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Game of Brains

21st century Italian emigration.





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Brain Drain: quick review

Brain drain is a well-documented and researched phenomenon – associated with the migration of high-skilled and well-educated individuals in pursuit of higher remuneration¹, better work opportunities², better living standards, or fleeing from places where unfavourable social conditions prevail, including areas with low levels of civic spirit³.

The phenomenon presents challenges and opportunities. A negative 'brain balance' is typical of developing economies⁴, which often risk 'losing' their talents. This eventuality creates a disincentive for the countries of emigration to invest in the development of high-level human capital. Brain drain also impacts recipient countries, in several ways. First, inflows of high-skilled migrants - often concentrated in the STEM fields - may increase specialization as well as the potential for radical innovation in the receiving labour market. There is also evidence of high-skilled migrants displaying a higher tendency to become entrepreneurs than natives⁵, thus boosting productivity and profitability in the receiving economies. Moreover, the mobility and circulation of high-skilled individuals may help share technology and knowledge⁶. For the countries of emigration, the balance hangs on whether re-attracting and retaining talent is possible. Absent flows of return migration, or inflows of high-skilled foreigners, brain drain could ignite a vicious circle between low growth potential and inability to accumulate much needed human capital⁷.

Importantly, global high-skilled migration has been increasing over the past decades. Among OCED countries, the number of migrants with tertiary education grew by almost 130% between 1990 and 2010. Over the same period, low-skilled migration grew by 40% 'only'. In part, this boom in high-skilled migration has to be read within a context of greatly deepened global interconnectedness. Between 1975 and 2008, in fact, the population of international students (who often remain in the countries where they pursue their studies and create a 'network effect' that further attracts nationals of the countries of origin) has increased to 3.3 million.

- 3 Casari, Marco, et al. "Civicness drain." (2018) show how individuals from geographical areas within Italy characterized by a low "civic spirit" tend to migrate internally to the country, whereas individuals from areas that display a higher "civic spirit" tend to be more likely to move abroad.
- 4 Hanson, Gordon H. "The Economic Consequences Of The International Migration Of Labor". Annual Review Of Economics, vol 1, no. 1, 2009, pp. 179-208. Annual Reviews.
- 5 Fairlie, Robert W., and Magnus Lofstrom. "Immigration and entrepreneurship." Handbook of the economics of international migration. Vol. 1. North-Holland, 2015. 877-911.
- 6 Fairlie e Lofstrom (2015) and Hanson (2009)
- 7 Demange, Gabrielle, Robert Fenge, and Silke Uebelmesser. "Financing higher education in a mobile world." Journal of Public Economic Theory 16.3 (2014): 343–371.

¹ Rosenzweig, Mark R. "Global Wage Differences And International Student Flows". Brookings Trade Forum, vol 2006, no. 1, 2006, pp. 57-86. Project Muse

² Mayda, Anna Maria. "International Migration: A Panel Data Analysis Of The Determinants Of Bilateral Flows". Journal Of Population Economics, vol 23, no. 4, 2009, pp. 1249–1274. Springer Nature Grogger, Jeffrey, and Gordon H. Hanson. "Attracting Talent: Location Choices Of Foreign-Born Phds In The United States". Journal Of Labor Economics, vol 33, no. S1, 2015, pp. S5-S38. University Of Chicago Press

"50% of unemployed young people in Italy today have been in such state for 1 year or more"

Brain Drain in Europe during the Crisis

Within the European Union, emigration has occured in large numbers and for some time from Eastern towards Western EU Member States, especially after the eastern enlargements. More recently, however, we have witnessed important flows of emigration also across the Western European Members States, in the context of the Global Financial Crisis first, and the Eurozone crisis later. The economic and financial turmoil that dominated the Eurozone between 2009 and 2013 contributed to unveil deep structural differences across countries. Declining standards of living in what has since become known as the 'Southern periphery' were associated with quickly growing unemployment and poverty incidence, especially among the young generations.

What is perhaps even more important, when looking at push factors for young skilled emigration, is the rapid increase in the *duration* of youth unemployment. Figure 1 below shows that long-term unemployment came to account for a larger and larger share of total youth unemployment, between 2008 and 2014. In Italy and Greece, 60% of all young people who were unemployed in 2014 had been in such condition for longer than 1 year. In both countries, the share is still around 50% today, testifying to an important ongoing process of skills deterioration in these countries



► Source: Authors' calculations based on OECD data on incidence of unemployment by duration ► SOURCE: LEFT: Authors' calculations based on OECD international migration database

Note: South = Greece, Portugal, Spain (no data for Ireland). Notth = Austria, Belgium, Finland, Germany, Netherlands (France is excluded due to missing data before 2012)

 Source: RIGHT: Authors' calculations based on data from the World Economic Forum

Note: South = Greece, Ireland, Portugal, Spai); North = Austria, Belgium, Finland, France, Germany, Netherlands

"Italy is structurally weak at retaining and attracting talent" Unsurprisingly, dire economic and social conditions were accompanied by a widespread phenomenon of South-to-North migration, as young people increasingly fled crisis countries in search for better opportunities. The crude net migration rate turned negative – signalling net emigration – in Ireland in 2009, in Greece in 2010, in Portugal in 2011 and in Spain in 2012. This dynamic is also visible in the substantial increase in inflows of migrants from the Eurozone South to the Eurozone North (Figure, 2 left). Emigration from Greece, Ireland, Portugal and Spain more than doubled between 2007 and 2013. Emigration from Italy has increased significantly since 2012. Only recently have these flows started to slowly level off, though they continue to be much larger than prior to the crisis.



The counterpart to this massive Southern 'exit' has been a significant deterioration in the ability of Mediterranean countries to attract talent or even just retain existing one. One way to measure this loss is through the World Economic Forum's 'brain drain index' (Figure 2, right). A look at the time dynamics of this indicator suggest two considerations. First, the sizeable (and potentially structural) effect of the crisis on those countries that underwent EU/IMF macroeconomic adjustment programmes is strikingly evident. While 'North' and 'South' before the crisis were very similar in terms of their capacity to attract and retain talent, today the gap in attractiveness is large - with the periphery lagging far behind. Second, Italy stands out as an outlier. Its ability to attract and retain talent was structurally lower already before the crisis, and it has been on a declining path since the mid-2000s.

Figure 2 · South-to-North Migration (left) and Brain Drain (right)

"The Italian boom in emigration since 2008 is not physiological but pathological"



Brain Drain in Italy

Overview

Emigration of Italian citizens is nearing a five-decade high – at levels that were last seen in the 1970s (IMF 2019). Italy is going back to being a country of emigrants, and its structurally low ability to attract and retain talent makes it an especially interesting case to investigate the dynamics of brain drain in an advanced economy. The boom in e-migration observed since 2008 is not physiological but pathological: while during the previous decade emigration was fairly stable and insensitive to unemployment dynamics, starting in 2008 they have been going hand in hand (Figure 3).



The growing trend is mostly explained by emigration of Italians youn ger than 45, while outflows have been increasing only slightly for the 45-64 cohort and have remained stable among those 65 years old or older. Geographically, most of those who migrate come originally from the north of Italy, which is perhaps unexpected in light of the historically high migration from the south – both internally and abroad. The preferred destination is by far Western Europe – in line with the easiness to travel and relocate that EU citizens enjoy within the Schengen area. In terms of gender, Italian emigration is composed mostly by men, although the post- 2008 boom has also seen a significant increase in the number of women emigrants (Figure 4).



Source: Authors' calculations based on data from ISTAT

"Those who leave have on average a higher educational attainment than those who stay"

A negative skill balance

Most importantly, recent Italian emigration has been characterized by 'brain drain' features. The number of migrants holding at least a bachelor degree more than tripled in ten years, while the increase is much smaller among lower educated Italians. To understand who these mobile emigrating graduates are, we exploit a survey conducted by ISTAT⁸. The survey includes interviews collected in 2011 on a sample of 30 000 Italians who graduated in 2007, and again in 2015 on a sample who graduated in 2011⁹. The results in Figure 5 below show that the share of graduate emigrants holding a bachelor degree doubled in about five years. The share of people holding a master degree who emigrate is also significan tly higher. By contrast, respondents who graduated in a 4 to 6 six years degree remained constant across the two waves of the survey – probably an effect of the phasing out of the old system of tertiary education.

Looking at the differences in educational levels of respondents by residency, it can be seen that 58% of those who are resident in Italy attained a Bachelor degree in 2007, whereas among the respondents living abroad the share is less than 50%. On the contrary, the share of

⁸_The Italian Insitute of Statistics_

⁹ Methodological note: administrative data account for the number of people moving their residency and thus tend to underestimate the real number of emigrants, especially those moving (or intending to move) for short periods of time. The data from ISTAT survey of graduates allow for a better comparison with the population, although the risk of underestimation is still present – mostly due to non-responses.

those who attained a Master degree or equivalent is less than 17% among the respondents resident in Italy, but it reaches 33% among those who moved abroad. When looking at the 2015 cohorts, the share of Italians resident abroad who hold a Master or equivalent is 43% – testifying to the relevance of skilled movement in the context of the most recent wave of Italian emigration (Figure 6).





Moreover, there seems to be a strong process of self-selection among those who leave. Looking at the 2011 ISTAT survey cohort, the students who graduated with the highest marks (honours, or '110 cum laude' in Italian) represent 40% of the graduates living abroad, but only less than 25% among those who stayed. In other words, not only is Italy losing a

Source: Authors' calculations based on data from ISTAT

"Graduates with honors are 40% among movers, but only to 25% among stayers" relatively larger proportion of high-skilled young people compared to low-skilled ones, but those who go are on the right tail of the distribution, in terms of their academic achievement (the 'best and brightest').



Focusing on the fields of study prevalent among the emigrants, it emer ges from Figure 7 above that the largest increase in emigration has occurred among graduates in the STEM fields (science, technology, engineering and mathematics). The share of graduates in economics and statistics, scientific subjects, and engineering living abroad has more than doubled between 2011 and 2015. In 2015, the graduates in scientific fields represented the largest share among those residing abroad (7.4%), followed by the engineers (6.7%) and architects (6.5%).

Another very worrying aspect of the recent Italian brain drain is the fact that the emigration of Italian skilled workers described above is not compensated by an inflow of foreign brains. Although the topic of immigration has been growing in saliency in the Italian political discourse over the past few years, the cumulated net migration balance shown in Figure 8 (left) suggests that Italy's net migration has been growing increasingly negative, especially for high skills. Moreover, Italy is the destination to one of the lowest shares of foreign skilled immigrants among OECD countries (Figure 8, right). These factors combine to determine a clear loss and a potential disincentive to invest in human capital formation.

 SOURCE: Authors' calculations based on data from ISTAT, survey of graduates, weighted data

Source: Authors' calculations based on data from ISTAT.

"The largest increase in emigration has been taking place among STEM graduates"



Revamped dualism

Looking at the gender composition of emigration, we detect the signs of a 'new gender gap' suggesting that women may be slightly less likely to migrate. Women represent a clear majority (58%) among the 2007 graduates living in Italy, but less so among those living abroad (52%). Across the 2011 cohort, the share of women living in Italy reaches 59% whereas it remains at 52% among the emigrants. This may be the side effect of a gender-led selection into different areas of study - with men having a higher tendency to enrol into those STEM fields that we have shown to be the source of most high-skilled Italian emigration.

We also see evidence of a north-south gap. Those who pursue their studies in the north of Italy have a higher likelihood of moving abroad (Figure 9). This testifies to the stronger competitiveness of northern universities in producing 'exportable' skills. If we look at where the movers come from before enrolling in northern universities, the picture however changes considerably. Many of the respondents who graduate from universities in the north of the country and then move abroad is in fact originally from the south of Italy. The emigrants who graduated from northern universities were 57% of the total in 2011 and 60% in 2015, but only 44% and 53% respectively were from the north of Italy. This points to the existence of a process of 'two-steps-migration', whereby young Italians from the more disadvantaged southern regions move first to the north of Italy to build their human capital, and then abroad, to further their education or work.¹⁰

Source: Authors' calculations based on data from ISTAT, survey of graduates, weighted data

North-South divide"

¹⁰ A similar analysis has been conducted also on PhD graduates (taking advantage of two others ISTAT surveys), and the picture delineated so far remains fairly unchanged. Indeed, also Italian PhD graduates are deciding to reside abroad at increasing rates, and reflect the trends delineated for the other graduates

FIGURE 9 · Emigration by origin (right) and place of study (left)



► Source: Authors' calculations based on data from ISTAT, survey of graduates, weighted data

"Italy has the second lowest share of population with tertiary education (18.7%)"

Source: Authors' calculations based on OECD data

Why we care

Losing out on the future

The severity of the recent Italian brain drain wave is even more compelling if the phenomenon is examined in the context of Italy's structural weakness in accumulating human capital. The recent OECD report 'Education at a Glance 2018' delivers a sobering picture of Italy in terms of educational and labour market outcomes. In 2017, the country was second to last for the share of the population attaining tertiary education, with only 18.7%. This figure is significantly lower than the OECD average (35%) and only 1.3 percentage points better than the worst performer (Mexico). Among those aged 25 to 34, the share with tertiary education increases to 27%, which is again below average (44%). .



Among those who do attain tertiary education, the largest share pursues degrees in the STEM fields (23.8%). This is significantly below the 35.2% of the best performer (Germany) but not too far from OECD average (25%). More interesting is the breakdown into STEM subfields. While Italy tops the OECD ranking in natural sciences, mathematics and statistics (8% against an OECD average of 4.7%), it is second to last in information and communication technologies (with 1.3%) and in the left tail of the distribution in engineering, manufacturing and construction (14%). "Italy under-produces ICT skills and has the highest share of under qualified mismatch workers in the OECD"

► Source: calculations based on ISTAT data

Italy thus seems to be structurally under-producing skills in those fields that will drive industrial development and production in the future (ICTs). This is the case despite the unemployment rate for 25-34 years old ICTs graduates is the lowest (7.4%) across all tertiary sub-fields

In light of this data, the recent spike in brain drain – which we have shown to be concentrated in STEMs – is even more concerning. It deprives the country of key but already scarce skills, leaving it badly equipped to face the process of technological deepening in industry and manufacturing. Building and retaining more STEM skills – but especially ICT skills – would be a key priority for Italy, particulalry in light of the fact that industrial production in high-tech manufacturing sectors¹¹ has been stagnating since the early Nineties (Figure 10, left).

The structural effects of this scarce accumulation of high skills is compounded by mismatching on the labour market (Figure 10, right). Italy is not significantly worse than the average OECD country in terms of overall mismatch, but it has the highest share of *under-qualified* mismatched workers (22%). The data from ISTAT's survey of graduates rhyme with this evidence (Figure 11 below). If we look at the occupation of respondents by residency, we clearly see that the share of those employed in highly specialized professions is much higher (51%) among the Italians resident abroad than among those who remained in Italy (39%)



11 See the classification from the European Commission here: https://ec.europa.eu/eurostat/statisticsexplained/index.php/Glossary:High-tech_classification_of_manufacturing_industries. See also: https:// docs.wixstatic.com/ugd/4b5846_67852ba0c1ee488c86fcc81b1b79e5c8.pdf?index=true



► Source: calculations based on OCED data

Immobility and radicalization

Why is tertiary education attainment so low, in italy? This dismal performance may be related to the perceived return of on higher education. One way to look at this is through the lens of the private internal rate of return (IRR), i.e. the real interest rate that would equalise costs and benefits of investing in one's own education .The IRR can be interpreted as the interest rate on the investment made on a higher level of education that an individual can expect to receive every year during a working-age life: the higher the IRR, the strongest the incentive should be. On average across OECD countries, the IRR from attaining tertiary education as compared to upper secondary is 14% for men and 16% for women. Figure 12 below shows that the private IRR for male students in Italy is the second lowest in the OECD – at 8%, just ahead of Turkey In other word, it appears that the pay-off from investing in one's own tertiary education in Italy is especially low.



The low return on education certainly does not help tackle another worrying Italian feature, i.e. the very low degree of intergenerational mobility along the educational ladder. Based on OECD data, Figure 13 shows that in 2012 – the latest available data for Italy – only 36% of Italians aged 25 to 64 attained an educational level higher than their parents did, in families where neither parent had attained upper secondary. When looking at Italians with that same family background who succeed in attaining tertiary education specifically, the share drops to 6%.

"Only 6% of Italians attain tertiary education when their parents did not complete upper secondary"

Source: calculations based on OECD data

 Source: calculations based on OECD data Such a strong persistence suggests that the Italian education system is ineffective at making sure that everyone has an equal chance to develop their knowledge and skills independently from their socio-economic background, and therefore it risks reinforcing inequality dynamics. This is even more evident when considering the fact that young Italians from better-educated families are also significantly more likely to migrate in response to unfavourable domestic economic conditions. Figure 14 below shows that the share of Italians whose parents hold an university degree is proportionally much higher among those living abroad than among those living in Italy. Conversely, the share of Italians whose parents did not attain upper secondary education is much lower among the migrants than among those who stay.





FIGURE 14 · Italians by residency and parents' education



Mother's education, 2015

"Movers and Stayers have different views of domestic and European political issues"

A low intergenerational education mobility thus not only deprives individuals from disadvantaged backgrounds of an equal chance at studying, but also significantly lowers their likelihood to escape an impoverishing economic and social environment, in bad times. This dualism is likely to produce political polarization and radicalization among the 'stayers', as opposed to the 'movers'. In fact, looking at political statements collected in the European Social Survey (ESS) among respondents younger than 30 from Mediterranean countries , some differences emerge (Figure 15 below). The most evident one is on the subject of immigration – whose salience has heightened in Europe with the euro crisis first and especially with the refugee crisis. On that, movers are unsurprisingly more liberal than stayers.



Movers also trust the European Parliament more, and tend to be slightly more emotionally attached to Europe. These differences are further strengthened by evidence in the Eurobarometer survey, suggesting that attitudes towards the EU are very different among 'movers' and 'stayers'.

Figure 16 below shows answers to the question "what does the EU mean to you personally?" for Italian movers and stayers specifically. The share of people associating the EU with positive aspects such as 'economic prosperity,' 'democracy,' and 'social security' is much higher among movers than among stayers. Conversely, the share of stayers who associate the EU with 'unemployment' is higher than for movers.

Source: Authors' calculations based on ESS data



Source: Authors' calculations based on Eurobarometer data

Policy Implications

In a context of increased international mobility, brain circulation can be an opportunity. However, as we have described at lenght in this report, the recent Italian brain drain wave displays several pathological features, which make it look more like an emergency evacuation than a balanced exchange of human capital. Two aspects are particularly concerning:

- Negative skills balance. The outflow of skilled workers is not compensated by an inflow of foreign brains. This translates into a loss, and a potential disincentive to invest in human capital formation, in a country that is structurally under-producing key skills.
- Emigration and inequality. Italian emigrants in the recent brain drain wave are mostly a self-selected part of the population: the likelihood to both attain tertiary education and emigrate is larger for young Italians coming from more advataged socio/economic backgrounds...

Italy thus risks becoming locked into a self-fulfilling vicious circle of emigration, low potential growth, high youth unemployment, and more emigration. This eventuality has **a monetary and a non-monetary cost**.

A study from the General Confederation of Italian Industry (Confindustria) estimates that Italian households spend in care and education about 165 thousand euro per child, from the birth till the 25th year of life. Based on this, Confindustria estimates that the emigration of young Italians between 2008 and 2015 has been equivalent to a 42.8 billion euro loss in private human capital investment. For 2015 alone, when 51 thousands Italians under the age of 40 moved their residency abroad, the private loss can be estimated in the order of 8.4 billion, to which we would need to add 5.6 billion of public investment in education¹².

The non-monetary cost is no less dire. Italy suffers from very low intergenerational education mobility. Italians from a less-advantaged background are not only less likely to pursue higher education, but also less likely to emigrate in bad times. For people who remain stuck in economically and socially impoverished environments, the risk of political radicalization is high, as is the temptation to support drastic responses to emigration. A recent ECFR poll¹³, for example, shows that 52% of the Italian respondents would support measures "preventing nationals from leaving the country for long periods of time, as a policy response to migration".

¹² Estimates are contained in "Le Sfide della Politica Economica", Settembre 2017, Centro Studi Confindustria http://www.bollettinoadapt.it/wp-content/uploads/2017/09/ScenariEconomici_settembre_2017.pdf

¹³ See https://www.ecfr.eu/specials/what_europeans_really_want_five_myths_debunked_

Best European practices to retainin and attract talent can be gauged by looking at the case of those countries in Europe that are a catalyst for a large number of students, but have difficulties in retaining them once they graduate: Switzerland, Denmark, the Netherlands. In Denmark, for example, even graduates who do not immediately find a job can have access to unemployment benefit, and can easily access residency rights. A second successful practice in attracting foreign skilled migrants is the creation of priority lists, which facilitate immigration of people holding specific degrees (e.g. engineers). Such practices have been enacted in Germany and Denmark, but also at the European level there through the introduction of a 'European blue Card', in 2009. A third best practice to improve skill inflow is the recognition of foreign certifications. In 2005, a European directive¹⁴ standardized procedures for accessing regulated labor markets (e.g. the profession of physicians) for EU citizens. Countries such as Norway, Denmark and Germany have also established clear procedures to recognize certifications held by non-EU citizens. We also have examples of lower-income EU countries that suffered from sizeable waves of mass emigration, but have enacted counter-measures. For example, Poland implemented in 2007 a mix of tax incentives and service provisions to stimulate return migration.

Italy has been experimenting with incentives for return migration since 2003. In both 2010 and 2019, governments of very different political composition introduced substantial (50–90%) income tax exemptions for returning emigrants. Another policy tool that has been deployed, although more limitedly, has been the creation of hiring programs specifically targeted at foreign researchers. As an example the 'cattedre Natta' programme aimed at hiring 500 excelling Italian researchers and professors from abroad, but the program was suspended before it could reach full implementation. Finally, there is also a number of regional programs, often consisting in scholarships and sponsorships for studying or working abroad, conditional on the return of the recipient in the region of origin for a certain period of time.

The best policies to favor a more even skill migration balance and a more equal access to the opportunity of international mobility would be those tackling the underlying structural problems of Italian economy. These would include more investment in research, a public education and university system that promotes the accumulation of key skills and rewards merit, policies aimed at tackling the underlying intergenerational education immobility that perpetuates social inequalities, a fiscal policy that reliefs labor income and corporate investment in skills thus boosting the resturn to education, a more efficient labor market that minimizes skill mismatch. Although crucial, these are long-term structural actions. In this final section we try to suggest some readily implementable measures.

14 2005-36-EC and successively 2013-55-EU

1. Change the tax incentives system

Tax exemptions to returning migrants have promoted inflows from abroad, with no cost for the state. On the other hand, tax incentives schemes present criticalities. From an equity standpoint, exempting returning skilled migrants means favouring a part of the population that often comes from relatively more advantaged socio-economic background (as shown). Political support for this may be slim, unless it is explained very clearly that favouring the return of talent would eventually benefit everyone in society, through higher growth in the longer term. Secondly, incentives to return - if permanent - can have the short-term consequence to act also as an incentive to leave. This is not necessarily bad, because the return of people who pursue their education or part of their work experience abroad can be beneficial through the diversification that it spurs in the home labor market. But incentives should not become a subsidy to emigration nor a dis-incentive for governement to invest in the improvement of the local education system. Possible changes to the incentive framework could include making the exemption more diluted in time - smaller but longer - so as to favor long-term returns .Extending the tax benefit to foreigners, trying not only to re-attract Italian emigrants but also foreign skilled workers, would also be important.

2. Establish a system of 'keep in touch' programs

Introduce additional financing for Italian emigrants who commit to work either part time or full time in the region of origin. This work requirement might also be satisfied through participation in projects based in Italy or creation of enterprises. A first step could be the coordination and harmonization of different existing regional policies such as 'Torno subito' in Lazio, 'Brain Back' in Umbria or 'Master Back' in Sardinia.

3. Bilateral agreements on degrees recognition

Italy should adopt a system similar to the one adopted by Germany for the recognition of degrees earned abroad. The system should be based on a procedure delegated to professional associations (camere professionali) and public employment centers, including on the subjecto of maximum administrative costs and procedure duration.

4. Remunerate Skills

Establishing a minimum wage for researchers would prevent the existence of unpaid PhDs and post-doc positions, pushing universities to concentrate resources and to valorize their researchers.

5. Continue promoting the universities' 'third mission'

Since 2004, and more formally with the creation of ANVUR (the national evaluation institute), universities have been evaluated based on three 'mandates': (1) interaction with students, (2) with the scientific communities, and (3) with the surrounding socio-economic environment. For the business sector, the third mandate is of particular importance in bridging the competences that students acquire with what they could do in the surrounding region, preventing emigration after graduation or severe skill mismatch. The 'third mandate' is not only being taken into more and more consideration in the context of ANVUR's activity, but it is also the basis for initiatives such as the Innovative Doctoral Programme and Excellent Departments, in which the excellent faculties are put in better conditions for attracting best researchers.

6. Incentivize recruitment on international markets by public research institutions

Today, foreign researchers face a high fixed cost when applying for jobs in Italy. these costs include bureaucratic procedures, network and information investments that are crucial but often not transparent, language barriers, the above-mentioned problems with recognition of foreign-earned degrees et c.. Participation to the international job market by universities should be promoted better. Actions could include:

- Creating universally applied standardized services, such as online information and application platforms or counseling, in English.
- Simplify procedures for recruitment, career and tenure track access. For example, easing the mechanism of National Scientific Habilitation (Abilitazione Scientifica Nazionale), and allowing for flexibility in using direct calls (chiamata diretta(, both for professors and researcher posts
- Establish a target of recruitment of foreigners, which could be enforced through quotas or incentives (currently, the 'internationalization' evaluation pillar by ANVUR considers the share of foreign students and foreign language courses, but not the share of foreign faculties).
- A similar requirement could be established for the recruitment of Italians from abroad

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