (-6.17)	-0.11 (-1.04)	-0.12 (-1.12)	-0.13 (-1.35)	-0.15 (-1.51)
Difference in per capita GDP	-1.20*** (-15.50)	-0.93*** (-11.78)	-1.01*** (-7.33)	-1.20*** (-8.97)	-1.22*** (-9.12)	-0.48*** (-6.17)	-0.01 (-0.14)	-0.19* (-1.76)	-0.39*** (-3.62)	-0.39*** (-3.74)
Distance	-0.21** (-2.34)	-0.21** (-2.47)	-0.20 (-1.67)	-0.17 (-1.49)	-1.29** (-2.14)	-0.32*** (-3.37)	-0.29*** (-4.01)	-0.27*** (-2.72)	-0.21** (-2.28)	-1.05** (-2.37)
Trade dummy: European Union	0.78*** (3.38)	0.84*** (3.97)	0.92*** (3.52)	1.17*** (4.71)	1.12*** (4.44)	0.56** (2.36)	0.67*** (3.52)	0.73*** (3.43)	0.99*** (4.97)	0.95*** (4.75)
Italian emigrants abroad (stocks)		0.31*** (8.47)	0.32*** (6.20)	0.25*** (5.00)	0.25*** (5.05)		0.52*** (15.72)	0.41*** (9.69)	0.34*** (8.60)	0.35*** (8.69)
Immigrants in Italy (stocks)			0.12 (1.12)	0.17* (1.70)	-0.81 (-1.54)			0.07 (0.85)	0.13* (1.64)	-0.62 (-1.48)
Interaction term: distance*immigrants					0.12* (1.88)					0.094* (1.82)
Governance quality dummy				-1.15*** (-5.75)	-1.50*** (-5.80)				-1.07*** (-6.96)	-1.08*** (-6.99)
Adjusted $R^2$	0.72	0.76	0.78	0.80	0.81	0.51	0.69	0.71	0.75	0.75
Number of observations	400	400	262	262	262	428	428	276	276	276

Notes: \*\*\* 1%, \*\* 5%, \* 10% , ^ 11% significant level, ( t-values)

A closer look shows, however, that immigration and distance seem to interact, particularly for inward FDI. Models 3 and 4 of the equation show that the distance coefficient loses its significance when the variable immigrants is included. We consider this interaction in Model 5 by multiplying the two variables: it clearly results that the elasticity of immigrants increases with distance. This implies that the network links to the farthest countries are more valuable. In particular, immigrants from Asia, Latin America and distant OECD countries have a positive impact on inward FDI, while the immigrants from Europe (EU and East Europe) have a negligible impact. For example, an increase of 10% of the stock of Chinese immigrants increases inward FDI by 2.7%, while an increase of 10% of French immigrants increases inward FDI by 0.032%. Similarly, the impact of the U.S. and Argentina (in turn of 2.5 and 3.0) is higher than that of nearest countries.<sup>3</sup>

A similar interaction between immigration and distance does not seem to affect the outward FDI (Model 4). In Model 4, the elasticity of the immigrants variable, of 0.13, is poorly significant. To maintain a symmetry with the inward FDI estimations, the interaction immigrants-distance is replicated in Model 5. It confirms that the impact of immigrants on outward FDI is not significant, even when focusing on immigration originating in distant countries. For example, an increase of 10% of Chinese immigrants in Italy increases the outward FDI to China by 0.036%. The results for immigrants from distant OECD countries and Latin America are similar.

As indicated by the positive and significant EU dummy, much of both the inward and outward FDI activity takes place within the Union's boundaries. At the same time, the dummy regarding the institutional and cultural similarities has a negative sign in both equations, showing that, within the time span covered by the data, the importance of the FDI from and to dissimilar countries increases<sup>4</sup>. Together with the above interaction between immigrants and distance, this suggest that the value of links with distant *and* dissimilar economies (mainly Asia) also increases, at least for inward FDI.

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<sup>3</sup> The interaction is calculated as  $\frac{\Delta FDI}{\Delta immigrants} = a + b \times distance$ , where the  $a$  is the parameter of immigrant stock and  $b$  of the interaction term.

<sup>4</sup> This excludes the EU countries, where the propensity to invest is positive.

## **Conclusion**

This paper investigates the impact of migrants' transnational links on the decisions of Italian firms to invest abroad and of foreign firms to invest in Italy. The social and business networks of emigrants have a positive and quite significant effect on the country's bilateral FDI, inward and outward. The overall influence of immigrants is weak, but their impact on inward FDI is significant, especially for immigrants originating in distant countries. In general, there is a positive propensity to invest and receive investments from culturally and institutionally different countries, which are mainly Asian. This suggests that the migrants' links with these economies are becoming increasingly important.

Both inward and outward FDI seem to follow the horizontal model of multinational expansion. The very significant effects of the Italian "diasporas" on the country's outward FDI may be at least partly explained by the small average size of the Italian firms. Size makes them particularly dependent on personal contacts for their transactions and their investments abroad.

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