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The Mezzogiorno Problem to be. Territorial Implications of the Reform of Tertiary Education in Italy

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Abstract
In the last decade the university system in Italy has shrank and a larger heterogeneity has emerged among universities located in different areas of the country. The Italian Mezzogiorno has been hit the most in terms of enrolled students, academic staff, financial resources, number and variety of courses offered. At the same time a large migration of students from southern to northern areas took place. In this work we investigate these issues and we disentangle the possible causes at the origin of these phenomena. We highlight, in particular, the role of new regulatory policies and the funding mechanisms based on performance indicators for the emergence of new forms of territorial disparities. We conclude that, to implement austerity plans required by the fiscal conditions in the aftermath of the crisis, the policy course taken on tertiary education is actually endangering future perspectives of most vulnerable households in less advanced regions of the country.

Keywords  Tertiary education, Geographical unbalances, Student mobility, Educational policies

JEL  I23, I24, I28
**Introduction**

It is an established fact that the organization of tertiary education and academic research can play a strategic role for the growth and development of territories. The shaping of modern economies, the creation of entirely new sectors of economic activity, the ability to compete for new opportunities in international markets all hinge on the availability to firms of highly qualified human capital.

These processes make educational investment one of the key policy issues in the majority of developed and emerging countries. This is especially relevant in Italy where its mature manufacturing system, specialized mainly on traditional sectors, has hardly been hit by the recent crisis. To have an idea of the impact of tertiary education systems on the national economy, consider that OECD (2016), by only considering additional fiscal revenues, estimates that the net public benefit generated by each Italian graduate (derived mainly from the greatest tax revenue and contributory allowance from higher wages) is over $175,000 in ppa (in 2011), higher than the average OECD ($143,700) and European ($161,400, Eu22) countries.

Moreover, educational policies take a particularly important twist in this country, since they intervene in a national economy which still features a dualistic structure, due to the presence of a significant territorial divide, rooted in the classic Mezzogiorno problem. People located in these weaker areas are those that would benefit the most from investment in education and research activities, not only to foster the emersion of innovative activities and to sustain local entrepreneurship effort. In this areas higher education institutions are also critical for breeding the evolution of social norms and cultural attitudes that would allow them to face the challenges and reap the opportunities brought about by globalization. An estimate of the relevance of the tertiary education system for local development is documented, for example, by a recent research conducted by Valero and Van Reenen (2016). By using a Unesco dataset for 15,000 universities located in approximately 1,500 regions in 78 countries worldwide, the Authors estimate the economic and socio-cultural benefits (GDP per capita growth, most prominent civic and pro-democratic attitudes) resulting from the presence of academic institutions, highlighting how “the benefit of universities is not confined to the region where they are built but ‘spills over’ to neighboring regions” (Van Reenen 2016, p. 25).

A well governed and funded system of tertiary education and academic research, a university is, therefore, a strategic asset not only for the country but also, on a local scale, as key driving force for economic, social and cultural growth for the territories in which it is located (Bagnasco, 2004).

Building on these premises, the paper examines the current structure of the Italian university system in order to highlight its trends and the emerging spatial patterns.

How tertiary education and research institutions have changed in recent years? How does Italy compare to other OECD countries? To what extent the declared objectives of national policies have been achieved in recent years? What are their socio-territorial implications? In other words, how has the geography of tertiary education been changing and why?

Our guiding hypothesis, supported by elaborations on data from various sources of information and specific already existing investigations (Anvur, 2016; Miur, 2016; Alma Laurea, 2016; OECD, 2016; Fondazione Res, 2016; Eurostudent, 2015; Istat 2016a, 2016b; CUN 2016; Fondazione CRI, 2015) is that the structural reforms and regulatory interventions implemented in the context of an economic recession have led to a steady downsizing of the university as a whole. These reforms generated heavily asymmetrical effects at the territorial level, with a much greater contraction experienced by those universities located in less developed areas, such as those in Southern Italy. Without denying the role of an often inadequate local governance and managerial practices in many universities that can have contributed to geographically polarizing dynamics over the decades, we believe that recent developments are mainly due to national policy choices that have
been more recently undertaken. Mostly this polarization is due to a narrow application of a fiercely competitive managerial model that, by using the rhetoric of excellence and efficiency, is gradually but steadily implementing what Viesti (2016) calls “a selective and cumulative compression of the university”, featuring the concentration of increasingly scarce resources in a narrow and geographically concentrated number of institutions.

Our general objective in this paper is to discuss whether the approach taken by the national policymakers in the reform of the tertiary education and research system based on the contraction of public resources, on the principle of “selective focusing” and geographical concentration of their allocation is an appropriate instrument to face the challenges posed by global competition to the national economy.

It will be argued that these policies turn out to take the implicit, but drastically effective, form of regional disinvestment. As such, from the geographic stand point, they bring about the consequence of fostering the centripetal forces inherent market led growth (Krugman, 1991, 1995). On this ground, therefore, our discussion of the reform policies will not only be based on the argument that they act as a further force unbalancing territorial or social equity. We will also question their consequences for efficiency and growth. A few consistent pieces of evidence indicate that the pursuit of this latter aim could have actually been better served by policies of opposite sign assisted by the organization of a national effort to promote and sustain the long run catching up of important parts of the country.

In particular, our aim is to assess: i) whether and to what extent the introduction of the so called “meritocratic” criteria for the allocation of public funding to single institutions can ensure conditions for socio-territorial equity of opportunity and an efficient organization of the tertiary education system across the country; ii) whether the indicators of performance adopted confer an appropriate role to the territorial context or, rather, they represent the spatially blinded information support for polarizing policies.

The rest of the paper is organized as follows: section 2 looks at the Italian university system in a comparative perspective; section 3 focuses on the internal territorial disparities of the system; section 4 critically discusses the policy choices made on funding and the evaluation/allocative mechanisms adopted, section 5 presents some conclusive reflections.

1. Recent Trends of the Italian University System in a Comparative Perspective

The Italian university system, after a long expansion phase which begun in the 1960s, has been recently experiencing a drastic downsizing in terms of enrolled students, teachers, technical-administrative staff, study programs and funding.

The Res Foundation’s report (2016) estimates that the university system contracted by about a fifth in the period between the time of maximum expansion (dating from 2004-2008, depending on the variables considered) and 2015 (table 1).

<table>
<thead>
<tr>
<th>Variations (values at 2015 compared to the maximum values in the years between 2004-2008)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled students</td>
<td>-20%</td>
</tr>
<tr>
<td>Teachers</td>
<td>-17%</td>
</tr>
<tr>
<td>Administrative Technical Staff</td>
<td>-18%</td>
</tr>
<tr>
<td>Courses</td>
<td>-18%</td>
</tr>
<tr>
<td>National Fund (FFO) (real values)</td>
<td>-22%</td>
</tr>
</tbody>
</table>

Table 1 The downsizing of the university system in Italy

Source Fondazione Res, 2016
This reduction, according to Viesti (2016, p. 4), has no comparison, for intensity and continuity, in the rest of Europe and in other advanced countries. By considering also that the Italian system was smaller in comparison to other advanced countries, these (negative) growth rates provide a summarizing picture of the drastic downsizing.

A more detailed record of the position of the Italian system in comparison to other countries can be obtained by looking at the Education at a Glance (Oecd Report, 2016), where Italy scores among the lowest in terms of many of the variables. If we consider the entry rate (estimating the percentage of the population that is expected to enroll into a tertiary education program over a lifetime) Italy records 44% against an average of 68% for the Oecd countries. Italy also scores low in terms of graduates. The percentage of the population with a first or second college degree is 18%, the lowest in Europe and among the last in the Oecd group, after Mexico (Figure 1).

![Figure 1 Share of adults (25-64 years) with college degree](image)

*Source: Elaboration on Oecd data, 2016 (referring to 2015)*

The proportion of graduates is slightly larger, i.e. 25%, if we consider adults in the range 25-34 years old. Although this is still quite far from the Oecd average (42%) and from the target of 40% of young graduates (30-34 years) set by “Europe 2020” and even below the rescheduled target Italy set at 26-27%.

Enrolment dynamics is also gloomy. The size of newly enrolled students (immatricolati), after a peak recorded between 2000 and 2003 as a result of the reform of the curricula (the so called 3+2, which favored the return to the university system of large groups among the adult population), shows a strongly negative trend thereafter, hardly mitigated by the slight increase recorded in the last two academic years. Between 2004 and 2015, the Italian universities lost about 56,000 students, a fall only partly due to the country’s demographic dynamics (-4,2% over the decade). That something beyond demographics is at work here is documented by the drop of enrollment rate among the high school graduates in Italy (-15 percentage points between 2005 and 2015. At the same time a strong growth of young Neet (not in education, employment or training) has been experienced (table 2). The share of young adults in this condition increased by almost 10% between 2005 and 2015 (Oecd, 2016). In 2015, Italy, with over 33,9% of young people aged between 20 and 24 who do not work and do not study, features the highest rate among Oecd countries.

The decrease of enrolled students may be attributed in part to the worsening employment prospects of graduates as a result of the crisis (AlmaLaurea, 2016). However, according to ISTAT (2016c) graduates still record higher levels of employment and income compared to unskilled, but also have a higher life expectancy (3,8 years longer compared to those with the middle school
 license). Moreover mainstream economic theory suggests that investment in human capital is countercyclical and it should actually increase in a downturn (since current wages and employment perspectives are low in a period of crisis) in the expectation of better job opportunities to be seized when the economy returns on a growth path.

<table>
<thead>
<tr>
<th>Graduates 25-64 years old %</th>
<th>Graduates 25-34 years old %</th>
<th>Neet 20-24 years old %</th>
<th>Neet 2005-2015 % var.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>28</td>
<td>30</td>
<td>9.3</td>
</tr>
<tr>
<td>UK</td>
<td>43</td>
<td>49</td>
<td>15.6</td>
</tr>
<tr>
<td>France</td>
<td>34</td>
<td>45</td>
<td>20.9</td>
</tr>
<tr>
<td>Spain</td>
<td>35</td>
<td>41</td>
<td>27.2</td>
</tr>
<tr>
<td>Italy</td>
<td>18</td>
<td>25</td>
<td>33.9</td>
</tr>
<tr>
<td>OECD average</td>
<td>35</td>
<td>42</td>
<td>17</td>
</tr>
<tr>
<td>EU22 average</td>
<td>32</td>
<td>40</td>
<td>17,1</td>
</tr>
</tbody>
</table>

Table 2  Graduates and Neet in Italy (2015): a comparison with some European countries

Source  Oecd, 2016

In the light of these considerations, it is difficult to explain the disinvestment in tertiary education in the country simply as driven by a drop in the demand by households due to the economic crisis. Some role, if not the crucial one, must have been played by factors affecting the supply of educational services such as policies. Oecd places Italy in the last position among member countries by percentage in terms of spending on tertiary education (figure 2), both in relation to GDP (0.8%) and as a share of total public expenditure (1.5%). Lower than the average Oecd is also the annual spending per student ($11,172 vs. $15,772), although this figure has been growing in recent years, mostly as a result of the decline in the number of enrolled students.

Figure 2  Source of revenues to the university system in Italy (% GDP)

Source  Elaboration on Oecd data, 2016 (referring to 2013)

Over the last decade the supply of tertiary educational services has worsened. The Public Funding Observatory of the European University Association (EuA, 2016) classifies the Italian university system among the “declining systems under pressure”, characterized by the simultaneous
reduction in public spending and in the number of students. In eight years between 2008 and 2015, the financial resources allocated to tertiary education and academic research decreased by 17% in real terms. It is important to notice that, in the same period, public funding for the university actually increased by 31% in Germany, 38% in Poland, and 4.3% in France. Among the major European countries only the United Kingdom features higher negative variations than Italy. An even more marked contraction obtains in terms of the university staff (including both academic, technical and administrative staff), which decreased by 18% between 2008 and 2014 in Italy, according to Eua the highest negative variation after Latvia (-19%). The cutback of funding and reduced staff in the tertiary education system in Italy has also been much higher than in other categories of public employment and the downsizing has been larger than the average reduction in public spending required by the fiscal adjust in the aftermath of the crisis. Overall, in the 2007-2015 period, the university system lost 17,443 units\(^1\) (figure 3), recording the next two largest contraction (MEF-General Accounting of the State, 2016, p. 12).

![Figure 3 Changes in public employment in the major departments (over 50,000 employees) in the period 2007-2015.
(Index Numbers, 2007 = 100)](image)

Source Elaboration on MEF data and State Accounting General Services, 2016

2. Growing Territorial Disparities in the Public University System

The shrinking of the Italian university system in recent years has not been uniformly distributed at the regional levels. A clear pattern of marked differentiations at regional and local level, with far greater contraction of the universities located in weak and peripheral areas emerge from the data (Anvur, 2016; Miur, 2016; Alma Laurea, 2016; Oecd, 2016, Fondazione Res, 2016; Eurostudent, 2015; Istat, 2016a; 2016b; Cun 2016; Fondazione Crui, 2015). Here we will only report a few indicators\(^2\), those we deem as particularly appropriate in order to document the extent and the worsening of territorial gaps, and the emergence of what has been recognized as the new “Southern question of the University” (Fiorentino, 2016). The first variable to be taken into consideration is the one documenting the evolution of first enrolments (immatricolazioni).

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\(^1\) Academics, among all categories in the Public Administration, have also been the most affected by the block of wage progression introduced by DL 78/2010 “Urgent measures for financial stabilization and economic competitiveness”. The block includes a five-year period (one year more than other categories) and is not legally recognized for career and retirement purposes (granted to other categories).

\(^2\) Data have been aggregated for macro-area. A finer disaggregation would give us a much more varied picture where significant differences among regions, provinces and universities, as well as among disciplinary areas emerge. For a closer look, see Fondazione Res Report (2016).
As reported in figure 4a, the contraction is significantly larger in the South than in the other two macro-regions. In twelve years, universities located in the Mezzogiorno have lost more than 38,000 firstly enrolled students in absolute terms. This amounts to two-thirds of the total contraction (-56,000) at national level over the same period. It is three times higher than the drop recorded in the Center (-11 thousands) and more than five times the figure registered in the North of the country (-7 thousands). As a result the size of Southern university system as measured in terms of percentage of enrolled shrank by about 7 percentage points (from 35% to 28%) to the benefit of Universities located in the North, while the Center remained essentially stable (about 24%).

Figure 4  

a) Trends in first enrollments by geographical macro-area; b) Changes in the number of first enrolled in the period 2004-05/2015-16 (%)

Source  
a) elaboration on MIUR data; b) elaboration on Anvur (2016)
The causes of this heterogeneous dynamics are complex since they concern both the demand and the supply (policy) side of education. Let us start by focusing on some of the relevant aspects on the demand for higher education at regional level. A major role in this respect is played by demographic trends in the three macro areas. Southern regions have been growing, in terms of resident population, much slower than the North and the Center (2% between 2003 and 2015, against 8,1% and 10,6% respectively). Moreover, they account for smaller young cohorts in their resident population (figure 4b) than the other two macro areas.

That demographics is not the only driver, however, is shown by other two indicators: the growth of southern students enrolling in a university located in other macro areas (+6,8% between 2008 and 2015) and the reduction of the ratio of enrolled students as a percentage of high school graduates (figure 4b). The decline of this indicator is more pronounced in the South, most likely due to the general worsening of the socio-economic conditions of the families induced by the recession that lowered their propensity to invest in children's education. On the supply side, strong territorial heterogeneities in the provision of human resources also emerge from the analysis of the main indicators that synthesize the policy changes occurred in the last decade.

For example, long term teaching staff decreased by 17.2% on average between 2008 and 2015 (Fondazione Res, 2016). A much larger decrease was recorded in the Center (-21,8%) and in the Mezzogiorno (-18,3), compared to the North in the same period (-5,9). This contraction was only partly offset by the introduction of both non tenure track (type A) and tenure track (type B) junior researchers (RUTD), respectively established by DL 230/2005 and 240/2010. New 4.608 units in total in 2015 have been hired (Anvur data). These latter resources also have been deployed in a rather unbalanced fashion, resulting in a much wider presence in the North (9 RUTD per 100 professors) and the Center (8,9) compared to the South (7,4). The ratio of research assistants (including grantees, scholarships and other figures, known in Italy as “precari”, employed on short term research contracts) is high and it has grown considerably in recent years. As well as in other cases it is equally unbalanced from a territorial point of view: there are 32,5 short term research assistant in the North and 22,3 research associates for 100 faculty members, compared to 12,8 and 18 in the South respectively.

Even more remarkable is the evolution of doctoral programs: -44,5% PhD students between 2006 and 2016 on a national scale (Adi, 2016). Nearly half of the enrolment of PhDs is concentrated in the North, approximately 29% in the Center and just 21,7 in the South³.

The drop in the teaching staff hindered the sustainability of many undergraduate courses (which require a nationally set uniform minimum number of academics), resulting in an asymmetrical contraction of the offer of courses and their variety. The current distribution of graduate courses (2015-16) also shows a clear imbalance: northern regions account for about 43% of the 1st level courses and 43,4% of the II level compared with 31% registered the South for both types of courses (Anvur, 2016). One of the most spectacular effects of increasing territorial imbalances in the deployment of resources is the rise of outflows of southerner students, a one-way mobility towards the Center-North. In the academic year 2015-16, nearly 25.000 students from the South, accounting for about a quarter of the total, enrolled at a university outside the macro-region of residence (Anvur, 2016). This is much higher than the national average and in strong growth in relative terms, due to the fall of enrolled students affecting the Mezzogiorno (Table 3).

This share is even larger if we consider the outflows of Southern students with a BA (laurea triennale) enrolling in Master’s Degrees (Laurea Magistrale) in a Northern university. Their number has been systematically growing since 2004. In 2014, one Southern student out of four decided to enroll in a master’s course in the Center-North.

³ There is only one university, the University of Napoli Federico II, among the top ten in terms of the number of doctoral scholarships granted each year.
Table 3  Enrollment patterns of students resident in the Mezzogiorno, mobility rates

<table>
<thead>
<tr>
<th>Years</th>
<th>Enrolled students resident in the South</th>
<th>Southern students enrolled outside</th>
<th>% Outflows</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-09</td>
<td>120,527</td>
<td>20,746</td>
<td>17.2</td>
</tr>
<tr>
<td>2009-10</td>
<td>119,421</td>
<td>22,683</td>
<td>19.0</td>
</tr>
<tr>
<td>2010-11</td>
<td>114,385</td>
<td>23,318</td>
<td>20.4</td>
</tr>
<tr>
<td>2011-12</td>
<td>109,567</td>
<td>23,735</td>
<td>21.7</td>
</tr>
<tr>
<td>2012-13</td>
<td>104,714</td>
<td>22,083</td>
<td>21.1</td>
</tr>
<tr>
<td>2013-14</td>
<td>103,682</td>
<td>22,299</td>
<td>21.5</td>
</tr>
<tr>
<td>2014-15</td>
<td>102,715</td>
<td>23,896</td>
<td>23.3</td>
</tr>
<tr>
<td>2015-16</td>
<td>103,116</td>
<td>24,723</td>
<td>24.0</td>
</tr>
</tbody>
</table>

High outward mobility flows are not matched by significant inward mobility ones: only 3% of students enrolled in a Southern institution come from the other two macro-areas. A survey carried out by ISTAT (2016b) on student mobility confirms that Southern universities, even the larger ones, the so-called mega-universities with over 40,000, have a smaller basin of attraction when compared to universities in the North (figure 5). By looking at mobility flows by region (figure 6a), Puglia and Sicily record the major losses, but negative balances also appear in Northern regions (Veneto, Liguria, Valle d’Aosta) and in the Center (Umbria). Conversely, Emilia Romagna, Lombardia and Lazio, exhibit very positive results. However, over time, this latter region features a decline in terms of attractiveness, whereas Piemonte and Lombardia feature a positive growth rate compared with their share in 2003-04 (figure 6b).

These mobility flows bring about cumulative effects. A recent survey by Censis (2016) for Confocooperaive provides a rough but significant estimate of the loss of resources that these mobility flows represent for the Southern university system. Using the average value of university fees paid by households, Censis obtains an estimate of 122 million euros per year (at 2014-15) lost in the Mezzogiorno, with a corresponding gain for the Center-North universities (where fees are larger) of 148 million euros. A ten years projection of this trend would lead to an impoverishment of southern universities that exceeds one billion of euros, a rise in the households’ expenditure for college education of about 1,2 billion and an additional revenue of nearly 2,5 billion universities located in the North and in the Centre.

This basic estimate of the outflow of financial resources based on the accounting of the loss of revenues that can be expected by the university system in the South of Italy as a consequence of regional mobility in the enrollment is relevant but is only the first order effect. By delving deeper into the migration pattern an even more concerning effect arises: the depletion of the quality of human capital in southern regions. Indeed, studies by Banca d’Italia (2016; De Angelis et al., 2016) show that students leaving southern regions to study elsewhere are young with a past educational performance better than those who stay (over 72% have a high school license and the diploma grades are on average higher).

By relying on recent empirical studies of students’ mobility and its drivers (Cersosimo et al., 2016, Alma Laurea, 2016; ISTAT, 2016a, 2016b), we assign a key role to the higher expectations about labor market performance and perspective incomes students have in the provinces of their destination. A forward looking choice that allows students with better schooling careers and better family background to invest in the acquisition of information about the useful links of the labor market that will facilitate job search in the future. The recent rise in the flows to Turin and Milan universities, at the expense of the great historical universities in the Center, confirms the centrality of the economic and employment local context in student choices.
Figure 5 Basin of attraction of students’ mobility flows by large universities (>40,000 students)

Source ISTAT, 2016b

Figure 6

a) Net migration balance of enrolled students by region (2015-16)
b) Main destination of southern students (val. %)

Source Elaboration on Anvur data
In response to reduced education opportunities in the South, a larger incentive to migrate emerges. In the presence of wealth constraints on education choices, only young students from upper middle class can afford this kind of migration: “a census selection affecting the social classes and the most disadvantaged regions” as noted by Asmundo (2016, p. 117, our translation). This aspect of social selection is only partially mitigated by the availability of forms of financial support. Once again universities in the North provide a larger availability of scholarships and other forms of support. Statistically positive associations emerge in these studies among several other exogenous factors such as the distance and accessibility of the university, but also the quality of life and amenities present in the area of destination.

Summarizing, it is clear how the attractiveness of universities is influenced not only by the quality of research and teaching provided, but also by a set of broader contextual factors. Factors that, in the absence of corrections, end up propelling exclusion mechanisms from tertiary education (shown by reduced enrolment in the areas of origin) and selection mechanisms based on parental background (selective increase in outflows). Overall these mechanisms reinforce each other and result in larger territorial disparities and unbalances both current and future. Our next step is to investigate the role played by national education policies. How have the regulatory changes and the new funding allocation criteria influenced the divergent dynamics emerged in the last decade?

3. The Regulatory Changes in the Funding Mechanism as Drivers of Polarization

Over the last few years, public funding for the university (FFO and research grants provided by Miur) has been drastically reduced: the latest data (Anvur, 2016) show, in real terms, the reduction in funding between 2008 and 2015 (-1.3 billion). As reported by Anvur (2016 p. 298) the level of the publicly provided funding to the system is now back to where it was fifteen years earlier. The trimming of this source of revenues has been counterbalanced mainly by a significant increase in the fees. This latter source of revenues increased the burden to households by nearly 10% since 2008; revenue from other subjects, including national, international and local public entities, as well as private institutions, such as companies or bank foundations also substituted the traditional source of revenues.

Table 4 shows the distribution of transfer revenues to University institutions by macro-areas. The quota of FFO to Mezzogiorno has systematically decreased since 2008, arriving, in 2014, to weigh 31.3% of the total state transfers, compared with the 42.5% to the North. The quota of FFO to Mezzogiorno has systematically decreased since 2008, arriving, in 2014, to weigh 31.3% of the total state transfers, compared with the 42.5% to the North. Differences in shares are even more evident if one looks at two other sources of finance ("students' fees" and "other revenues") (51% vs 24 and 51% vs 23%). The increased level of fees discourages enrolment by resident in regions with lower per capita income. Moreover the opportunity of external funding from private institutions is larger in regions with stronger banks foundations and larger firms, who are traditionally more involved in the funding of tertiary education.

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4 This is shown by the high share of eligible non-beneficiaries of scholarships present in the South and Islands, respectively, 40% and 62% in 2013-14, against 8% in the North and 11% in the Center (Cnsu, 2015). According to the Eurostudent survey (2016), these services, such as accommodation, canteen, subsidies for transportation costs, aids to international mobility, ecc. are poorer in the South. See also Asmundo, 2016.

5 Incentive to move are, instead, negatively correlated to the presence, in the province of residence, of one or more tertiary education institutions, especially if these have a sufficiently large dimension and a good variety of offered courses.

6 The decline is much more pronounced in the Mezzogiorno, ranging from € 127 (constant values) in 2008 to € 99 in 2014, against a much smaller drop occurred in the other two macro-areas (from € 135 to € 117).
A closer scrutiny deserves the national fund to universities (FFO, Fondo di Finanziamento Ordinario), whose allocative criteria represent the core of recent tertiary educational policies. Although they have been repeatedly modified over the recent years, a general principle of introducing incentive based form of funding has been implemented. The stated rationale to justify these changes has been, as usual, a declared intention to promote the performance of the Italian university system as a whole, by making it more competitive in the international context. A key role has been played by the introduction of a system of assessment, performance evaluation and resource awarding mechanisms based on a battery of measures of quality, efficiency or excellence. The introduction of these principles has been relatively smooth, in order to support a form of gradualism in the implementation of the reform. Starting from 2009, the FFO has been split into a base share (“quota base”) and a reward share (“quota premiale”) to be assigned to each institution. It was established that the first source would be decreasing over time, both in absolute terms and as percentage share, whereas the second would gain a growing weight over time (from 7% in 2009 to 20% in 2016), up to cover 30% of the total funding to each university. Whatever the criteria used to define this 30%, as Trivelletto and Triventi (2015) point out, it does not find comparisons in any other European country, except for the United Kingdom.

Let’s examine now the allocative criteria that have been used. Since 2014 the base quota has been allocated partly on the basis of past spending trends (historical share) and partly on the basis of the “standard cost per student”, introduced by DM 815/2014. For its calculation a highly discussed algorithm has been used (see Chiochetta, 2014; Fiorentino, 2016; Banfi and Viesti, 2015; Cappelletti Montano, 2016). This algorithm starts from the training cost per student in each of the three major disciplinary areas (medicine, science & technology and human sciences). In each of these three areas the standard cost per student of educational activities is computed by taking into account expenses for teaching and administrative staff, organization and management of the educational activities plus the operating cost of technical and instrumental supports and other auxiliary services. The standard cost so calculated is multiplied by the number of students in each institution.

It deserves to be emphasized that, in spite of the underdevelopment of the university system in terms of financial and human resources, the significance of Italian public research in the international sphere is widely recognized. In the Scimago ranking, Italy is ranked eighth in the world by number of scientific articles and seventh in terms of the H-index. The number of publications per researcher is far higher (43.3 in 2012) than that of other European countries, and also higher than that in USA (21.1) and Japan (11.6). Considering the relationship between citations and academic spending for research, Italy is preceded only by the United Kingdom and China. For a closer look, see Bianco and D’Anselmi, 2016.

Table 4 Revenues to public universities by macro-areas (as a percentage of the national value)

<table>
<thead>
<tr>
<th>Geographical areas</th>
<th>FFO + other contributions by Miur</th>
<th>Other contributions from third parties</th>
<th>University fees</th>
<th>Total revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>40.5</td>
<td>42.5</td>
<td>46.6</td>
<td>51.6</td>
</tr>
<tr>
<td>Center</td>
<td>26.9</td>
<td>26.1</td>
<td>25.0</td>
<td>25.2</td>
</tr>
<tr>
<td>South</td>
<td>32.7</td>
<td>31.3</td>
<td>28.3</td>
<td>23.3</td>
</tr>
<tr>
<td>Italy</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Anvur (2016)

Beyond the base quota and the reward quota, the national fund FFO also includes a compensating quota, redistributing resources to universities located in less developed regions. In 2016 the allocation of the FFO has been undertaken as follows: 67% as a base quota, 20% as a reward quota, 12% as a compensating quota and 1% as a residual to support the three year planning by local institution.

The choice to allocate FFO on the basis of a reward quota has been taken against recommendation by EUA (Claeys-Kulik and Estermann, 2015), where the commitment of exclusively additional resources to the reward quota is proposed in order to avoid the adverse impacts, such as increased competition, volatility of funding, and similar issues.

For future discussion, it is relevant to notice here that only students with regular careers are included, in order to penalize the presence of delays computed in terms of academic credits acquired by each student in her career.
the key idea is to progressively increase this share up to the point where it is the sole criterion for the base funding of each single institution\textsuperscript{11}. The \textit{reward quota} has instead been allocated according to some criteria measuring the quality in teaching and research by the single institution.

These criteria exhibited a capricious variability over time (table 5). To have an idea of what capricious means in this context, consider that, between 2008 and 2015, 22 different, weighing indicators have been used.

Moreover, as pointed out (Banfi and Viesti (2016, p. 330, our translation), these criteria have been “systematically and unilaterally set by the ministry year after year, after the relative data of the universities had been made available”. Common sense suggests that this attitude to change rules looks quite a contradictorily extravagant way to enforce rules.

<table>
<thead>
<tr>
<th>Years</th>
<th>Absolute values (euro, millions)</th>
<th>Weights %</th>
<th>Number of indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reward share</td>
<td>T*</td>
<td>R**</td>
</tr>
<tr>
<td>2009</td>
<td>524</td>
<td>178</td>
<td>345</td>
</tr>
<tr>
<td>2010</td>
<td>720</td>
<td>245</td>
<td>475</td>
</tr>
<tr>
<td>2011</td>
<td>832</td>
<td>283</td>
<td>549</td>
</tr>
<tr>
<td>2012</td>
<td>910</td>
<td>309</td>
<td>601</td>
</tr>
<tr>
<td>2013</td>
<td>819</td>
<td>278</td>
<td>541</td>
</tr>
<tr>
<td>2014</td>
<td>1.215</td>
<td>122</td>
<td>1.094</td>
</tr>
<tr>
<td>2015</td>
<td>1.385</td>
<td>208</td>
<td>1.177</td>
</tr>
</tbody>
</table>

Table 5 The evolution of “quota premiale”, FFO and allocation criteria

Legend \ T= Teaching; \ R= Research

Source Viesti, 2016

Most of the primary information on which the indicators are constructed comes from two sources. As for the teaching activity, they originate from the evaluation program and accreditation system (AVA) of courses offered by single institutions. As for research they originate from the results of the National Research Assessment (VQR, a national research assessment, introduced in Italy at the same time cuts to public resources started to be implemented). In both cases hotly debated methodologies\textsuperscript{12} guide the aggregation process from the primary source to the final indicators (Baccini and De Nicolao, 2016; Prota and Grisorio, 2016; Cappelletti Montano, 2015a).

In 2015, the \textit{reward quota} to each institution has been allocated as follows: 65% for the results of the VQR assessment measured through a Reasearch Index (IRFS, “indicatore di ricerca finale di struttura”), 20% for the quality of recruitment policies (IRAS3) as measured by the scores in the VQR obtained by the newly recruited and promoted academic staff. The remaining 15% on the basis of quality indicators and internationalization of didactics. The imbalance between research and didactics is clearly in favor of the first\textsuperscript{13}. The third mission (socio-economic and cultural impact on the settlement area and technology transfer activities such as patents and spin-offs) is not taken

\textsuperscript{11} Lately, as of June 2017, after a sentence by the Constitutional Court (n.104, 11 May 2017) had established a violation of some constitutional principles by the adoption of the notion of the standard cost, the Government introduced a new formulation which, however, as it will be discussed later on, does not change its rationale and the structure of this computation method.

\textsuperscript{12} Among the potentially perverse effects of the research assessment (VQR) there is the risk of penalizing the research projects at the frontier outside the mainstream and those projects promoting interdisciplinary attitudes. Individual incentives, as pointed out by Cassese (2013, p. 76, our translation) are distorted in favor “of undertaking research to improve measurement scores”. See also the debate on Roars- Returns on academic research, http://www.roars.it).

\textsuperscript{13} Indeed poor incentives are established for the single institutions to promote the quality of teaching (hindering the commitment of time and resource).
into consideration at all. Once again the attempt to go global seems to have obliterated the relevance of the university for the local community.

For its implication on the geographical polarization of the allocation process a few remarks on the choice of these quality indicators are in order. Firstly, many have been constructed in such a way that the variability among institutions results artificially increased by an arbitrary choice of the scale of measurement. Secondly and crucially relevant for our aim, these indicators are spatially blinded, i.e. indifferent to the context in which the single institution operates. In short, they have been built to measure the absolute levels of performance achieved by universities, rather than the results in relation to the actual resources, such as research collaborators or technical/administrative support staff, external non-competitive financial resources, technical infrastructures and laboratories, research effort (negatively correlated with teaching load, student/teacher ratios and positively related to student input skills). These are all input factors that the parametric apparatus adopted does not take into account and they are strongly influenced by the context.

Based on these tenets these indicators reward, to a large extent, those institutions who are already well endowed. A typical example of the geographical polarization induced by the adoption of a spatially blinded indicator is the IRFS1. This is a composite index that measures research results at the level of the single institution. For its calculation, several sub-indicators have been used. Their number and weight has varied over time. Some of these sub-indicators (like IRAS5 and IRAS6, used in 2015) refer more to research inputs that depend on the context rather than to outputs. In particular, IRAS5 measures the availability of short term teaching and research assistants (doctoral students, postgraduate scholarships, post-doc scholars, medical specialists), while IRAS6 measures the ability by universities to obtain additional non-competitive external resources. The territorial distribution of both these variables is as we have seen-highly skewed. So their adoption clearly reinforces territorial polarization processes. They are obviously correlated among themselves (larger availability of external funds depends on the larger availability of resources dedicated to research contracts) and they end up measuring (and rewarding) more the economic context where the single university operates than the effort provided by the institution in achieving good results in terms of research and teaching given the availability of resources.

Similarly critical issues emerge about the teaching assessment system. Many of the “merit” indicators used are heavily influenced by contextual conditions. For example, take the measure of regularity of the students’ career (measured by the number of regular students who have achieved at least 20 credits in the calendar year). Consider that 8% of the reward share to a single institution depends on this indicator. Clearly this indicator depends both on teachers’ effort and on the quality of their students, their motivation, their economic and social background. If, as shown in a previous section, the quality of enrolled students (as measured by the high school diploma and parental background) is lower, on average, among the students enrolled in southern university, then what these indicators are rewarding is the quality of the context in which the institution operates, not her effort in the provision of the service. Analogous arguments hold as for the indicator measuring the level of internationalization achieved by each institutions, which determines 7% of the reward share. The indicator used is a measure of the flows of Erasmus students, the number of credit (CFU) acquired in a foreign-country, the number of foreign students enrolled and other similar primary indicators. Obviously they are correlated to an effort by universities, but they also heavily

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14 Prota and Grisorio (2016) build up a simulation to show how, by using only IRAS1 to assess the quality of the research at the level of the single institution, their ranking is not substantially affected but, overall, Southern institutions (65% of them) scores much better in terms of the IRAS1 (a further aggregation on which the allocation is based). Viesti (2016) also shows how the use of IRAS3 produced a large shift of resources (64.9 in the North and 12.5 in the South) in 2013. In 2015 the computation method was changed (possibly in the acknowledgement of the previous mistake), producing lower disparities (46% in the North vs. 29.8 in the South). The criteria in the VQR 2011-2015 were also modified compared to the previous research assessment in 2004-2010. They also show how apparently capricious shift in the details of the criteria can affect disparities in the outcomes at regional level (De Nicolao, 2016).
reflect external circumstances. Indeed, as for outflows, the probability to have a student enrolled into an Erasmus program depends on her parents' income. As for inflows they are heavily affected the geographical location of the institution in terms of accessibility, quality of life, employment prospects.

Another prominent example of a spatially blinded indicator is given by the "standard cost per student", mentioned above. For its calculation, only regular students (those who have completed university exams within a prescribed time) are considered. This is an arbitrary choice in terms of socio-territorial equity, as it punishes hardly the universities located in economically, socially and infrastructurally disadvantaged contexts. There, irregular careers are much more likely to emerge for reasons that do not depend only on the effort provided in the organization of the teaching activities. Research conducted by AlmaLaurea (Ferrante, 2012; Mignoli, 2012; Gasperoni and Ferrante, 2015) and ISTAT (2016a) show how the completion of studies (and students' performance in general) is not only related to the quality of the teaching provided and not even, uniquely, to the "merit" of the students. It is also heavily influenced by their previously acquired skills (as measured by the grade of the high school diploma), the socio-economic environment of origin, the characteristics of the labor market, the distance and accessibility of the teaching institution.

The need to consider structural contextual factors in the computation of the cost standard and to compensate local universities in the most disadvantaged regions is, to some extent, recognized by the Gelmini Law (L. 240/2010) itself and by subsequent decrees. However, as documented above, the method of calculation used for compensation is not very effective. In some cases, as argued in Cappelletti Montano (2016)\(^{15}\), the paradox of rewarding regions with the highest university fees is achieved.

No major changes in the basic architecture of the system are envisaged in the new regulation either, especially those regarding the principle of the funding based on the standard cost per student (Decreto "Mezzogiorno", 91/2017). There the exclusion of irregular students from the computation and other parameters (such as the reference number of students per course) is maintained. The only adjustment, that implicitly acknowledges the unbalancing effects of the system, is made by granting additional resources for equalization purposes, based on a measure of different accessibility and transportation costs of each institution. The additional contribution is topped up to a maximum of 10% of the national standard cost. This provision clearly targets the more peripheral (and smaller) universities, those most affected by the policy course taken in the last decade. In our view, it is likely to be only meant as a temporary relief for those universities where the cost of adjustment has been too large or too fast in recent years, leaving the general logic of the reform untouched.

The idea to shift the cost of irregular careers on the single institution as incorporated in the standard cost may have some appealing trait but it does not seem to us as well conceived. To use an analogy borrowed from the enforcement system, it is equivalent to cutting resources in judiciary districts where the rate of sentences per reported crimes is lower than average. This is not necessarily a measure of laziness of the prosecutors, it may well be due to the fact that in these districts criminal behavior is more diffuse for structural reasons, beyond the control of the courts. Building the enforcement system according to this principle would not curtail crime in places where it is more diffuse for historical reasons.

\(^{15}\) For the aim of the computation average per capita income at the regional level is used by Miur. This is multiplied by a coefficient of 3.2% obtained as the ratio of the national average of the students' fees over the national per-capita income. The pairing quota is then computed for each region by multiplying this coefficient by the difference between per capita income in each region and the per capita income in Lombardia (the region with the highest per capita income). Cappelletti and Montano (2016) show that actual fees to institutions in different regions are quite different from the notional ones used in the procedure. It inappropriately generates surpluses (mainly in the North) and deficits (mainly in the South) that do not match actual data. Notice, moreover that the construction of the pairing component does not take into account exemptions based on family income, that are larger in the South than in the North.
Moreover, and equally important, by cutting resources conditioning on the presence of irregular careers, the regulator prompts a response by the single institution in the attempt to shelter its effect. This response is likely to be a lowering of the standards for passing exams, a raising of the fees for such students or both. By lowering standards a lower quality of human capital will be accumulated in the areas where this will occur. By raising fees a larger number of drop outs will be produced, at least in the short run. What this has to do with the rhetoric of growth, efficiency, healthy competition among institutions and the fostering of human capital investment for the knowledge economy is not clear.

Geographically polarizing effects of this new policy regime are evident. Some data are reported in table 6, where a synthesis of the territorial heterogeneity of the fiscal adjustment process is provided. Despite a safeguard clause\(^\text{16}\) the burden of the aggregate adjustment pursued in these years has been disproportionately larger in the South than in the North of the country.

<table>
<thead>
<tr>
<th>Macro areas</th>
<th>FFO 2008</th>
<th>FFO 2015</th>
<th>Change 2008-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mln €</td>
<td>%</td>
<td>mln €</td>
</tr>
<tr>
<td>North</td>
<td>2.895</td>
<td>39,7</td>
<td>2.770</td>
</tr>
<tr>
<td>Center</td>
<td>1.978</td>
<td>27,1</td>
<td>1.746</td>
</tr>
<tr>
<td>South</td>
<td>1.556</td>
<td>21,3</td>
<td>1.376</td>
</tr>
<tr>
<td>Islands</td>
<td>860</td>
<td>11,8</td>
<td>681</td>
</tr>
<tr>
<td>Italy</td>
<td>7.289</td>
<td>100,0</td>
<td>6.572</td>
</tr>
</tbody>
</table>

*Table 6* Public Funding by macro areas (FFO) between 2008 and 2015

**Source** Viesti, 2016

Geographical polarization of the tertiary education system has also been exacerbated by **recruitment policies**. After a long period in which recruitment of new human resources by universities has been simply banned, following the provision of the Legge Gelmini the possibility of new hiring has recently been open under the condition of financial sustainability. Two financial indicators have been used to measure it. One is given by the ratio of total outlays for wages to employees to FFO and the other is based on the ratio of liabilities and other forms of debt to FFO. Since 2013 a third indicator has been introduced, the so called ISEF, a measure of long run financial sustainability for each institution, which subsumes the information included in the first two indicators\(^\text{17}\).

Based on these indicators single institutions have been classified in financially sound and financially in trouble. To qualify as financially sound (“virtuous”), the institution has to satisfy the following criteria: a share of total expenditure over total revenues less than 80%, the level of liabilities over total revenues below 10% and the value of ISEF less than 1. Institutions in both groups receive same base allowances for new recruitment (punti organico) as a percentage of retirements (20% in 2014, 30% in 2015 and 2016). Those institutions qualifying as “virtuous” were granted extra resources (punti organico) in proportion to the financial soundness as measured by the indicators above. Hence, the better the financial situation of an institution is, larger are the resources assigned for recruitment.

The principles underlying this mechanism of assigning resources are apparently correct for the aim of providing incentives to the governance of the institution. However, two aspects deserve to be highlighted for their iniquity. The first is the inclusion of revenues obtained from students' fees by

\(^{16}\) The safeguard clause included in the pairing share (0,2 billion euros in 2016) tops the cut in the FFO at the level of the single institution at 2,25% compared to the level obtained in the previous year.

\(^{17}\) The indicator for the labor cost includes the wage cost of administrative and academic staff in the numerator whereas the indicator of leverage (debt service) includes payments for debt service to financial institutions in the numerator. In both cases the denominator is given by total revenues to the institution made of FFO, other revenues from Miur and students' fees. ISEF is computed by the following ratio: total revenues times 0,82 divided by total expenses (labor costs plus debt service).
each university as a source of financial virtue. This has clear territorial implications: universities in richer areas can afford to raise fees at higher levels than institutions operating in less rich areas. Automatically this makes the budget of universities in richer areas more "virtuous", independently of the quality of its governance. Moreover, in the light of the massive migration of students to northern universities, this choice further reinforces the polarizing pattern. If, for whatever historical reason, Southern universities loose students in favor of those in the North, the algorithm, by including students' fees, automatically makes the budget of universities located in poorer areas less virtuous, once again, independently of the quality of its governance. A choice more interested in checking on the regional polarization effects of the reform would have been that of considering to include the FFO only and not the total revenue of each institution as a basis for the assessment of her behavior.

By allowing the financially virtuous institutions to invest relatively more in new hiring triggers cumulative effects and the exacerbation of the territorial disparities in the long run. The outcomes are already visible in the data (table 7). Between 2012 and 2015, according to elaborations in Cappelletti Montano (2015b) the evolution of recruitment of human resources at the geographical level is quite impressive.

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Notional units (PO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>73</td>
<td>84</td>
<td>105</td>
<td>79</td>
<td>+341</td>
</tr>
<tr>
<td>Centre</td>
<td>-19</td>
<td>-10</td>
<td>-17</td>
<td>-14</td>
<td>-60</td>
</tr>
<tr>
<td>South</td>
<td>-54</td>
<td>-74</td>
<td>-88</td>
<td>-66</td>
<td>-281</td>
</tr>
</tbody>
</table>

Table 7 Resources for recruitment in terms of notional units (punti organico, PO) by macro-area.
Source Cappelletti Montano, 2015b

No possibility for rebalancing in the future, has been left by the new emergency plan (piano straordinario) funding the new hiring of junior researchers on a tenure track (ricercatori di tipo B). Of the 861 new recruitments financed at the national level (Udu, 2016), 409 new recruitment will occur in the Northern regions and 245 in Southern ones. In the latter case only 9.49% of the retirees in the last five years will be replaced by new resources. This means, that, in the absence of any correction of the policy course, a major downsizing of the academic staff is going to take place in Southern regions.

More recent regulatory provisions, far from being concerned about these polarization effects, further reinforce them. Take, for example the new regulation about the Departments of Excellence, introduced, with no discussion in the Parliament, in the 2017 Annual Budget Law of the Italian Government (Legge di Stabilità).

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18 By the regulation DPR 306/1997 students' fees in a given institution are topped at 20% of the FFO. These limits have been modified by a subsequent law (L. 135/2012) by excluding from the computation fees payed by irregular students and including other public funding from public administrations different than Miur.

19 Reports by Svimez (2015, 2016) highlight how, starting from 2008, the economic disparity between Southern regions and the rest of Italy started to grow again. The consequences of the crisis, measured by a drop in GDP, in the Mezzogiorno double those in other regions. Since 2016 some indicators show a sign of rebounding.

20 New hiring will make them more attractive in terms of new research, it will favor the supply of a larger variety of courses and consequently it will support further drain of students from elsewhere.

21 Some paradox have so been produced: some institutions received more than 100% of the retirements they experienced in previous years. Since 2015 this percentage has been topped at 110%. In absolute terms the institutions most adversely affected were the university of Napoli Federico II, Palermo, Bari, Messina and Catania. On the contrary the most favored institutions were Milano, Bologna, Milano Bicocca, Venezia Ca' Foscari and Verona. On a regional scale Sicilia has experienced the worse drop (-120 PO), followed by Campania (-90), whereas Lombardia is the region that got the most of the benefits (+180 PO).

22 The following criterion has been used (DM 78/2016): two units have been allowed to each institutions (independently of its size) and the remaining 726 have been assigned on the basis of the VQR.

23 Further indirect cumulative effects arise by taking into account the negative consequences of the regional distribution of hiring younger researchers on the measurement of research products and hence on the reward quota of the FFO originated by a lower level of hiring.
This is the crucial act for the new direction to be taken by the university system in Italy in the next decades. By overcoming the principle of autonomous decision making by local governance structures, the regulation directly grants 271 million euros for 5 years\textsuperscript{24} to 180 Departments, to be chosen among 352 of them that were shortlisted in a previous round (over a total of more than 800 Departments). The shortlisting has been performed based on an indicator constructed starting from the last national research assessment (VQR), adjusted through a procedure leading to a standardized index of department performance (ISPD index) in order to take into account natural heterogeneity among them\textsuperscript{25}. Each of the 352 shortlisted Departments, in order to participate to the final contest, will submit a Departmental Research Project (30 points awarded against the 70 points for the ISPD index) containing the plan of development, research objectives, an articulated budget for the recruitment of new academic and non-academic human resources, investments in research infrastructures, post graduate teaching activities, forms of co-financing and so forth. A committee composed by seven members\textsuperscript{26} will select the final 180 departments that will be awarded 1.350.000 euros per year for five years.

A discussion about the limits of the algorithm used for the computation of the ISPD, the mode in which it has been taken (no discussion in the Parliament, a significant change in the organization principle of the university system based on constitutionally granted principle of autonomy) is outside the scope of this paper. What interests us here is to point out the polarizing effects of this decision. Clearly, the large amount of resources at stake is inevitably doomed to further emphasize regional disparities in the absence of any equalizing mechanism in the assignment of these funds. In this case, confronted with the assignment criteria for the FFo and for the extra resources for recruitment (punti organico, PO) described above, no principles of geographical rebalancing have been used.

Preliminary results from the data are reported in figure 7, where the geographical distribution of excellence as assessed in the preliminary shortlisting is represented. Among 352 Departments that were shortlisted in the first phase of the procedure only 15% (54) are located in the Mezzogiorno.

Overall, the cumulative effects prompted by the allocation of new resources can only be expected to accompany, if not to foster, the geographical polarization of the whole system. Universities with a shrinking number of older than average professors will be forced to offer a lower variety of courses (here the minimum requirement- a sort of minimum efficient scale as set by the ministry is doomed to be binding in many instances). They will attract less and less students. Lower revenues in terms of fees will further hinder the indices of financial sustainability, by making the renewal of the system in terms of new recruitment impossible. A policy fostered, if not induced, quite effective vicious circle has been constructed.

\textsuperscript{24} It is not clear if these provisions pertain to additional resources or not. In the law (section 314) it is only ambiguously indicated that a specific account in the FFo, denominated "Fund for the financing of Department of Excellence" will be set and that this fund will be endowed with 271 million euros starting from 2018\textsuperscript{24}.

\textsuperscript{25} The ISPD index, devised and implemented by Anvur, has been used to determine the relative position of the Departments in each discipline in the national distribution of the VQR. This index has been highly debated under the methodological point of view. See Bertolli-Barsotti, 2017; Viesti, 2017). The only pairing mechanism envisaged in the procedure is that at least one of the 180 available must be attributed to the best department of each institution, provided its score at the VQR exceeds the median. In ten universities no Department satisfies this condition, among those 3 are located in the South and 7 in the Center-North.

\textsuperscript{26} According to DM 262/2017, 2 members of the Commission are appointed by Miur (one as the president), 4 by the Miur on two lists made of 3 nominations, respectively by Anvur (National Agency for Evaluation of the University and Research System) and Cngr (National Committee of Research Warrantors), 1 directly appointed by the Prime Minister.
4. Concluding Remarks

Policy choices regarding tertiary education and the whole university system in the last decade in Italy have induced a large contraction in the size of the system and its geographical polarization, in the presence of already large and lasting disparities in comparison to other countries in the European Union and in the Oecd area. Indeed, the disinvestment has been implemented through a selective process of redistribution of resources at the regional level\textsuperscript{27}. As a consequence, budgetary cuts and the blocking of recruitment

\textsuperscript{27} Similar issues arise in the organization of other local public institutions like hospitals, courts, schools, web infrastructures, fast railway transport networks and so forth, where similar polarization effects.
ended up hitting institutions located in less developed areas of the country where human capital investment, research and the quality of the teaching is needed the most. The redistributive process has taken place through the introduction of a national assessment of the performance of each single institution based on indicators and allocation procedures that are questionable in many respects. The most prominent one is the absence of any concern of contextual conditions under which the university is called to operate. On the contrary, disputed indicators and sophisticated, often non-transparent, algorithms have been used in order to support policy decisions that actually seem to have been taken in advance and justified ex-post. Indicators, parameters and algorithms for the establishment of the allocative criteria of the national fund (FFO) and resources for new recruitment (PO) have been used, as a matter of fact, to engineer a substantial transfer of resources from Southern universities, exacerbating or even establishing new forms of geographical polarization in the country.

We acknowledge that the use of an evaluation approach represents an improvement with respect to the alternative of uniform cuts (“linear budget cuts” principle, used in the recent past) in the aim to qualify public expenditures. However, this detailed information could have been used differently and, in our opinion, more efficiently if, building on it, a transparent plan of reforms would have been designed and gradually implemented, on the maintained principle that universities represent the place where the future prospects of entire territories are shaped.

This approach was instead used to minimize the current (political) costs of the fiscal adjustment, without paying enough attention to the long run future consequences of this choice. Now, after a decade the process started, these long run effects, start materializing: they take the form of an unprecedented escalation in the geographical polarization of the university system in the country. Rather than investing on the infrastructure for a knowledge based economy as in Germany and France and other EU countries, the choice has been to drain the already meagre resources dedicated to tertiary education in a process of redistribution from weaker universities to stronger ones. In practice a top-down approach to the reform has been used in order to implement a managerial model inspired by large universities in the Anglo-Saxon world, a model whose general value has been questioned lately (Sayer, 2015; The Economist, 2015). More adequate both to the aim of reorganization of the university system and to the aim of the appropriate assessment of the consequences in terms of geographical polarization would have been a place based approach, that represents the reference model for Eu policies to foster territorial cohesion (Barca, 2009). This latter approach seems to us to be more appropriate to take into account the fact that universities, tertiary education and research institutions are the real engines of innovation, technological diffusion and social development for the local community where these institutions are located. In this respect, by redesigning the geography of university in Italy on a rather abstract rhetoric of “efficiency” and “merit”, these reform policies are likely to have drastic opposite effects not only for the Mezzogiorno but for the country as a whole.

An important remark, finally, pertains to the impact of these policies on social mobility and internal migration patterns in the country. These reforms introduce and reinforce a mechanism where parental wealth plays a key role in the decision to invest in education at the college level. They reestablish mechanisms of social and educational selection that seemed to be a memory of the far past, when this choice was considered as a luxury good. The abandonment of the constitutional principle of equal opportunity in education is the hard reality. This is particularly true in areas of the country where disinvestment has been stronger. Here social mobility and territorial mobility are more and more intertwined. As a result actual and perspective students with a lower middle class background will have lower access to higher education in the future. In other words, the effects of a non-transparent, untidy reform process is and it will also be a raise in the cost of acquiring “merits”

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28 The knotted link between the growth of the nation and the growth of the Mezzogiorno has been a thesis proposed in a book by Carlo Trigilia (2012), whose title, tellingly reads as “No North without South. Why the growth of Italy is decided in the Mezzogiorno”.

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for a relevant part of the population, typically the most vulnerable. Hence iniquity is not the only consequence: by making the upward mobility channel stickier, disinvestment in tertiary education can also induce decline of entire economies and territories (See for example, D'Amato and Di Pietro, 2014 or D'Amato and Mookherjee 2012).

Our conclusion is therefore that both inefficiency and iniquity are the two main features behind the geographically polarizing effects of recent educational policies in Italy.

The whole reform process has been built up - according to the narrative of its promoters and their pundits - to increase the competitiveness and efficiency of the system, rewarding the merit and guaranteeing an “healthy competition” among the academic institutions of the country. In order to be effective, competition has to be fair to begin with. In treating institutions that are very different in terms of history and operate in territories that are heterogeneous in terms of social, economic and institutional background has not much to do with competition and the achievement of excellence if the ultimate objective is to raise the social capital and educational investment in those territories.

It should have been important to realize that equality of opportunity, efficiency and territorial cohesion are intertwined in the case of tertiary education policies. Recent policies obliterated this crucial point. So the question is: is it really convenient for the country, to have a few large excellent universities localized in one geographic pole? Or would it be better to invest on a network of smaller universities well distributed on the territory that would proactively promote the social and technical knowledge based infrastructure to face the challenges of global competition and markets?

In our view this latter place based approach is better suited for a country where the urban distribution is made up of small provincial cities of old tradition and good economic record and where the backbone of the industrial structure is mainly made of small medium enterprises. In this perspective, the recent experience of research assessment and evaluation exercise could still be used to develop a system of rules and incentive schemes that can improve the use of public resources in the tertiary education system but, at the same time, take in due account the contextual factors that make the work harder for institutions located in disadvantaged contexts.
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