Fuori Luogo

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Sommario

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Campania university students' motivations to migrate*

Francesco Santelli[1]

1. Students' migration phenomenon in intellectual migration framework: definitions and brief history.

From second post-war period, Italian territory has been denoted by migration flows from South to North and people who were migrating in that years were for the vast part belonging to the working-class. Such migration flows have reached a peak during the years '50-'70, years referred to as "boom economico" (economic boom) during which workers from Southern regions, and from agricultural world especially, have moved to regions and cities in the North with higher level of industrialization in order to find a better job position, especially as workers in factories (Pugliese, 2002). Let consider that within five years, from 1958 to 1963, about one 1,300,000 people have moved from South to the North.

But already during that period, and even to a greater extent after the end of the '70, a portion of the Southern population, has started to migrate due to education purposes, leading to the beginning of the intellectual migration phenomenon, that has reached a comparable extent to the recent years in mid '90s. It is just in that years that intellectual migration phenomenon has been addresses and studied in order to understand the underlying dynamics in spread of education and human capital resources among different geographical areas within a Country, with a particular emphasis on the consequences related to the different level of regional development (Affuso and Vecchione, 2012). The share of young people that still currently moves from South to North to undertake higher education is embedded in this historical trajectory from South to North that has started for working purposes, decades ago, in the belief that is possible, now as then, to achieve a better level of quality of life in a different area of the Country (Nifo e Vecchione, 2012).

It is in this framework that the present contribution places itself, to explore the internal migration of Italian university students, mainly at a regional level of analysis. This kind of mobility, as well as representing the socio-economical gap that characterizes Italian regions, it is a mechanism to answer to the principle to reach a balance between supply and demand in educational context, allowing students and universities to find their "local optimum". Adopting this perspective, comprehension of dynamics that influence migratory flows of Italian students are crucial to make consistent statements about competition among universities. As several authors have pointed out, students' mobility plays a key role to understand the state of art about relationships between supply and demand in education field, especially looking at provincial and regional level (Demarinis *et al.,* 2011).

After the reorganization of academic governance, starting from 2004 reform established by the government in charge at the time, with the decree number 207, the number of universities on Italian soil has increased, as well as decentralized headquarters compared to traditional universities, located usually in big cities. This has been a continuation, to some

* Data ricezione 1/05/2019. Versione finale approvata 7/06/2019.

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extent, of the main proposals coming from the Bologna Process agreements, that took place in 1999, that have paved the way for an increasing competition and for a greater complexity in academic paths. Given that one of the greater obstacles to the decision to undertake university education is the distance from place of origin to the university physical seat, such decree has encouraged a greater number of students to enroll from suburb areas, previously not easily linked to university headquarters. Such shift in enrollments dynamics has changed the way athenaeums compete in supply and demand mechanism, with traditional universities that have been forced to face a new challenge.

From 2017 Almalaurea official publication about students' condition in Italy, it comes out as the increasing in availability of university headquarters, located nearly in every province in every region, has discouraged the mobility for academic aims, especially at medium or long range. Furthermore, students belonging to higher social- economic status (with both parents that achieved at least a bachelor degree), are the ones more likely to begin a migratory experience in order to accomplish higher education. These are students that aim to reach a status consistent with the family of origin expectations. To be more precise, figures from Almalaurea analysis state that in 2017 almost the half of the graduated students (46,2%) has achieved the graduation in the province of residence where the high school diploma has been accomplished. The 25,5% has instead moved to a neighboring province, while a 12,5%, has achieved degree in a province not neighboring but still in the same macro-area. Same percentage, 12,5%, has moved to a province located in another macro-area, while 3,1% are students coming from abroad. Therefore, almost 72% of students that achieved degree have been enrolled in same province of residence or at the most in neighboring province. In this percentage, the most part is made up by students with bachelor degree (75,3%) and with a single 5-years degree (73,9%), while students that have achieved a master degree are significantly less (63,9%). As pointed out also by the following year analysis (Almalaurea 2018), master students are the most likely to move, even on a long range, for university aims.

Starting from these preambles, it seems interesting to investigate main motivations that push students to undertake their own highest education path outside the province of origin.

About these topics, many authors have highlighted such mobility has several factors that can influence it: from the pure attractiveness of universities to exogenous and endogen factors. Exogenous factors, in descending importance order, the accessibility level of university headquarters in terms of both costs and quality of local transport system, the cultural environment and the quality of spare time in the city where university is located, and then a secondary role is played by the cost of renting an accommodation and the quality life level overall. Within the latter, most important factors are the availability of degree programmes that are consistent with students' expectations in terms of both teaching and job opportunities, the quality of teaching in itself and the quality of services available for students (Dal Bianco *et al.,* 2010).

To better understand motivations behind this mobility, next sections are conceived to introduce first of all the network of migration flows of university students, especially in terms of macro-area and regional framework. The focus is, in the final part of the work, about students that are moving from Campania to enroll in university that are located elsewhere in Italy. The statistical model to investigate determinants of migration will be performed on such students.

2. Migration flows of university students

To proper understand within the correct perspective university students' mobility, it has to be highlighted, as already mentioned in first section, how such mobility reproduces for several aspects similar dynamics already known in the historical internal migration rout in Italy, from South to North.

From the point of view of each individual student, it is clear that the decision to undertake a process of "academic mobility" is not a decision that is univocally positive or negative by itself. Reasonably, the opportunity that in a crucial phase of personal growth and education, a young person is able to come into contact with different geographical entities, different people and different institutions, without being statically fixed in the place of origin, is commonly conceived as a factor that helps a student in his process of growth (Pitzalis, Porcu, 2015).

Moving instead to a macro level, and so analyzing dynamics with respect to entities of aggregated level such as provinces, universities or regions, the point of view about migratory flows can be addresses as much more polarized. In this approach of ecological type, assessments shift from single student experiences to analyses that take into account mid and long-term objectives for what concerns academic policies and complex institutions sustainability issues, within which a particular emphasis is usually given to criteria used to allocate resources among institutions (Banfi, Viesti, 2015).

Within such framework, let recall how governance structure in Italian education system has changed deeply in "modern" key (Barone *et al.*,2009; Neave, 2012). It has changed to the point that, analyzing migratory flows, it can't be neglected how universities compete in a quasi-market competitive system. First aim of each university is therefore to keep students that reside in the its own province-region, and secondary aim is to try to "attract" students from other geographical territory, "removing" them from other universities natural catchment areas (Viesti, 2018).

Given these statements, it results particularly interesting to investigate dynamics of students' mobility with respect to regional level, under the assumption that the natural catchment area of a university located in a given region is the share of young people living in the same region. The aim will be so to depict a general overview of such quasi-market dynamics, with particular emphasis on the route from South to North. Further, Campania region data will be deepened, pointing out how this Southern region is behaving strongly different compared to the other Southern regions for what concerns several aspects.

For the aims of this work, we have defined "regional academic migration" the case in which a university student enrolls in an athenaeum located in a different region compared to the one where he lives. According to most recent data available, depicted in Table 1, South macro-area is able to "keep" inside it only about 77% of students at the moment of enrollments (both bachelor and 5-years degree). To put in other words, almost one student out of 4 from South decides to undertake university in the Center or in the North, starting a relocation that in much cases will be permanent. The other 3 macroareas, instead, perform significantly better from that point of view, keeping about 90% of enrolled students.

	Destinations					
Origin	**CENTER**	**NORTH-EAST**	**NORTH-WEST**	**SOUTH**	**ORIGIN SUM**	**% not migrant**
CENTER	52738	2844	2529	1509	59620	0,88
NORTH-EAST	1627	44527	3553	418	50125	0,89
NORTH-WEST	1666	3826	64368	497	70357	0,91
SOUTH	10193	6445	7966	81284	105888	0,77
DESTINATION SUM	66224	57642	78416	83708	285990	

Table 1 – Enrolled in academic year 2017-2018 for macro-area of origin and macro-area of destination. On the main diagonal, underlined, figures of students enrolling in same macro-area of origin. Source: elaboration using official data from ministerial MIUR database

From that 23% of students from South that decide to enroll elsewhere in Italy, about 10% decides to undertake university in Center, with main destination Rome that provides numerous athenaeums, with a wide teaching supply for students. About 13% chooses instead North universities, with a slight prevalence of North-West (7,5%) over North-East (6,1%) (as can be seen in Table 1).

But percentages don't give the whole idea of the phenomenon. The outgoing flow of enrollments from South as a whole is about 24000 units, about 23%; these figures remark the relevance of the migration at the enrollment moment. Further, a comparison among macroareas can be made using incoming and outgoing students, in a market balance perspective. Within this tradeoff linked to a quasi-market approach, regions belonging to Center area gain about 6600 students, North-East gain about 7500 students and North-West gain about 8000. Southern universities lose 22180 students, becoming so the main source of enriching of universities in the other macroareas.

The main issue is that, in the face of a tragic outflow, there is only a negligible incoming frow from Center and North to the South. Aggregating all the students incoming to the South, these are only 2500, leading to assume Southern universities not able to attract students in consistent way from other regions.

Region of residence	Enrolled residing in region	Of which: Enrolled in region	Enrolled outside region	Incoming students	Emigration rate
ABRUZZO	**7001**	**4130**	**2871**	**2536**	**1,13**
BASILICAT.	**3087**	**740**	**2347**	**229**	**10,25**
CALABRIA	**10139**	**6060**	**4079**	**199**	**20,50**
CAMPANIA	**31791**	**27462**	**4329**	**3512**	**1,23**
E.ROM.	19286	16089	3197	12724	0,25
F.V.G.	5221	3831	1390	1615	0,86
LAZIO	31261	27930	3331	7763	0,43
LIGURIA	6741	4663	2078	717	2,90
LOMBARDI.	44281	38913	5368	13078	0,41
MARCHE	7873	5335	2538	2707	0,94
MOLISE	**1668**	**599**	**1069**	**453**	**2,36**
PIEMONTE	18814	15509	3305	5318	0,62
PUGLIA	**21304**	**13711**	**7593**	**695**	**10,93**
SARDEGNA	**6932**	**5711**	**1221**	**60**	**20,35**
SICILIA	**23966**	**16658**	**7308**	**953**	**7,67**
TOSCANA	16236	13827	2409	4517	0,53
T.A.A.	3386	1481	1905	1919	0,99
UMBRIA	4250	2927	1323	1218	1,09
V.D'AOSTA	521	127	394	91	4,33
VENETO	22232	15705	6527	4278	1,53

Table 2 – Enrolled 2017-2018, for each region and a computed regional emigration rate. In bold Southern regions. Source: elaboration using official data from ministerial MIUR database.

Zooming in, from macroareas to a pure regional level, it is possible to outline peculiar features of each region, sometimes even in opposite trend with respect to the referring macroarea. In Table 2 figures about regional level enrollments are presented. First of all, students enrolling at university residing in each region are divided between inside region and outside region (first column is the sum of the second and the third). The fourth column depicts the incoming flow of students for each region.

At the end, in the last column it is computed a "regional migration rate", simply defined as the ratio between residing in region enrolled outside (third column) and incoming flow (fourth column). Regions with a computed value close to 1 are basically on balanced figures between incoming -outgoing. A positive balance is represented by a value between 0 and 1, and regions with a negative balance show value of the rate higher than 1.

It has to be pointed out how the same identical value of 1, due to the fact that this measure is a rate, could be given by both a) a context of substantial absence of incoming and outgoing flow b) an intense outgoing and incoming flow of students, but of the same amount.

All the Southern regions (in bold in table 2) show, as expected, an emigration rate higher than 1. However, some substantial differences are noticeable. Regions such as Calabria and Sardegna have the highest value among all regions, higher than 20. But two Southern regions have value close to 1: Campania and Abruzzo. These are closer, as behavior, to Center and Northern regions rather than to Southern regions.

Most of the regions belonging to Center, North-East and North-West have a value lower than 1. The lowest computed value is 0.25 for Emilia-Romagna, that highlights how incoming flow is 4 times higher than outcoming number of students. Other four big regions, Lazio, Lombardia, Toscana and Piemonte, have a value lower than 1, indicating a high attractiveness power. This dynamic follows a pattern linking five big metropolitan areas of Center-North, that are Rome, Firenze, Bologna, Torino and Milano. Veneto and Liguria, even if belonging to areas with a higher degree of development, are left out from this trend: both regions present an emigration rate higher than the value computed, for example, for Campania and Abruzzo. Other regions are characterized by a huge amount of flows in both directions, especially if considered the size of the relative number of potential students residing within such regions. Abruzzo above all, but also Marche and Umbria, and to a less extent Molise and Friuli Venezia Giulia. These regions have a value of emigration rate close to 1: many students undertake university in other regions, thus becoming part of the outgoing flow, but about the same number of students are attracted by universities of these regions, so that there is a counterbalancing effect. At the end, these small universities are anyway able to attract a relevant number of students from other Italian regions.

3. A focus on Campania region: why is it acting differently?

Campania region, for what concerns university enrollments, seems to play a peculiar role within South, showing different dynamics with respect to other Southern regions. This is for sure a preamble that explains why it is so crucial to understand better the behavior of Campania region, that shows features that are pretty different from the well-known historical migration trajectory, from South to North. Therefore, is looks important to deepen why is Campania acting differently.

First of all, an aspect that can't be underestimated, is the demographic context of Campania. Such region is the most populous among Southern regions, and the third overall in Italy, behind only Lombardia, in first place, and Lazio for few inhabitants.

Area	% 0 - 14	Aging index	Average age
Italia	*14*	*151.4*	*44*
Piemonte	13	182.5	45.8
Valle d'Aosta	14.1	153.7	44.6
Liguria	11.6	238.2	48.1
Lombardia	14.3	147.6	44
Trentino Alto Adige	15.7	122.7	42.4
Veneto	14.2	146.8	44
Friuli Ven.Giulia	12.7	191.8	46.2
Emilia-Romagna	13.5	170.1	45.3
Toscana	12.9	187.5	46
Umbria	13.1	181.9	45.6
Marche	13.4	172.5	45.1
Lazio	13.9	149.3	43.9
Abruzzo	13	170	44.7
Molise	12.3	183.3	45.2
Campania	15.9	106.4	40.9
Puglia	14.5	134.6	42.7
Basilicata	13.1	158.6	44
Calabria	14	139.3	42.9
Sicilia	14.8	131	42.4
Sardegna	12.2	169.2	44.6

Table 3 – Percentage of youngest people ranging from 0 to 14 years, Aging index and average age at regional level. Campania in red. Source: last ISTAT available data, 2013

Furthermore, it may be noted that (Table 3) Campania is the region with the highest percentage of young people ranging from 0 to 14 years old, with the lowest aging index and with the lowest average age of the entire population.

From a demographic point of view, this is highly linked to the current context where authors underline with increasing emphasis the phenomenon of "desertification of South Italy" (Fondazione Res, 2016). It is a metaphor stressing how there is a constant loss of human and economic resources of Southern regions, with migrations, intellectual migration specifically, that can be conceived as an indirect tool to increase regional gap within Italy. Therefore, to analyze the choices about education of enrolling students residing in Campania can help to better understand future choices of a significant number of students, especially Southern ones. In that perspective, the general idea is that what happens in Campania is a workshop, wide and heterogeneous, within which analyze migratory flows and choices, in order to have also a general idea of future scenarios.

Enrollments of students who reside in Campania, for academic year 2017-2018, are 31791, of which 27462 (more than 86%) decides to enroll in universities located in Campania. The region, with 6 universities, is the Southern one that provides the highest number of athenaeums, and so also from this point of view Campania stands as a region able to face the challenge of the increasing decrease of tertiary teaching availability in the South. The 4239 "migrants" from Campania allocate themselves among other regions as highlighted in Table 4.

Destination	Enrolled	Macro-area	
PIEMONTE	157	NORTHWEST	
LOMBARDIA	714	NORTHWEST	
LIGURIA	11	NORTHWEST	**TOT. 882 (20%)**
T.A.A.	22	NORTHEAST	
VENETO	59	NORTHEAST	
F.V.G.	24	NORTHEAST	
E. ROMAGNA	446	NORTHEAST	**TOT 551 (12,7%)**
TOSCANA	367	CENTER	
UMBRIA	54	CENTER	
MARCHE	105	CENTER	
LAZIO	1609	CENTER	**TOT 2132 (50%)**
ABRUZZO	343	SOUTH	
MOLISE	272	SOUTH	
PUGLIA	51	SOUTH	
BASILICATA	70	SOUTH	
CALABRIA	12	SOUTH	
SICILIA	9	SOUTH	
SARDEGNA	4	SOUTH	**TOT 761 (17,5%)**

Table 4 – Enrolled students for academic year 2017- 2018 residing in Campania and not enrolled in Campania (total 4239), for region and macro-area. Source: elaboration starting from data available on official ministerial database MIUR

In table 4 it is clear how main destination is Center macro-area, with Lazio that alone receive about 37% of students' migration from Campania. As absolute values, that is that more than 1600 students, a number equal to two times the enrolled at Sannio University (about 800) located in Campania, and similar to the enrolled at Parthenope University of Naples (1800). Due to these figures, to some extent we can define a sort of further athenaeum of Campania located in Lazio (Santelli, Scolorato, Ragozini, 2019). To the second place, as destination, there is Lombardia region (16%), while Emilia Romagna is chosen by about 10% of Campanian students migrating. South as a whole is chosen instead by 17.5% of students, choosing for the great part Molise, Abruzzo and, to a minor extent, Basilicata.

To sum up, from these data Campania seems to polarize a serious of patterns related to Southern students. They prefer to migrate to biggest metropolitan areas of Center and North, such as Milano, Roma, Bologna, Firenze and Torino. They tend also to experiment a mobility towards neighboring regions. For the large part, by the way, let recall that their first choice is to remain in the region of origin (more than 86% for what concerns tertiary enrollment).

From the bar chart in Figure 1, that shows main universities of destination regardless of the region, most chosen athenaeums are all located within Campania, including telematic University Pegaso. These are follows by four universities of Center-South (Sapienza of Rome, University of Molise, University of Cassino and Southern Lazio and University D'Annunzio of Chieti-Pescara). Only then there are the bigger universities of Northen Italy, behind in this ranking. Given that there is a substantial absence of migration towards regions placed to the South of Campania, we can profile a migration route that is first of all towards bordering

regions of Center-South located at North of the region, that act as attractor in a greater measure than Northern regions.

It is plausible to assume a high degree of commuting among those students that from Campania move to study to Cassino, Rome or Molise. Broadly speaking, it may be outlined how those, even if enrolling outside from Campania, behave completely different from those enrolling to Center-North, such as in place like Firenze, Bologna, Milano or Torino. Likely, they are indeed not moving definitively their residence, but undertaking university in a daily commuting perspective. The other are, instead, realistically starting a process of relocation that begins for academic and education purposes, and becomes then definitive cause it is followed by job and work motivations.

4. A study on determinants of students moving from Campania for academic purposes

As already mentioned in previous sections, there are several factors that are involved into the individual decision to undertake a process of academic mobility. Students that are pushed to migrate for such reasons are coming, likely, to that decision taking into account a variety of factors, rather than take the decision based on just one determinant. Further, in this ecological framework of analysis as it is proposed, it is useless, as well as utopian, to try to retrieve to original cause of each student, given that the only information available is the observed interregional mobility, as second level aggregated phenomenon.

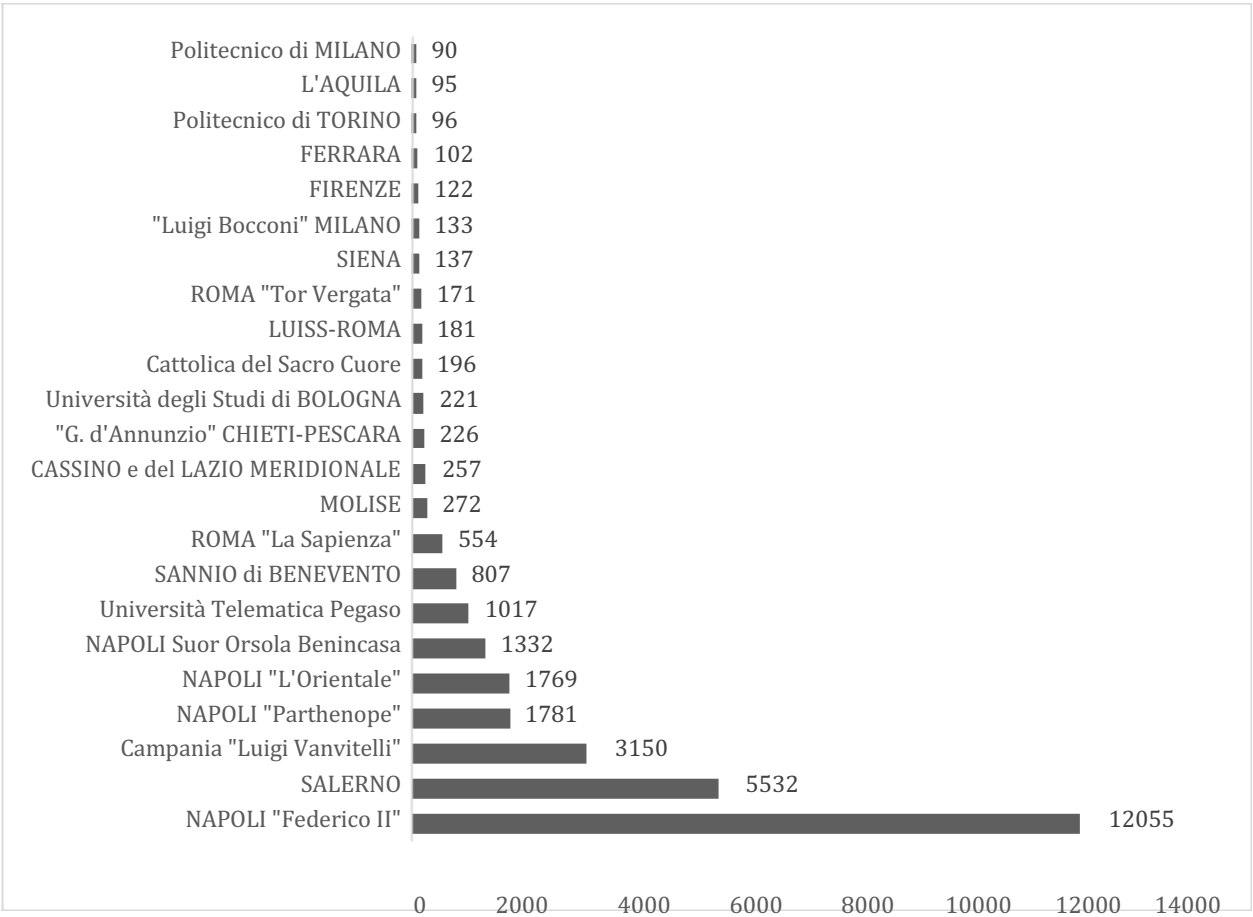

Figure 1 – Enrolled students from Campania for the academic years 2017-2018, first 23 universities.

Consistently with these methodological preambles, this part of the work aims to describe and figure out the effect of a series of plausible determinants to the overall migration issue, as second level analysis. The aim is not, as for example in discriminant analysis, to observe the mobility of each student and then place him accordingly to one or the other determinant. In the statistical model, the role of macro-determinants will be to draw guidelines to select predictors to include in the final model. The response variable will be indeed the total number of students enrolled outside from Campania but residing in Campania; all the other variables have to be conceived as potential independent variables able to explain a part of the dependent variable.

Literature review and main findings of the exploratory approach have led, up to this point, to define four macro-determinants, that are thus conceived as "boxes" within which is possible to identify variables that are measurable. Such variable will be then chosen accordingly to a variables' selection procedure. These four macro-determinants are the following:

4.1 "Forced-type Migration"

For this type of migration, we suppose that the student has decided to enroll outside from Campania mainly due to two reasons: the willing to enroll for a degree that is not available in Campania or for a degree with a restricted number of admissions, so to not allow all the students to follow it in region. As said, Campania is able to provide a huge number of universities and different degrees, with a high level of heterogeneity. But some specific kind of degrees, such as DAMS, a degree conceived for visual art, movie, theater, cinema and television, are available only in few cities across Italy. Therefore, student pushed by a strong interest in that disciplines, are "forced" to migrate in order to accomplish their studies.

As absolute values, it is way more relevant the phenomenon of migration due to "restriction on admissions" (numero chiuso). To be more precise, it has to be underlined as some peculiar class of degrees, that are all the degrees related to medicine and health field, named L/SNT1, L/SNT2, L/SNT3, and L/SNT4, that are affected by a outgoing flow that is by far greater if compared to the average behavior of the other degrees. Taking into account the health field as a whole, enrolled from Campania are 2857, of which 2111 in the 3 universities in Campania able to provide degrees related to classes L/SNT1, L/SNT2, L/SNT3, and L/SNT4: Federico II University of Naples, University of Campania "Luigi Vanvitelli" and University of Salerno. While overall about 87% of students decide to keep staying in Campania, for what concerns health field degrees the percentage decrease up to 73%. Main destinations are universities located in Rome: University of Sapienza, 347 enrolled from Campania, University "Tor Vergata" of Rome, 125 enrolled from Campania, University Cattolica "Sacro Cuore" of Rome, 95 enrolled from Campania and lastly Campus Bio-Medico of Rome, 15 from Campania. The class with the lowest percentage of students enrolled in region is L/SNT1, related to midwifery jobs (58% in region, 42% outside region).

For this kind of determinant, is has been chosen to include into the statistical model a variable related to the "size" of the university, in terms of number of students. The general idea is that students are interested to undertake courses where university are able to provide a wide variety of teaching programmes, as well as courses so big to ensure a greater number

of places in courses with fixed quota. Given that the statistical analysis takes into account only regional environment and universities features, but not degrees per se, the total number of students seems a promising proxy related to this macro-determinant.

4.2 "Anticipatory type migration"

Students that decide to continue studies from high school to universities are usually pushed by strong motivations linked to their own education. It is plausible, however that factors belonging to other frameworks such as job opportunities, economic context, social and cultural life, may have an impact on the final decision about enrollment. Within this perspective, the idea of moving the residence towards big metropolitan areas that are known for being dynamic and modern, in order to exploit the services of "European level" that they offer, is for sure an aspect that cannot be underestimated. Further, these big cities usually are able to provide students a broad and heterogeneous cultural life.

Overall, the idea that the migration from South to North is somehow inevitable is part of the unconscious background of many southern students or freshmen, as well as of their families, also because there is an historical trajectory that have pushed about 2 million people from South to North in the last 20 years searching for jobs (source: ISTAT). This will lead students to start to think that, at the enrollment moment, they can put themselves in a new context that will likely anyway accommodate them in the next years to seek employments. Given these dynamics, this kind of migration has been called "anticipatory". In the statistical model, linked to this macro-determinant, the following regional variables have been included: unemployment rate (source: ISTAT), European Regional Competitiveness Index and the institution quality index.

4.3 "Migration towards prestigious universities"

As well as determinants linked to specific favorable contexts and specific degree teaching programmes, also the prestige of an athenaeum can affect students' decisions at the enrollment moment. To affirm that an athenaeum is more prestigious then another, just like to draw up rankings based on that supposed prestige level, is a very dangerous procedure, that can be easily turned in a manipulation tool. In the variables' selection phase of the statistical model, it has been decided to include variables related to a latent and hardly measurable concept of "prestige" and, at the same time, able to have a substantial effect on the enrollment decision. Let consider also that most of the time big universities are at the same time prestigious by definition. The aim of this section is to underline how and if some variables have a statistical effect on the response variable, but it is beyond this work's scope to outline a real prestige attribution to each university. For these reasons, the variable that will be included in the model is the ranking draws up by the newspaper "Sole24Ore". It is a newspaper with a wide spread, and it is common opinion to think that is one of the most influent ranking, in Italy, for what concerns academic context. It has, for sure, relevance in forming public opinion about universities. Furthermore, is has been decided to include a dichotomic variable into the model related to the private or public governance of the university, to test if being private ensures a competitive advantage.

4.4 "Mobility for geographic proximity"

Some students, rather than modify their own residence moving towards other regions, decide to enroll at university in a "commuting perspective". It means that they commute daily into another region to attend courses and to study, coming back to Campania region at the end of the day. Campanian athenaeums are, indeed, not always very well linked to all the remote areas of the region in an efficient way, and the paradox is that from some municipalities it is faster and easier to reach universities located outside region (in Lazio, Molise and Basilicata) instead of reaching universities of Campania. This is not a migration strictly speaking, but is still worthy to include it in the analysis also cause many financial resources to the universities are allocated proportionally to the number of enrollments.

For this reason, to test this potential effect on the overall enrollments outside Campania, is has been added into the model a dichotomous variable related to the regional contiguity location of the university (1 = bordering region, 0 = not bordering region).

The methodological choice to use a statistical model with multilevel approach, is affected by the nature of both dependent variable and predictors, both selected with respect of the previous research hypothesis. As already mentioned, dependent variable is the total number of enrolled coming from Campania region in each university. Multilevel models (Snijders and Kenny, 1999), have been conceived to build regression models to taking consistently into account the natural hierarchical structure of data, with some phenomena recorded at a "micro level" and some others recorded at "macro level". In this specific case, some variables are related to features linked to athenaeums (1^{st} level, or micro level), and universities are in turn "nested" in regions (2^{nd} level, or macro level). It is worthy to note that there is a sort of interdependence among universities, that when located in the same region will show same identical values for what concern variables of 2^{nd} level. Within this statistical approach, the following issues will be tested:

- 1^{st} level predictors that have an or have not an impact on the total number of enrollments from Campania.
- 2^{nd} level predictors that have an or have not an impact on the total number of enrollments from Campania.
- Which variables of 1^{st} level have an effect that changes significantly from region to region (random slope)
- If the intercept (the quantity related to the average number of enrolled from Campania estimated by the model when all the other predictors are set equal to 0) can be considered a random variable that changes from region to region and not a fixed value.

Data are related to the academic year 2013-2014, retrieved from official ministerial database MIUR. Universities included in the model are 66 (n° of observations = 66). Some universities have been excluded from the analysis: online universities, because they have a completely different pattern from traditional universities, the ones from Campania, cause the

model want to infer only about emigration flows from Campania, and two athenaeums with some incomplete data.

Final model has been selected by means of *AIC stepwise variables selection,* where AIC stands for "Akaike Information Criterion". It selects at the end the model that minimizes this quantity, adding and removing iteratively all the predictors.

Final model is the following:

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The adjusted R_2 for this multilevel model is equal to 0.612, showing a reasonable amount of goodness of fit given by explanatory variables. It has to be pointed out that several variables have been transformed in order to improve model fitting, parameters estimation consistency and to obtain an easier interpretation. This is the case also for what concerns the response variable, that has been standardized. Ranking have been reversed, so highest values are associated with better positions in the ranking. It is possible to rank predictors in descending order of relevance (global marginal effect): 1) Size (n° students), 2) Ranking, 3) Bordering dummy, 4) Private dummy.

So, Campanian students that enroll themselves outside region choose, first of all, big universities, with a huge number of students, likely able to provide both a wide and heterogeneous teaching programme, and a greater number of availabilities for what concerns "restriction on admissions" degrees. Campanian students that migrate are "affected" by the Sole24Ore ranking, and so are likely to choose first universities that are placed at the top of such ranking. Furthermore, they choose, *ceteris paribus*, universities that are in bordering regions. In particular, towards Lazio, Molise and, to a minor extent, Basilicata. Last effect in order of importance is thee private dummy: it is significant from a statistical point of view, but its effect is not that high.

The final model does not include as significant all the variables of 2^{nd} level, that are related to the political, cultural and economic context at regional level. It seems so the choices for what concerns tertiary enrollment, that is the passage from high school to first year of university, are mainly based on universities features and not regional framework. This leads to assume that all the factors linked to the "anticipatory migration" are not confirmed in this model. One plausible hypothesis is that these factors have a stronger effect on the enrollments in the passage from bachelor degree to master degree. Many students decide indeed to start higher education in the same region of residence (also due to economic reasons) and then move to put themselves in a better geographical framework just after some years.

For what concerns random effect on the intercept, it is worthy to interpret only the regions with a statistically significant difference of the regional intercept with respect to the grand intercept (that is supposed to be shared with all the 20 regions). Over 17 regions out of 20 have an intercept that is not statistically different from the overall intercept. The only region with a negative intercept is Lazio. Main motivation is that there is a "congestion effect": all the variables of the model have a positive effect on the universities of Lazio, that attract indeed a lot of students from Campania. But not as many as the model estimates. The

"congestion (or saturation) effect" is an attempt to define the case when there is a physiological limit on the overall number of students from Campania that can move to Lazio; in that region there are too many athenaeums, and they attract a lot from Campania, but the model does not include an explicit parameter for the physiological limit.

Positive values of intercept are instead observed for Marche and Abruzzo, regions able to attract more students than the overall figures computed by the model. It is mainly due to the fact that there is not a layer of the model related to the specific degrees with restriction on admissions. Figures are the following: 133 students to Marche and 444 students to Abruzzo. Main destination are degrees with restriction on admissions: psychology studies, physical education studies, health studies and legal services science.

5. Conclusions and further developments

The aim of the present work has been to give a contribution on the plausible determinants that push university students to migrate from Campania. The phenomenon can't be addressed without being embedded in the more general context of intellectual migration. Indeed, people that undertake higher education degrees elsewhere, are likely not coming back home in the following years; this leads to assume that, such decision, is a crucial step of a more general true migration path. It has been discussed also how, students outgoing from Campania region, are just a peculiar bit of the 2 million people that have moved from South to North in the last 20 years. This kind of internal migration is conceived, in the core of this work, as a full negative phenomenon for the regions of origin, without even the remittances mechanism that is present in the international migration. Furthermore, recent changes in academic governances suggest the birth of a *quasi-market* regime among universities, that compete for students making use also of aggressive strategies. All these elements increase the interest in knowing more about this kind of migration, that is used as a tool to achieve social mobility by ambitious students and that increases, as a whole, global inequalities among Italian regions.

Campania is just one specific region, but for many reasons discussed in chapter 3, what happens there, is a very interesting workshop for national dynamics as a whole.

Main findings of the statistical model suggest that, first of all, some degrees classes are more affected by outflows from Campania than others. Especially degrees with restrictions on admissions. Then, several other factors linked to the four working hypotheses discussed in chapter 4 have an impact on the enrollments, and they are all related to universities features. Students, ceteris paribus, choose more often universities that are in the top positions of the rankings, that are private, that are located close to Campania and that are "big" in terms of students' population. Factors related to the regional environment (social, political or economic) does not influence the enrollments from Campania in this step, that is from high school to first year of university. In the next works, developments of analysis should go in the direction of: 1) increasing layers of the model including variables related to specific degrees 2) extend the analysis to other regions 3) figure out if there are different patterns moving towards the passage from bachelor degree to master degree.

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