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PhD Dissertation

**ITALIAN UNIVERSITIES ACROSS TIME**

**A longitudinal analysis of the diffusion of Italian universities.**

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## **Introduction**

A key term for understanding the developments occurred in last fifty years in most national higher educational systems is expansion. This amazing increase of the population in higher education challenges the traditional setting of universities and calls their traditional roles into question (Gumport 2000, Kerr 2001, Schofer and Meyer 2005, Moscati et al. 2010). A parallel theme deals with the centrality of knowledge for modern economies and societies. They became more and more knowledge-based and competition for reaching (and preserving) better economical performances is assumed to be based on a massive use of innovation, new technologies and highly qualified workforce. Whether it is a matter of a real need for technological upgrading of economies or rather a myth, a cultural claim (Meyer et al. 2007) is still under debate. Anyway, “knowledge” per se, its production, its transfer and management turned to be a key issue for governments.

Not surprisingly, the extent of these global challenges gave rise to some important consequences on national level as well. The focus of this dissertation will be on the Italian higher education system, where two major changes occurred in last decades as a consequence of the upon mentioned features. First, an increase in the number of institutions providing higher education characterized the second half of the XX century. In the decades following World War II brand new universities have been founded and a peculiar new organizational form of university emerged: satellite universities, defined as small campuses dependent on a parent university that generated them, located in the surroundings of it, that provides teaching and academic qualifications with the name of the mother university. Second, the greater number of users and the increasing interest for the use of knowledge claimed for the involvement of universities in new domains that do not pertain to the traditional ones of teaching and research. A “third mission” has been assigned to universities, that today are supposed to contribute to economic development, to train qualified labour force but also to share knowledge.

The object of analysis of the dissertation is the process of expansion of both universities and satellite universities, the former observed since the unification of Italy to nowadays, while the latter since the 1950s to nowadays.

The aim of the dissertation is first to describe the evolution of the process of expansion of both universities and satellite universities, and then to analyze the elements that might have played a role in shaping the process. We can assume that there is not an univocal reason behind the expansion of tertiary level institutions in Italy: in which way different elements blended and interacted each other resulting in an increasing number of institutions for higher education on national level?

We are interested in investigating under which circumstances a new university or a new satellite university is opened: which are the features at local and national level that more likely affect the rate of founding of a new university or a satellite campus? We will develop a set of hypothesis that mainly refer to the following three domains: a) institutional and organizational processes; b) economic factors; c) demand driven processes. We will try to verify whether the opening of a new higher education institution might be determined by features that typically belong to the institutional sphere, and in addition, whether the expansion of universities might have been influenced by organizational dynamics as it happens for other organizations. We will pay attention to economic factors as well: how do they influence the distribution of universities and to what extent the initial economic situation at local level interacts on macro level. It might be that considerations formulated at institutional level (both central and local) may result in policies aimed at expanding the educational system in some areas rather than others. Finally, we will investigate whether and how demographic factors play a role in influencing the increase of organizations providing higher education. Universities have a particular kind of “customers”: the increase in participation to upper secondary school may have had consequences on the demand for higher education. Further, the university might have been used as a “parking lot”: in situations where unemployment for young people is high, the condition of student might be preferred to the condition of unemployed, with consequences on the demand for higher education infrastructures.

Scientific literature on higher education mainly focuses on a micro level of analysis. The expansion of higher education is mainly investigated on a micro level perspective, by studying the increase in enrolments and the associated aspects of social inequalities in the access to higher education. The topic of macro level

expansion of universities (and even more of satellite universities), instead, is still little investigated in Italy and the literature available is fragmented on specific geographical areas or historical periods. We believe that the findings of our work might contribute to the existing literature first by filling the gap of empirical evidence about satellite campuses and by re-organizing evidence on universities. Second, our contribution goes in the direction of bringing some new arguments in the debate about the organization of higher education in Italy, also by providing a systematic reconstruction of the contributes available in literature that are still fragmented across disciplines. Finally, we believe that some of the findings of our work might be generalized from the specific Italian national case and may contribute to the scientific literature also from a theoretical perspective.

As far as the methodology is concerned, the dissertation has a major focus on quantitative analysis: empirical research will be carried out by using two longitudinal datasets specifically created for the purposes of the research project. The datasets collect information about universities and satellite universities and include variables at province and national level for about 30 years (1980-2011). The analyses will be carried out by using the technique of Event History Analysis, with discrete-time models. Yet, we believe that qualitative aspects of phenomenon have to be taken in consideration as well. Thus, although the main focus will remain on quantitative methods, we will introduce some more evidence by developing a small (and not exhaustive) section on the process of founding of satellite universities, analyzed from a qualitative perspective by means of case studies on three different experiences of satellite universities.

The work is articulated as follows:

Chapter 1 illustrates the theoretical background upon which we base our research. Here are introduced the sociological theories that we will use for framing our analysis and the theories that lay behind the research questions and hypothesis that will be tested in the empirical analysis. The chapter is divided in four paragraphs, according to the four main streams of literature that frame our work: a) new-institutional literature b) micro-level sociological theories about the expansion of



higher education c) organizational ecology and its connection with new-institutional literature d) sociological theories about the relationship between higher education, knowledge and territories.

Chapter 2 contains the description of the research hypothesis leading our analysis and of the data and methods used for the empirical analysis. The organization of this chapter resembles the structure of the dissertation: hypotheses, data and method are separated in two different paragraphs according to the two objects of analysis. The first paragraph is about the analysis of the expansion of universities: it describes how the original dataset with Italian provinces as units of analysis has been built specifically for the research. Here a set of hypothesis derived by the three main domains of institutional-organizational processes, economic and demand-driven processes is formulated and the method of analysis is described. The second paragraph describes the hypotheses, data and method that will lead the investigation of the expansion of satellite campuses. Here a second original dataset with Italian universities as units of analysis is described; new hypothesis derived from the above mentioned three main research questions are formulated, and the method used is described.

At this point the dissertation is divided in two main parts:

Part I is devoted to the analysis of the increase in number of universities in Italy across a period of about 150 years, since the unification of Italy in 1861 to nowadays. Due to the long historical period that the research takes into account we will further divide the analysis in two chapters.

Chapter 3 provides a description of the organization of the Italian higher education system, including the reconstruction of its earlier historical phase and then observes the evolution of the higher education system through the main reforms occurred in about 150 years. Given the difficulties in the search for available data for such a long historical periods, we develop a descriptive analysis based on secondary data from historical sources. Here we combine an analysis of main

historical events in terms of policies and reforms of the higher education system in Italy with some basic descriptive statistics about the founding of new universities, based on historical sources.

Chapter 4 develops a quantitative model for the analysis of founding of new universities in the period 1980-2011. The analyses are based on a longitudinal dataset, built specifically for the objectives of the research that contains Italian provinces as units of analysis. The dependent variable is the occurrence of an event, defined as the opening of a new university on the territory of the province. Here descriptive statistics about the evolution of founding of new universities are provided and then the hypotheses formulated in chapter 2 are tested using Event History Analysis.

Part II is devoted to the analysis of the expansion of a particular organizational form that begun spreading in the 1980s: satellite universities. The opening of satellite universities appeared in early 1950s and then continued until the 2000s, that corresponds to our observation period. Also here we divide the analysis in two sub-sections.

Chapter 5 provides an historical description of the evolution of satellite campuses, starting from the early period, in the 1950s, when the first satellite campus was opened, to nowadays. The first steps toward the creation of this new organizational form and the recent events are taken into account, with particular attention to the changes that occurred on political level and a description of the actors involved. Here a first attempt of combining methods by mixing qualitative and quantitative analysis is launched. In order to grasp some aspects of the phenomenon which can hardly be investigated with quantitative analysis only, we will analyse three brief case studies on different experiences of satellite campuses, including either pioneering examples of satellite campuses and more recent experiences.

Chapter 6 develops a quantitative model for the longitudinal analysis of founding of satellite universities in the period 1980 and 2010. Given the close parental

relationship between the autonomous university and its new born satellite campus, the unit of analysis are Italian universities, collected in an original dataset specifically constructed for the purposes of the research. The dependent variable is defined as the opening of a satellite campus, and the observation is divided in two waves: the first transition and the second transition, in order to accommodate recurrent events. Here we will investigate the relationships between the dependent variable and a series of covariates that contribute to test the hypothesis elaborated on the basis of the tripartite scheme: institutional-organizational processes, economic factors and demand aspects.

Finally, in the last chapter we will provide some final considerations on the most interesting aspects that will come out from the research. Further, we will present some conclusive remarks in terms of policy implications and some suggestions for future directions of research.

## **Chapter 1. Theoretical Background**

A vast literature on the transformations of higher education during the last fifty years is available, addressing the issue from different perspectives, sociological, economical and political. Given the sociological approach of our work, we will focus mainly on the sociological literature, that will represents the theoretical basis for our arguments. Within the sociological framework we will deal with a couple of main approaches that we will try to integrate with some other streams of literature originally developed in different fields.

The theoretical framework within which we place our work is built around the new institutional theory, but it will be completed and integrated by other approaches as, for example, the closely connected literature about population ecology and the literature exploring micro level decisions about participation to higher education. Then, we will deal with literature about universities and territories in both economics of innovation and economic sociology that underlines the role of geographical interconnections and proximity in the interaction among higher education structures and local actors.

### ***1.1 The new institutional literature***

The main sociological approach in our theoretical framework is the neo-institutional approach, with particular attention to the sociological neo-institutionalism (Hall and Taylor 1996) and the new-institutionalism in organizational analysis (Di Maggio and Powell 1991).

The neo-institutional approach is particularly relevant for our analyses about higher education expansion since the schooling system and its diffusion has been a central topic of research for many scholars of the sociological neo-institutionalism (Meyer 1977, Meyer at al. 1997, 2007; Schofer and Meyer 2005). Those scholars challenged the view that similarities in the organization of schooling systems across the world were rooted in the search for efficiency as rational choice or functionalist theories would have explained, but rather are driven by cultural processes aimed at gaining legitimacy and to transmit cultural values (Meyer and

Rowan 1991; Hall and Taylor 1996; Meyer et al. 2007). Another central point of the new-institutional literature that sounds interesting for our argument is the analysis of change in organizations: the emphasis on process of isomorphism among organizations provides a suitable concept for the analysis of the spread of institutions for higher education that resemble one each other, often detached from actual needs and search for efficiency.

Before underpinning the links between new-institutional theory and our argument we first provide a general framework. New-institutionalism, by definition, refers to “institutions” and how social choices are shaped, mediated and channeled by the institutional system (DiMaggio and Powell 1991). A clear and unitarian definition of what an institution is results troublesome, since the institutional approach is used in several academic fields (economics and politics as an example) with slightly different meanings. But all of them agree on a common core about how an institution is conceived, a definition that deals with its intrinsic social construction and its reproduction through time: “(...) an institution as a relatively enduring collection of rules and organized practices, embedded in structures of meaning and resources that are relatively invariant” (Olsen 2009:9, March and Olsen 2006). Similarly, scholars of the sociological neo-institutionalism defined an institution as an “organized, established social procedure. (...) often represented as the constituent rules of society (the “rules of the game”)” (Jepperson 1991:143).

Institutional theory developed as a reaction to atomistic views about the formation of social processes or behavioural perspectives, that viewed the decisions of collective bodies as the sum of individual choices (DiMaggio and Powell 1991; Hall and Taylor 1996). More generally, new-institutionalism is a reaction to the trend that March and Olsen (1984 p. 735) accounted as dominant in political sciences (that however could have been extended to all social sciences<sup>1</sup>): “the basic vision that has characterized theories of politics since about 1950 is: (a) contextual (...) (b) reductionist (...) (c) utilitarian (...) (d) functionalist (...) (e) instrumentalist (...)”. On the contrary, an institutional approach emphasizes the role that institutions play in determining social outcomes (Hall and Taylor 1996) and focuses on the explanatory power of organizations and institutions, rather than

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<sup>1</sup> “The new institutionalism is not peculiar to political science” (March and Olsen 1984:738)

on choices of individual actors (Olsen 2009). It assumes also that change is a constituent feature of the analysis of institutions: “institutions are not pawns of external forces or obedient tools in the hands of some master. They have an internal life of their own, and developments are, to some degree, independent of external events and decisions” (Olsen 2009:4).

New institutional theory, by definition, comes after what can be called the “old” institutionalism. The former is described as “blending elements of an old institutionalism into the non-institutionalist styles of recent theories” (March and Olsen 1984:738). The common core that the two streams share is about a renewed interest in institutions, about to what extent the institutional context matters and how social processes are socially constructed. Yet differences between the two streams are several. From a general point of view the old institutionalism has been defined as mainly political: emphasizing conflict, vested interests and (disruptive) change as central features in the analysis of social processes (DiMaggio and Powell 1991). On the contrary, a relevant shift to issues of legitimacy, persistence and isomorphism is registered in the “new” stream. Here organizational change is driven by the search for legitimacy, and those organizations that live in a highly institutionalized context and own high degrees of legitimacy, have better chances to survive (Meyer and Rowan 1991). Organizational change is not driven by the pursue of rationality and efficiency, but rather the decoupling between organizational change and the search for efficiency is evident: “organizations which incorporate institutionalized myths are more legitimate, successful and likely to survive” (Meyer an Rowan 1991:61). Control in those organizations is more oriented to follow ceremonial procedures that support the adhesion to the above mentioned legitimated myths rather than managing actual relationships between activities and structure. As a consequence, a process of homogenization among organizations – or better isomorphism- emerges since change occurs as “the result of processes that make organizations more similar without necessarily making them more efficient” (DiMaggio and Powell 1991:64).

Those central features are particularly relevant for our analysis of expansion of higher education: the theoretical assumptions of the search for legitimacy and the tendency to mimic other’s organizational forms that result winning or more

legitimated fit particularly well for the analysis of higher education expansion in Italy.

We will see in following chapters that the increase in number of institutions providing higher education (both universities and satellite campuses) in Italy seems to follow kind of irrational rules, detached from efficiency in the supply and demand for training of highly skilled labour force. Rather, those irrational behaviour can be better explained by aspirations of legitimacy and of status that make those organizations reproduce, survive (and resemble one each other) even once their lack of efficiency and functional role became clear.

Coming back to the foundations of the Italian higher education system, the diffusion of a common (and specific to Europe) model of schooling in the second half of XIX century in Europe was seen by new-institutional scholars as driven by reasons of identity building of the new nation states. The European model of schooling became a tool for political legitimacy , for identity and consensus building for the weak newly created nation states (Meyer et al 1997, 2007; Ballarino 2009). As a matter of fact, in the years that followed the unification of Italy, a centralized state system of education was built, with the aim of channelling a national identity -that was not existing before- based on lay ideals, in contraposition with the main powerful competitor of the new unitary state: the Papal State (see chapter 2). Similarly, the massive increase in participation in higher education in the period after World War II, and the diffusion of isomorphic systems of higher education not only in economically advances countries but also in Third World countries, often totally disconnected to the characteristics of the local environment, was explained on the basis of legitimacy, myths and ceremony. This expansion has not been pushed by the increased level of economic development, as a functionalist perspective would have suggested, but rather by the worldwide spreading of political and cultural models based on democratization, liberalization and expansion of human rights. Higher education institutions were legitimized on the basis of the myth of progress, democratization and individual rights of citizens (Schofer and Meyer 2005; Ballarino 2009). The values of individual equality and empowerment, the growing authority of science and rationalized knowledge in many fields of economic and social life, and the ideas

about the importance of education for national development made increase “the apparent utility of higher education for a wide range of social roles” (Schofer and Meyer 2005:903).

The myth of knowledge as the new religion of postmodern society is recalled also in works that give account of the shift that occurred in the American higher education system about the increasing importance given to scientific-technical disciplines at the expenses of humanities, that constituted the tradition of classical models of higher education (Frank and Gabler 2006). However, in all historical phases, the common core of the neo-institutional thought contests the assumption that in our “knowledge society” the university provides only technical skills and train highly skilled workforce for competing in more complex economies. Still in the era of the knowledge society the educational system bears cultural values and determines the values of the culture in which we live: “university is more about establishing the cultural or religious map of the cosmos and of human action and structure in this cosmos than about facilitating particular activities within this system” (Meyer 2006:XIII)

With respect to our work, two shortcomings of neo-institutionalisms can be called into question: first, the emphasis on the ideological construction of the nation state, in particular for the history of Italy, underestimates the fight for actual power between the newly created nation state (Italy) and the Church, the main and most powerful competitor on Italian territory. The new state of Italy had to –physically- subtract territory to the Papal State for its process of constitution. As a consequence, the definition of the new state identity had to pass also through an opposition to religious symbols and culture but it was mainly a political issue in which a loss of (actual) power was at stake between the new emerging actor and the old powerful one. While neo-institutional scholars view the struggle about secularization of the universities driven mainly by a conflict between different cultural assumptions, rather than a struggle for actual power on the territory<sup>2</sup>.

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<sup>2</sup> “The great battles over university secularization and over religious versus statist ties were (...) about fundamental cultural assumptions, carried in different ways by different versions of the university and empowering different models of emerging modern society” (Meyer 2006:XIII)



A second limit of neo-institutional theory is the main focus on the macro level of analysis: in particular with respect to the analysis of the expansion of education, the new institutional approach tends to underestimate some important transformations that occurred at micro level. As the scholars themselves admit, the macro dimension is central in their analysis, and “the link between micro- and macro levels of analysis has not received much explicit attention from practitioners of the new institutionalism” (DiMaggio and Powell 1991:16 and 25).

### ***1.2 Micro-level sociological theories***

We thus consider that our theoretical framework should integrate the micro level of analysis taking into account also other sociological approaches that can contribute to the framing of the expansion of higher education in Italy.

In this paragraph we would like to refer to a series of theories that have been developed on the micro level for explaining the increasing participation to tertiary education in the second half of XX century.

The classical theory of the human capital (Becker 1964) for the economic literature and theories about modernization on the sociological side explain the increase in participation to higher education systems as a result of the increasing complexity of the economic systems, that requires more and more skilled workforce. Socio-economic relationships of advanced economies become more and more complex, requiring highly skilled workers, whose abilities are formally certified by bureaucratic organizations specifically oriented to education and training. Those who come out of these organizations own a higher productivity because better prepared on a technical level and because they learnt norms and roles specific to workplaces. Thanks to this process, the economic system becomes more efficient and modernization can continue. According to this approach the demand for education, and thus the offer of human capital, is increasingly growing due to the high expected returns attached to the investment in education. On the other side, the higher supply of human capital will be absorbed by a competitive labour market that, given the increasing complexity, claims for more and more skilled

workforce able to manage more complex and interrelated tasks and roles (Ballarino and Checchi 2006, Checchi 2006).

The human capital theory (Becker 1964; Checchi 2006) is an economic theory that, as first, put educational choices on the same level of a financial investment. The choice whether to continue to study (or better, to purchase a certain stock of years of education) is a rational choice of the individual that refuses a potential current income, aware of higher returns in the future. This is what happens with financial capital: an individual decides to purchase today a certain amount of capital in the perspective of positive returns based on the owning of that good. The baseline assumption is that higher levels of education increase worker productivity, that in turn, will be recognized on competitive markets with higher wages.

However, theories of modernization and its suggestion of a linear positive relation between investment in education and returns on micro and macro levels have been put into question by the intergenerational persistence of inequalities of access to education and by research that underlines how employers do not base their decisions on information given by educational titles only (Spence 1973; Collins 1979; Blossfeld and Shavit, 1993; Hertz et al., 2007; Ballarino and Checchi 2006; Checchi 2006; Goldthorpe and Jackson, 2007).

With respect to the issue of intergenerational persistence of inequalities of access to higher education we acknowledge that there is a huge and interesting body of literature, that however we will not take into consideration here, since it does not correspond to the focus of our dissertation. But we keep focussing on other theories about the micro level determinants of the expansion of higher education.

Collins' theory of credentials (1979) suggests that the increase in demand for education is driven by the fact that a certain level of education, in particular in the case of higher education, is recognized by employers as a "visa" for better and prestigious jobs, and not always as an actual certification of the skills acquired.

The complementary theory on the side of economics is the theory of signalling (Spence 1973), according to which, in a situation of asymmetrical information as the case of the relation between employer and candidate employee, the former relies on educational qualification as an informative tool on the latent ability of the individual and his attitude to work.

Another stream of literature mainly addresses the relation costs-benefits for explaining the choices about education. Participation to higher education implies some costs: direct, as fees, transports, books, and indirect costs, as the missing income that would have been earned if working instead of studying. According to those theories, in the period following World War II the ratio between costs and benefits turned in favour of the latter, thus supporting the participation to higher education.

The idea of a “reduced risk” (Erikson and Jonsson 1996) is one of them: the expansion of higher education demand is a consequence of the reduced risk of investments in HE. Families decide to invest in education in order to achieve better positions and income in the future, but the relationship is not automatic: there still persist the risk of failing through the process. However, the stability of employment assured in post-war period by the welfare state and the reduced selectivity of educational systems made it affordable to invest in education and eased the chances of success for students.

An interesting theory that stays in between micro and macro interpretations, is the theory developed by Marzio Barbagli (1982) who coined the image of the university as a “parking lot”, with specific reference to the issue of intellectual unemployment in Italy. According to this theory, given the high rate of young unemployment in Italy, young people try to put in practice a waiting strategy which consists in postponing the difficult entrance into the labour market, substituting the period of unemployment with periods of training. This could enhance their future chances of success in the labour market, but above all, substitutes a badly evaluated status of unemployed with a more socially rewarded status of student. This involvement of youngsters in higher education brings about benefits on a macro level as well: it not only reduces rates of young unemployment but also helps to take under control the social conflict associated to that (Barbagli 1982, Ballarino 2011).

As we are moving back to a macro level analysis, we consider here useful to take into account another important contribution coming from the historical sociology, that is particularly relevant for the Italian case as well. Historical sociology contributes to the explanation of higher education expansion by suggesting that

policies enhancing the participation to higher education can be assimilated to welfare policy, a particular kind of welfare: credential welfare (Collins 2000; Ballarino 2011). It brings about a series of positive effects on the economy and the society on a macro level: it implies the increase of employment opportunities, creating new positions for highly qualified employees, and a wide satellite sector that are generally protected from the dynamics of the economic cycles. It further generates positive effects in terms of reduced social conflict (as we have seen before for Barbagli's theory), increases socio-political participation and civicness (Dee 2003), and legitimizes the scheme of social selection and social allocation of professions and roles in society (Stevens et al 2008; Ballarino 2011).

Both the previous theories are pretty relevant for our analysis and constitute the background for some of our research hypotheses: as we will see in next chapters, the idea that higher education policies have been used as a specific kind of welfare policies is the basis for the development of a hypothesis that considers center-left governments more oriented to support expansive policies in education. Similarly, the issue related to unemployment indicators is one of the key ideas that lay behind our hypothesis about the impact of economic variables on the chances of opening a new university in a territory.

### ***1.3 Organizational ecology and new institutional literature***

At this point we would like to make a step back to the new institutional theory we reviewed in the first paragraph and try to integrate our theoretical framework with a closely related sociological theory that developed in organizational analysis: the population ecology.

Population (or organization) ecology was a pretty revolutionary theory at the time when it was formulated: Michel Hannan and John Freeman, the pioneers and more relevant scholars of this approach, started from the idea that everything had been already said in social sciences at that time (mid-1970s), thus decided to borrow from biology the theory of populations ecology and tried to apply it to social sciences. The new institutional perspective and the population ecology approach share some common points, despite some crucial differences. Both of them stress

the effect of the environment, i.e. how the action of the organizations is constrained and structured according to rules and values that come from outside the organization. The concept of environment is similar: new institutional perspective do not refer to local communities but rather to organizational fields, that present many points in common with what is called the organizational community in the community ecology approach. However, despite a tendency to reconcile the two views, the new institutional approach stresses more on the processes of isomorphism, homogeneity of practices and stability, while in the population ecology approach the aspects of competition, selection and diversity are central. The basic question that Hannan and Freeman put at the basis of their work: “Why are there so many (or so few) kinds of organizations?” (1977:7) stresses diversity and selection rather than isomorphism.

The shift to the analysis of populations of organizations allows them to consider not only cases of success but also dynamics of failure: “they study the processes and environmental conditions that govern rates of organizational founding and mortality (Hannan and Freeman 1992 p.4).

The attention toward the evolution of “birth” and “death” in a population is the element that made us think to organizational ecology in our theoretical framework. The theory about ecological and environmental processes, in particular density dependence models and institutional processes, can help us in identifying some crucial features for explaining the expansion of universities (as organizations) and in particular on the expansion of that particular subset of higher education organizations that are satellite universities.

Besides, research on demographic, ecological and environmental processes have already been conducted on different kinds of organizations but never on universities (Hannan and Freeman 1993 on transistors industry, Singh et al. 1991 on voluntary social service organization, Baum and Oliver 1992 on day care centers for children, Scott et al. 2000 on health care organizations, Carroll and Swaminathan 2000 on beer industries, Carroll and Hannan 2000 for a review).

The concept that the external environment affects the internal structure of organizations and their evolution through time has been first developed by

Stinchcombe (1965). His concept of imprinting focuses on the idea that the historical conditions at the time of founding are crucial, since organizations construct themselves with the stock of resources available at that time, the external context provides the rules for the legitimacy and affects the organization with path-dependency patterns of evolution. He already anticipated the idea of competition and selection, that will be further developed by Hannan and Freeman (1977), and other crucial aspects like the concepts of liability of the newness and age dependence, that will be further developed in literature on population ecology. In his setting, organizations facing daily competition and risk of selection are entities able to mobilize power, wealth and legitimacy, accordingly with the Weberian scheme of authority.

The article by Hannan and Freeman (1977) is a seminal paper in the field of organizational ecology. It builds on the concept of competition and selection, challenging the dominant view of Parsonian functionalism by which those who survive are those who could better adapt in front of exogenous shocks or changing environmental contingencies. Rather, they showed that selective and competitive processes can better explain the evolution of populations of organizations. The processes of isomorphism for example, usually explained by adaptation, can be analyzed as the outcome of selection forces. From this perspective it is the environment that optimizes, selecting out the optimal combinations. This leads to stress dynamic considerations: in a context of scarce and finite resources, competition among organizations raises and determines rates of founding and failures in a field.

The evolution of founding and failure has been interpreted as a result of mainly three kinds of processes: (a) demographic ones, linked to the issue of age and size dependency, as already introduced by Stinchcombe (1965); (b) ecological process, connected to the dynamics of populations in terms of density dependence or niche-width dependency and community interdependence; and finally (c) environmental processes, linked to institutional and technological processes of change (for an overview see Baum 1996).

What seems more relevant for our research design is the density dependence theory, that will lay in the background of one of our research hypothesis. According to density dependence models, we should discover a curvilinear relationship among founding, failures and number of organizations in a population. We should observe an initial slow growth in the number of organizations up to an equilibrium point, corresponding to a sort of “carrying capacity”<sup>3</sup>, then we expect a decline in the number of population members, and a rise in concentration. This process is explained in such way: the initial increase in population density can raise the degree of institutional legitimacy of the population and thus raising founding rate (and diminishing failures). Yet, as the number of potential competitors increases, the competition for scarce resources increases as well, leading to a more competitive environment that will lower the rate of founding, and will rise the failures (Hannan and Freeman 1993, Carroll and Hannan 2000). In this context the concepts of legitimacy and competition emerge as central: the new comers lack constitutive legitimacy at early stages but then there is a direct relationship between legitimacy and competition.

More recent literature in the field of population ecology moved from the level of analysis of the population to the organizational community level (Ruef 2000, Freeman and Audia 2006). The leading question here is “in what kind of setting new forms of organizations emerge?”, and the shift has to do more with relations between species rather than within species.

Organizational community is defined as a “bounded set of forms with related identities” (Freeman and Audia 2006:658) and is an evolution of the new-institutional concept of organizational field, used to define the set in which organizational forms are structured and institutionalized (DiMaggio 1991). This stream evidences how population ecology has put at the center of its analysis founding (and failure) patterns of individual organizations within an already existing population but never concerned about how new forms are developed and the process of development itself (Ruef 2000). The analysis of the community levels still keeps central the concept of density dependence but combines it with

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<sup>3</sup> “the rate at which units are added (...) depends on how much of the fixed capacity has been exhausted” (Hannan and Freeman 1977: 941)

the notion of identity. The concept of identity is strictly linked to the earlier notion of legitimacy and institutionalization in new institutional literature: again we find that, despite the main stream of literature emphasized the role of technology in claiming for the emergence of new forms, actually it is common to see a decoupling between the two. It is only when the shift becomes socially acceptable (legitimate) that the new organizational forms are recognized and institutionalized. In this context the integration with the new institutional literature emerges clearly (once again) and this recombination is beneficial for the understanding of many phenomena, especially if embedded in the public domain, as is the case for our object of analysis. As a matter of fact, it comes again actual the “rapprochement between institutionalism and the population ecology approach. Institutionalists are now much more willing to acknowledge the importance of competition and organizational selection (...). Ecologist, for their part, now emphasize the importance of institutional factors in competition (...)” (DiMaggio and Powell 1991, p. 32).

The institutional linkages between the organization and the surrounding institutional environment are the key resource that contributes to raise the level of legitimacy of an organization and thus explain the different patterns of founding and failure. In this context it comes relevant the contribution made by Baum and Oliver (1992), who studied how relational density, i.e. the number of ties between organizations and their institutional environment, can affect the rates of founding and failures of day care centers in the metropolitan area of Toronto. On a general level, the survival chances of the whole population increase at the later stages of growth, when the embeddedness with local institutional environment is well developed. Yet, on organizational level, those which developed direct relationships with the local institutions proved to have better survival chances at all stages of population growth.

Finally, an important stream of population ecology that is particularly interesting for our work is the role played by government regulation. The changes in laws and regulations constitute a source of constrains (or opportunities) that influences patterns of founding and failures for organizations. The regulatory effect can have both positive and negative effects on rates of founding and failures, and exerts its



influence through imposing barriers to entry, by changing the ways to access to resources, or by introducing /imposing monitoring actions, certifications and authorizations, or finally, influencing the nature of the competition among organizations (Baum 1996).

These features are pretty important with respect to our research and this theory will be involved in the formulation of the research hypotheses. As a matter of fact, given the strictly public nature of the higher education system, we believe that government regulation played a key role in boosting or constraining the trend, and that the public nature of the higher education system makes it vulnerable to the changes in the political composition of the governments.

#### ***1.4 Higher education, knowledge and territories***

Finally, we would like to include in our theoretical framework another interesting stream of literature, represented by socio-economic researches that focus on macro level relations between local economic systems and the presence of centers for the production of knowledge. The basic assumption of those theories is that geographical proximity among universities, research centers and firms can help the diffusion of knowledge and innovation: it may result in the opening of academic start ups or spin offs, or in the founding of companies linked to the university by relations of close cooperation that aim at the industrial exploitation of research, boosting the economic development of territories.

But before focussing on recent theories, that put research and innovation at the center of the economic system, we would like to first introduce how the concept of knowledge and research, and its perceived relevance, changed over time.

In the period after World War II, characterized by Cold War, the production of knowledge and innovation was considered as a prerogative of big national plans, financed by the State and managed by big national centers of research. The idea behind was that a linear trajectory of innovation could be drawn: investments in basic research would have brought to innovations in applied research and from there, directly to industrial exploitation, according to a continuous and linear path. Besides, in the fordist industrial model of production the primary interest was

profit maximization, while knowledge and innovation were considered as external to the production function, as public goods (Bucchi 2009).

Since 1970s, however, due to the emergence of first environmental problems and social movements, a critical attitude toward science and social pressure in favour of social control of innovation and technology became increasingly sound. In the same years the so-called third industrial revolution (Bell 1980) based on information and communication technology had its beginning. In addition to macro changes that this revolution brought about in the organization of work and business, it changed the relationship between knowledge and industrial production as well: knowledge became central in the production function. Economies become more and more knowledge based and countries competitiveness depends on the high technology content of economic sectors, and on the chance to have highly-skilled human capital.

As a consequence, a new model of innovation production emerges, characterized by: an increasing interaction among universities, companies and governmental agencies; the overcoming of traditional boundaries in the fields of study and greater attention to social accountability in scientific research (Bucchi 2009).

Similarly, a new stream of literature developed, that focuses on interactions between knowledge, universities and national (local) systems. In the so-called Science Mode 2 universities, as producers of knowledge, are invested of a third mission: besides the traditional tasks of teaching and research, universities are now required to contribute to the economic development of territories (both on national and local level). The idea behind is that the presence on the territory of centers of production of knowledge allows a positive interaction among firms and other local actors, an atmosphere that contributes to the knowledge transfer through available highly skilled human capital and through the opening of innovative firms by, or in cooperation with, students or researchers.

According to the model about national systems of innovation developed by Lundvall (1992), innovation is a gradual, incremental and cumulative process, in which interactive learning among actors involved in the process is central. Actors (institutions for knowledge production, institutional actors and firms) are more and more interdependent: the ability to exploit knowledge cannot be pursued in

isolation, and success relies also on the ability of institutional actors to understand and manage innovation. Similarly, the model elaborated by Gibbons and his colleagues (1994) stresses the importance of knowledge production in the context of application and transdisciplinarity. That indicates a sensitivity for the context: often the problem solving is related to a particular application and knowledge production is distributed among different actors, requiring active participation in the process of generation. Further, the importance of tacit knowledge brings about the need of putting academia and business culturally close together. As a consequence, the number of actors involved in the process of knowledge production increases, the university loses its central role, but boundaries are less distinct. From being the leading player, university becomes just one of the possible actors for knowledge production and its structure is not suited to the new process of scientific discovery (Gibbons et al. in Geuna 1999).

An incisive image, used to describe this new model of production of innovation, is the one of the Triple Helix (Etzkowitz, Leyersdorff 2000, 2002). According to this model, knowledge is produced through a process that involves three actors: universities, firms and governmental agencies, that closely interact. Each of the blades of the helix becomes more and more dependent on the others, and their interaction can even give birth to new institutions. Despite the three will formally remain autonomous institutions, each of them will tend to carry new tasks that were not originally attached to their own roles but typical of the other actors (for example universities that fund technological and scientific parks) (Etzkowitz, Leyersdorff 2000, 2002; Nillson 2006).

On the other side, some authors keep thinking that university still plays a crucial role in this “new distributed model” (Geuna 1999; Antonelli 2007), in particular when the role of large companies investing in R&D is declining and the role of universities becomes central, just as “the generation of knowledge is the result of enhanced social interactions” (Antonelli 2007:2). In this vision, the university system has developed over time a peculiar system of incentives that makes it a perfect candidate as an intermediate governance mechanism, between the two extremes of the state, as unique provider of knowledge as public good, or the corporation, with knowledge as quasi-proprietary good. Due to its combination of

incentives for dissemination and generation of new knowledge, where scientist's reputation is based on publications, and the economics of scope between teaching and research (the quality of research enhances the quality of teaching in terms of contents and reputation), the university can benefit from "qualified user-producer interactions between academics that produce knowledge and firms that use it" (Antonelli 2007:6). In conclusion, the unique blend of non-exclusivity in the employment relations and intellectual property, makes the university an ideal candidate for the production of knowledge as a common good. However, in this context the role of public policies is crucial, in order to enhance the communication between the academics and the business community, that up to now remains poor.

Some other scholars underline the importance of a close and geographically located interaction between university and local environment. Empirical research shows how knowledge is often specific to the context in which it has been generated, and how there exist a tacit dimension of knowledge, that makes it difficult to apply to another context. Arguments in favour of institutionalized and geographically closer interactions recognize that the production of new knowledge requires the recombination of knowledge coming from different sources and that the transmission of knowledge requires cognitive, geographical, cultural and social proximity among agents (for a review see Bodas Freitas, Geuna, Rossi 2010).

In this respect we can find some interesting empirical works that refer to a social construction of innovation (Trigilia 2007). This idea builds on the famous concept of social construction of economic institutions developed by Mark Granovetter (1992), that highlights how "behaviour is embedded in concrete, ongoing systems of social relations" (ibid:6). The resources available from these social networks constrain or facilitate the action of economic institutions, thus resulting in different outcomes of the individual and collective action, according to the social structure in which they are embedded (ibid:9).

Empirical research on technological districts in the United States (Saxenian 1994) underlined how firms are embedded in a social and institutional context that shapes their strategies and internal structure. An industrial regional system is the product of a close interaction among: local institutions, models of business organization

and culture, with the latter including universities, public agencies and a series of informal institutions (as for example, professional or ethnic-based associations).

Similarly, Trigilia argues that, together with the psychological characteristics that innovators should have (according to the Shumpeter' view of the entrepreneur), characteristics of the surrounding environment play a crucial role: they can support the "innovator" through the building of exchanging relationships and a cooperative atmosphere.

The key point is that innovation at present time needs interaction, dialogue and cognitive resources to develop "conversations" among a large number of actors that help raising the chances of learning and discovery. But these conversations need the development of informal networks and direct interaction, that claim for local, geographical proximity (Trigilia 2007:12; Trigilia and Ramella 2010). In such a framework, the informal networks and the direct interaction figure like positive external economies, or public collective goods, that contribute to the process of innovation and competitiveness of territories. Among these, the opportunity to interact formally, but especially informally, among knowledge producers (namely universities and research centers) is drawn as one of the most important elements, for having access to technological novelties and qualified human capital. Both formal and informal interactions are further important, for building professional communities that through trust relationships and informational networks contribute to increase the social capital of a community (Coleman 1990; Trigilia 2007).

Given the focus of our empirical analysis on the specific case of Italy, we believe that the theory about the link between the presence of universities, both as centers of research of training for highly skilled workforce- can be relevant in the phase of hypotheses formulation. In particular, the political rhetoric of local and national decision makers always refers to research and knowledge as a key element for the development of territories. Thus, building on this background, we were led to hypothesize that placing a university (or satellite university) in a territory can be viewed by decision makers as a tool for boosting economic and cultural

development of certain areas, in particular if economically depressed or in a phase of structural change.

However, if this reasoning can be consistent when thinking upstream of the issue, in our personal view we believe that, from downstream, approaches referring to regional innovative systems and triple helix model, seem to fit better for the interpretation of experiences of high-tech clusters in foreign countries. The actual outcomes of the presence of centers of research seems to be more problematic to verify, in particular with respect to technology transfer and university-firms interaction. The Italian economic system is characterized by the presence of small (sometimes super-small) firms that are specialized in mature industrial sectors where non codified, tacit knowledge is more important, a kind of knowledge that resides in workers' ability and experience and in the social networks that developed over time (Bianco, 2004; CSS, 2007; Animalì e Seri, 2009). Difficulties stay in the limited ability of absorbing codified knowledge by firms, since often the innovative components remains marginal in many of Italian traditional sectors; they reside in the small dimension of firms and the diffused familiar propriety that limits the propensity to open the business to external investors and thus reducing the chances to invest in sectors, as research and innovation, where the returns are uncertain. Finally, the familiar propriety often slows down the intergenerational change and reduces the tendency to rely on external resources, in terms of funding but also of human resources, as creative figures, managers or university graduates or researchers, that own higher level of education of their employer.



## **Chapter 2. Research Hypotheses, Data And Methods**

This chapter is devoted to the description of the methodological structure of the research: we will first focus on the questions and hypotheses that led our research and then we will describe data and methods we used for developing our empirical analysis.

As we mentioned in the introduction, the structure of the dissertation is made up of two parts. Part I is an analysis of the expansion of universities, or better, of the increase in number of universities operating on the Italian territory, since the unification of Italy in 1861 to 2010. Since the analysis of the expansion of universities in Italy is observed for a quite wide time period, the analysis is further divided in two sub-periods. For the period 1861 to 1980, given the difficulties in the search for available data, we developed a descriptive analysis based on secondary data from historical sources. Here we combine an analysis of main historical events in terms of policies and reforms of the higher education system in Italy with some descriptive statistics about the founding of new universities, based on historical sources. For the second period, since 1980 to 2010, we will develop an empirical analysis based on longitudinal quantitative methods and data collected in a specific database, created for the present work. Given the close relationship between a university and the system in which it is located on, the unit of analysis for the empirical investigation of the founding of new universities are Italian provinces (see more details in the data and method section).

Part II is devoted to the analysis of the expansion of a particular organizational form of higher education institutions: satellite universities. They are places where undergraduate and graduate university degree programs are provided; they are financially and administratively dependent on a mother university and are located out of the headquarter of the mother university, generally in the provinces surrounding the metropolitan area. The opening of satellite universities (or satellite campuses) appeared in early 1950s and then continued until the 2000s, that corresponds to our observation period. Also here we will provide a more historical description of the early period, combining case studies with statistical data, while we will develop a quantitative analysis for the more recent period, between 1980



and 2010. As far as the unit of analysis is concerned, the empirical investigation on the development of satellite universities will place the single mother universities as the unit of analysis, given the close “parental” relationship between the autonomous university and its new born satellite campus (more details in the data section).

With respect to data, we collected a significant amount of information on the founding of universities, satellite universities and faculties as well, based on secondary data, referring to historical sources as books and universities’ own publications, universities’ websites and direct contact with the offices of the universities. The information collected has been then divided into two main databases in order to better organize data for the purpose of the research: the databases are built on two units of analysis, Italian provinces and universities. As a result we divide the data and method section according to the object of analysis.

## ***2.1 Research questions and hypotheses***

The process of change that led to the spread of new universities and decentralized sites in Italy has often been described as chaotic and unplanned on a macro level. Not always the phase of “founding” corresponded to a planned strategy either for the development of depressed areas through investments in human capital or followed the real needs of local economic systems. Some other considerations might have driven the intentions of decision makers as, for example, the neo-institutional theory suggests.

Thus the macro research question leading our work is about the determinants of the opening of a brand new university or a satellite campus. We can assume that there is not an univocal reason behind the expansion of tertiary level institutions in Italy: in which way different elements blend and interact each other resulting in an increasing number of institutions for higher education on national territory?

We are interested in investigating under which circumstances a new university or a new satellite university is opened: which are the features at local and national level that more likely affect the rate of founding of a new university or a satellite campus? As we have seen in our theoretical background, many theories have been

called into question in order to explain such a complex phenomenon, that became a central issue at both country and global level in the second part of XX century. Building on those theories, we speculate about the specific situation of Italy and we try to answer the following questions in our research: is the opening of a new higher education institution determined by features that typically belong to the institutional sphere, as the new institutional theory suggests? Or rather, the drivers of this expansion can be found in the field of organizational analysis, so that universities are influenced by organizational dynamics as other organizations do? And finally, to what extent economic factors at local level intervene in the process? As the literature on the relationship between universities, knowledge and territories underlines, the opening of a higher education institution might bring development at local level. So, to what extent the initial economic situation at local level can interact with concerns about economic development? Concerns formulated at institutional level (both central and local) on the development of certain territories may result in policies aimed at expanding the educational system in some areas rather than others?

And last, but not least, which is the role played by demographic factors that influence the demand for higher education? Universities have a particular kind of “customers”: not everybody can enroll in higher education, only those who attained a high school degree can be the potential customers of this service. Assuming that the increase in participation to upper secondary school can have consequences on the demand for higher education, we will ask whether some measures of potential demand can have played a role in boosting the process of foundation of new universities or satellite campuses.

We can thus try to summarize the research questions into three main fields and formulate related research hypotheses: a) institutional and organizational processes; b) economic factors; c) demand driven processes. At this stage we have to separate the two objects of analysis we deal with in the present research: expansion of universities and expansion of satellite universities. Despite some of the main hypotheses will be shared by both the processes under study, some of the hypotheses we will formulate apply specifically to one (or the other) case and the empirical analysis will be run separately on two different databases.

We first introduce research hypotheses for the analysis of the expansion of universities, then we will move to the hypotheses that lead the analysis of the increase of the number of satellite universities in Italy.

### *2.1.1 Hypotheses for the increase in number of universities in Italy*

#### *Institutional and organizational processes*

Keeping in mind the strictly public nature<sup>4</sup> of the Italian higher education system and building on historical literature on higher education in Italy, we wonder to what extent the process of expansion of higher education has been driven by elements that can be defined as belonging to the institutional sphere.

One of these features can be drawn from the political field: could the political orientation of the government in charge have some effects on the chances of founding new universities or new satellite universities? As suggested by historical and economic sociology, the higher education system has been considered at the same level of other welfare state domains, in which investment from the State could generate well-being and socio-economic development at national level (Collins 2000; Ballarino 2011). But does it hold true for all the political parties? There are some political orientations that, for example, are less oriented to support an intervention of the State in welfare issues in general, and in particular less prone to support public intervention on the higher education system, due to considerations about the intrinsic individual nature of choosing whether or not to invest in higher education and of related individual returns. Other political parties, in turn, might share a different view of the higher education that, for example, is based on the idea that higher education should be more similar to a public good, able to provide collective benefits, that can play as a redistribution tool among social classes. They are more oriented to sustain equality of access for all and consequently to support expansive policies in this realm. Assuming that the previous characteristics are typical of parties belonging to the left-center wing, we

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<sup>4</sup> We will deal with this topic in chapter 3 but, for the sake of clarity, we briefly anticipate here that despite private universities (or better, as we will call them, no State funded) represent about 20% of Italian higher education system, their weight in terms of number of students enrolled, courses provided and prestige remains limited.

tend to hypothesize that when center-left coalitions are in power, expansive higher education policies are supported, thus resulting in an increase of the number of higher education institutions. We thus formulate the following hypotheses that will be tested in the empirical section:

*Hypothesis 1. We expect a positive relationship between government coalitions led by center-left parties (that we assume could favor expansive policies in the field of education) and the probability of founding new universities.*

Second, as we have seen in the theoretical background, new institutional theory and the organizational ecology theory show how there are at work dynamic processes within populations, that highlight the importance of concepts like isomorphism, legitimacy and selection. For example, density dependence models explain well the interplay among the three notions above mentioned in the processes of founding of new organizations. At an initial stage processes of legitimacy are at work: the more an organizational form spreads in the organizational field, the higher is the legitimacy that it gains, in a sort of self-enforcing process favoring founding. After a certain point, processes of selection come to the foreground, due to the increasing crowding of the field and the competition for scarce resources. This brings about the slowdown of the rate of founding of new organizations and a rise in the rate of failure of existing organizations in the field.

We will test this organizational hypothesis considering the total number of universities already existing on the national territory (density). We expect that the increase in density is associated to a positive effect on the rate of funding at a first stage, while at a second stage, as the density increases, we expect a negative association of the rate of founding with the density. Unlike what we observe for satellite universities, there are no cases of failure among universities that, compared to satellite universities, show a higher degree of legitimacy and resilience. Nonetheless, we observe a slowdown in the rate of founding of new universities: in recent years there are no more opening of new universities. Could we hypothesize that there are processes linked to the density of the population?

Can the density at geographical level play a significant role in the chances of opening a new university? Are we in a stage where a sort of “carrying capacity” is reached?

*Hypothesis 2. We expect to find an initial positive effect of density (as the cumulated number of universities active on country level) on the rate of founding, that turns into a negative effect as soon as density assumes its highest values, resulting in a slowdown of founding rates.*

#### *Economic conditions*

We have seen in the theoretical part (chapter 1) that functionalist theories about human capital highlight how increasing complex economic systems need well qualified and upgraded workforce to keep the pace of technological change and to increase labor productivity. Further, the stream of literature related to the socio-economic effects of universities on territories highlights that the presence of a center of research can help the performances of local economic systems, providing innovation through formal processes of technological transfer and/or informal processes of mobility of researchers.

On the basis of this literature we wonder whether local economic conditions can influence in some way the chances of opening a new university on their territory.

We hypothesize that, given the considerations about the positive effects brought by universities and the related production of knowledge, the public actor (associated also with local actors as local administrators, interest associations and entrepreneurs) will tend to consider the opening of a new university as an opportunity for the upgrade of the workforce and especially as an opportunity for setting up the basic conditions for the flourishing of research and innovation sectors and for university-firms technological transfer. This institution-driven form of founding of universities will affect the decisions on *whether and where* to open a new university, on the basis of level of economic development of an provincial area. In brief, the opening of a university can be interpreted as an opportunity for fostering development of economically depressed areas, thus resulting in a higher

probability to experience the opening of a university on their territory for provincial areas that show a poor economic performance (measured by some economic indicators).

*Hypothesis 3. We expect that indicators of a poor economic performance of the local economic system (at province/regional level) are associated with a higher probability of opening a new university on their territory.*

#### *Demand driven processes*

Finally, we wonder whether the process of founding of new universities might be interpreted as a logical consequence of a growing demand to participate to tertiary education. Instead of political or economic factors, the main drivers for the opening of new universities could be the simple fact that more people is asking for more education, with results on the local level.

For this purpose we would like to test the effect of an increasing potential demand coming from an increase in the number of potential “consumers” of higher education. The rate of upper secondary school graduates kept increasing in the second half of XX century, along with the expansion of the participation to secondary education; even when compared with the total population aged 19 years old, the rate of high school graduates is increasing through time. We thus hypothesize that there exist a positive relation between the high school completion rate (operationalized as the number of high school graduates on province level divided by the total number of people aged 19 years old in the province) and the chances for the provincial area to experience the opening of a new university.

Additionally, calling to mind here some of the theories about the micro level elements at the basis of the increase in participation to higher education, the youth unemployment rate might in some way considered as proxy for another kind of potential consumers. In contexts where rates of youth unemployment are high and the cost for higher education relatively low, as it is Italy, universities could serve as a smart waiting strategy, socially better evaluated than a condition of unemployment. Thus the youth unemployment rate might be used as a control variable in this respect.

Another control we would like to introduce in the demand-driven hypothesis refers to the size of the province, measured in terms of portion of resident population over the total Italian population. The size of a province can play a role in determining the probability of opening a new university: highly populated areas often serve as hubs for the surrounding provinces, and generally include a metropolitan area that is usually attractive for services, infrastructures and opportunities provided.

*Hypothesis 4. We expect to find a positive relation between the number of high school graduates (over the total population aged 19 years old) of a province and the chances for it of experiencing the opening of a new university (allowing a temporal lag between the year of the recorded data and the occurrence of the event). The higher the completion rate of a province, the higher the probability of the occurrence of the event.*

*Hypothesis 4b. We expect to find a positive relation between high levels of youth unemployment at local level and the chance of opening a new university. The higher the youth unemployment rate of a province (or a region), the higher the chances of occurrence of the event.*

*Hypothesis 4c. We expect to find a positive relation between the size of a province in terms of resident population and the chances of opening a new university. The higher the share of population that the province has (as a portion of the total population of Italy), the higher the chances of the occurrence of the event.*

#### *Control variables*

Finally, we will introduce control variables about some of the characteristics of provinces that may play a significant role in the process. For example, the fact of having already one (or more) university on the territory previous to the observation period: we will create a dummy variable indicating whether the province had already one (or more) universities in 1980, the first year of our research window. This variable contributes to control the problem related to left censoring of our data (see the methodological section below for details).

Second, due to the huge amount of socio-economic literature that indicates how social and economic phenomena followed different patterns of development according to the geographical areas of the country, with the division between northern region and southern region the most common, we will introduce another dummy variable for controlling geographical north/south location.

### *2.1.2 Hypotheses for the analysis of the diffusion of satellite universities*

#### *Institutional and organizational processes*

As far as organizational processes are concern, we refer here to the literature about demographic and ecological processes. We have already taken into account the notions of density, legitimacy and selection for the formulation of the hypotheses related to the founding of new universities, but here we include also demographic characteristics attached to organizations. We refer to the notions of age and size of the organization, as early introduced by Stinchcombe (1965) and then further developed by organizational ecologists.

Given that the analysis of the expansion of satellite universities will be based on universities as units of analysis, we will introduce some hypothesis based on their characteristics. We hypothesize that size, age -and we add also the source of funding, whether private or public- could play a role in affecting the probability of opening a new satellite site.

In particular, with reference to age, we hypothesize a lower probability to open a satellite site for “young” universities (defined as those opened after 1980) that, we assume, had less time to design and settle down projects of expansion. Similarly, for reasons linked to the young age and the relatively small size, we expect that universities that were themselves satellite campuses in the past, and only later gained the status of autonomous universities, have lower probability to put in action multiplicative projects by opening of their own satellite campuses.

Additionally, we believe that the source of funding also plays a role: we assume a lower propensity for private investors to spend on expensive projects, thus resulting in a lower probability to open up satellite campuses.



Finally, the size of the university, measured in term of number of students enrolled (over the total number of students enrolled in tertiary level education in Italy), can be ascribed among the individual characteristics of universities. But, if we assume that the number of students enrolled can also give information about the demand for higher education expressed by the territory, it can also be considered as a proxy measuring the demand for higher education. Assuming low levels of students' mobility (as traditionally is in Italy, due to the low level of development of policies supporting student housing and mobility in general), we could hypothesize that the size (big or small) of a university can be influenced by the demand for higher education of a certain area. Thus size becomes a variable that stays mid-way between organizational and demand driven hypothesis.

As a consequence we expect that size plays a central role in the diffusion of satellite campuses: given problems of overcrowding, internal pressure for new spaces and the ability to mobilize resources both at local and national level, we expect that big universities should experience a higher probability of opening a satellite university.

With respect to the potential demand expressed by the local territory, we add here a further variable that could give us a sense of the possible alternatives available to students: the distance (in kilometers) to the closest university. As said before, mobility of students in Italy is pretty low, the majority of universities (with the exception of historical metropolitan universities or few highly specialized centers) tend to satisfy a local demand coming from potential students living in the surrounding. We thus assume that a geographically isolated university, defined as far in terms of km to the next available university, will face less competition coming from rival universities in the surrounding, and potentially pressure coming from local people to make easier the access (in terms of commuting) to the headquarter of the university. In this context a satellite campus could serve to reduce the crowding in the headquarter and, above all, to control the territory and preserve local demand from the arrival of competitor universities. This mechanism could result in a positive effect on the probability of opening a satellite campus in the surrounding, in order to meet the needs of its local "consumer base". We thus

hypothesize that the higher the distance to the next university, the higher the chances for an university to open up a satellite campus.

Grouping all the previous assumptions under the common heading of “individual characteristics of universities”, we have the following hypothesis:

*Hypothesis 1a. We expect a negative relation between newness (measured as being aged less than 30 years) and the probability to open a satellite campus: young universities have lower chances to compared to older universities (those founded before 1980).*

*Hypothesis 1b. We expect a lower probability of opening satellite campuses for universities which originally were satellite campuses themselves.*

*Hypothesis 1c. We expect a lower probability of opening satellite campuses for universities that rely mainly over private sources of funding, compared to those publicly funded.*

*Hypothesis 1d. We expect a positive relationship between the size of the university (measured as the number of students over the total number of students enrolled in Italy) on the rate of founding: the higher the size the higher the probability to open up satellite campuses.*

*Hypothesis 1.e. We expect a positive relationship between the distance to the next university and the chances to open up a satellite campus: the more the university is “isolated”, i.e. the higher the distance to the next university, the higher the chances to open a satellite campus.*

We have seen in the theoretical framework that there exists a stream of institutional and organizational literature that emphasizes how changes in laws and regulations can constitute a source of constrains (or opportunities) that influences (positively or negatively) patterns of founding and failures (Baum 1996). Furthermore, part of historical literature (Miozzi 1993; Capano 2000; Bratti et al. 2008) assumes an association between an important reform implemented in the 1990s, about autonomy of university, and the proliferation of satellite universities. Thus it seemed pretty relevant to analyze here the effect of this important reform

assuring more autonomy to universities and the effects on the probability of founding satellite campuses for universities.

More details about the origin and aims of the reform will be given in chapter 5, that deals with the development of satellite universities. Here we briefly recall that, a reform introduced in 1989 (law n. 168/1989) gave the possibility to universities to organize their teaching and research activities, still within general guidelines provided by the Ministry. Besides, the Budget Law (n. 537/1993), changed the system of allocation of public funds: starting from 1994 public funds coming from the State are no longer allocated according to predetermined, fixed budget voices (for example a certain amount for personnel, for libraries, for students residences, ...), but rather, universities are free to allocate autonomously the total amount of resources received thorough public founding (still with the persistence of some binding indications).

Thus, we would like to test whether such a legislative change may have played an effect on the propensity of universities to open satellite universities (generally in the surrounding): universities may have taken advantage of this new spaces of self-regulation for pursuing expansive policies and/or policies of capture of the local “market”.

Besides, remaining within the framework of institutional processes, as already formulated for the analysis of universities, we would like to test again whether the presence of center-left governments at the national level could have contributed to the diffusion of satellite campuses.

*Hypothesis 2. We expect a positive effect of the implementation of the law n. 537/1993 (that allows more freedom in the allocation of resources to universities) and the rate of founding of satellite universities.*

*Hypothesis 3. We expect to find a positive relation between the presence of government coalitions lead by center-left parties and the probability of founding of satellite universities.*

## 2.2 *Data and methods*

As mentioned above, the empirical analysis have been conducted on two different databases that have the provinces and the universities as units of analysis, according to the phenomenon under study, whether the increase of universities or the increase of satellite campuses. Both the datasets are original and have been built specifically for the purpose of this research, collecting information from different sources. Here follows a description of the data and method used for approaching the two objects under study.

### 2.2.1 *Data and method for the analysis of founding of new universities*

The analysis over founding of new universities in Italy in the period 1980-2011 has been run on a longitudinal database that has been built specifically for this research. The unit of analysis are Italian provinces, measured at 95 units, as provinces were organized in 1980, instead of the actual 110. In 1992 and 2004 new provinces were added, increasing the number of provinces, first to 103, then to 110. However, in order to make data comparable across time we decided to re-aggregate the new provinces to the territories they were originally belonging to<sup>5</sup>. This approach has been followed by other scholars in previous researches on province-level, in order to make comparable territories that were subject to administrative re-organizations (Ballarino and Schadee 2005).

The time period of observation covers 30 years, since 1980 to 2011, and variables are recorded on annual basis, including both time-varying and no time-varying variables.

The structure of the database follows a person-period scheme (Mills 2011): each row records an Italian province in a single year between 1980 and 2011 (i.e. we will have a number of rows per each province that corresponds to the number of years in which the province is “at risk” of experiencing the event, that may be 1 as

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<sup>5</sup> For example, the province of Biella in Piedmont, created in 1992, originated from the province of Vercelli. Thus, from 1980 to 1992 the variables for Vercelli province include values related to Vercelli province, while starting from 1993 we sum up the values of the variables related to the new province of Biella to the old province of Vercelli.

well as 31 if the subject is censored). Once the event occurs, the subject exits the risk set.

The dependent variable in our database is the occurrence of the event, defined as the founding of a new university in the province. It is a dummy variable recorded as 0 if the event does not occur in the time range of observation (in this case the observation is right-censored, given that we do not know if the event will occur in the future) and 1 if the event occurs. The dependent variable has been built on the basis of historical secondary data which record the birth date of every university and sources vary from books, universities own publications and universities websites.

The independent variables introduced in the dataset are mainly time-varying:

- *political orientation of the party leading the government coalition*: operationalized as a categorical variable with 3 modes (right, center, left). It has been taken with no further modifications from the Database of Political Institutions (update 2010) by Beck et al. (2001) available at the website <http://parlgov.org/>;
- *density of organizations*: discrete variable indicating the number of universities operating at national level. The variable increases at each new event, but the new event is recorded in the variable density starting from one year after the opening (i.e. if a new university has been opened in year  $t$ , it will be computed in the density variable only at the year  $t+1$ , assuming that the new university will start having some effect on the population only after its opening);
- *completion rate of secondary school*: a ratio between the number of high school graduates over the population aged 19 years old, per each province and each year. Source of data is the National Institute of Statistics (Istat);
- *youth unemployment rate*: as the percentage of youth 15-24 years old looking for an employment (at regional level). As for the unemployment rate, we opted for the regional level indicator because data on province level were not available for many of the years that make up our historical series;
- *economic indicators of performance of the local economy*: given the difficulties in reconstructing historical series of data on provincial level, given the high level of correlation among economic variables, we could refer to few economic

indicators, that however, could give a sense of the level of economic development of the province. The variables are:

- *Per capita added value*: it indicates the growth of the economic system in terms of new goods or services available to the community. It results from the difference between the value of the production of goods and services and the value of intermediate goods and services consumed (Istat). In order to control for the size of province we computed the per inhabitant value (added value of the province/population of the province). Further, in order to overcome problems due to different units of measure used through time (former Italian lira and present time euro) per each year we linked the values of provinces to a reference value, represented by the Italian value, made equal to 100. Thus, in our final variable, the per capita added value of a province (in each year) is measured as an index with respect to the Italian value: if the variable is  $>100$  the added value per inhabitant is greater than the Italian average, if it is  $<100$  the province has a lower per capita added value than the Italian average.

- *Per capita total consumption*: it records the final consumption (*consumi finali* in Italian) made in each province, i.e. the value of goods and services used for satisfying human needs, both at individual and collective level (Istat). We use this indicator as a proxy for determining the wealth of a province, in terms of spending capability. Assuming a low level of getting into debt of Italian families, we tend to interpret a high level of final consumption as a sign of wealth of the local community.

The variable has been built as per capita added value: in order to control for the size of the province we computed it on a per inhabitant basis and, in order to overcome problems linked to different units of measure, we linked it to the Italia value per each year (Italy=100). Thus, a level of per capita final consumption  $>100$  indicates that the province is wealthier (or at least with more resources) than the average of Italy, and if the value is  $< 100$  the province has a lower spending liability than the Italian average.

- *Unemployment rate*: measured as the ratio between people in search of employment and labor forces (Istat). Due to the difficulties in reconstructing

historical series of data at province level we had to refer to the regional unemployment rate, that has been taken with no further modifications from Istat (following the above mentioned definition).

Besides, due to the high number of missing values we faced when collecting the historical series of the previous four variables, we decided to categorize the variables according to the division in tercile of the distribution, and then added a fourth category that includes all the missing data. In this way we can use the available data without problems of bias in the estimates due to missing values.

- *size of the province*: consider the resident population of the province per each year, then is elaborated as the percentage over the total of Italian population (as an example: population resident in the province of Rome represents 6,9% of total Italian population). Source of data is the National Institute of Statistics (Istat).

Some control variables are introduced as well:

- *previous universities in the province*: in order to control for left-censoring, a dummy variable is introduced, indicating whether the province had already one (or more) universities on its territory before 1980.

- *geographical location*: the traditional north/south division is introduced, due to the huge amount of socio-economic literature indicating how social and economic phenomena followed different patterns of development according the geographical areas of the country.

The method we use for our analysis is Event History Analysis (Allison 1982; Box-Steffensmeier and Jones 2004; Bernardi 2006; Blossfeld et al. 2007; Mills 2011), an approach that collects many statistical methods all of them dealing with questions about timing and duration until the occurrence of an event. Basically, event history analysis estimates how long it takes for an event to occur, given some covariates (Mills 2011).

Due to the nature of our observations, that are recorded on annual basis, we will opt for a discrete time model. Most of the subjects experience only one event in the period of observation, with the exception of few cases (3 over 95), that correspond

to the main metropolitan areas of the country (Rome, Milan and –despite non metropolitan- Bari). Due to their peculiar characteristics we decided to consider the repeated events as not representative of the universe under study, and as a result, we will only consider the first (and unique for most of the subjects) event in a single event discrete time model.

Finally, we remind that we are in absence of a probability sampling, rather, we will analyze the entire population of Italian provinces (and later, the entire population of universities). As Berk (2010)<sup>6</sup> highlights, the aim of our regression models is mainly descriptive, a “Level I regression analysis” that *describes* conditional probabilities in data. Thus we should not worry about “all the potentially problematic assumptions required if one is to undertake credible statistical or causal inference” (ibidem, p. 5). As a consequence, the issue of statistical significance is not a big deal for our analysis, we will not take a strict interpretation of statistical significance, in terms of significant/not significant, but rather we will pay more attention to the interpretation of coefficients.

The event history discrete time model estimate the hazard rate, defined as the probability that an event occurs at a particular time  $t$ , conditional on the fact that the event did not occur before  $t$ . The survival function expresses the probability that an event did not occur before time  $t$  (Mills 2011, p. 181).

The hazard function is expressed as follows:

$$h(t) = \Pr(T = t \mid T \geq t)$$

where  $T$  is the event time.

The survival function is represented as:

$$\hat{S}(t) = \Pr(T > t \mid T \geq t) = 1 - h(t)$$

Given that our dependent variable is binary and our time intervals are intrinsically discrete we will opt for a logit model for the analysis of our data (Bernardi 2006).

The logit function is expressed as follows (Mills 2011):

$$\text{logit}[\lambda_i(t)] = \log \frac{\lambda_i(t)}{1 - \lambda_i(t)} = \beta_0 + \beta_1 \chi_{1i} + \beta_2 \chi_{2i} + \dots + \beta_k \chi_{ki}$$

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<sup>6</sup> We are grateful to Fabrizio Bernardi for this reference.



where  $\lambda_i$  is the log-odds ratio of the probability of event occurrence to the probability of non-occurrence. The logit coefficients  $\beta_k$  are interpreted in terms of their relationship to the log-odds of event occurrence.

Finally, observations in a dataset organized according to a person-period scheme are clustered on the basis of the identification code of the single units of analysis, thus not independent among them. Despite this issue is quite debated (Allison 1982; Bernardi 2006; Mills 2011), with some authors recommending to adjust standard errors on the basis of clustered id (Bernardi 2006), and some others (Allison 1982; Mills 2011) ignoring the problem, we finally opted to use robust standard error clustered on our units of analysis.

### 2.2.2 *Data and methods for the analysis of founding of satellite universities*

The empirical analysis of the founding of satellite universities in Italy has been done on a dataset built ad hoc for the purpose of the research, where the unit of analysis are 75 public and private universities operating in Italy, according to the list provided by the Ministry of Education, Universities and Research (MIUR). In this respect we used a restricted definition of university, defined as an organization that confers degrees of tertiary level education, both at undergraduate and graduate level, using mainly the traditional method of in presence learning and has a close relationship with the territory where it is located (from here the exclusion of on-line universities and institutes for higher studies that do not confer undergraduate degrees, for example Scuola Sant'Anna di Pisa). We then excluded the institutes of Fine Arts and Music (Accademie di Belle Arti e Conservatori di Musica), since they are considered apart from universities by the Ministry of Education itself<sup>7</sup>.

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<sup>7</sup> Accademie di Belle Arti and Conservatori di Musica are grouped together under the definition *Alta Formazione Artistica, Musicale e Coreutica* (high training in arts, music and dance) for administrative, organizational and statistical purposes (<http://www.afam.miur.it/>).

Our dependent variable is the occurrence of the event, defined as the opening of a satellite university. Data about the occurrence of the event have been collected referring to several sources. Our aim was to include in the analysis the whole universe of the satellite universities operating in Italy but, since there is not an institutional reference list for satellite campuses, we had to rely on information provided by every single university website, on phone calls to registrar's offices of the single universities and on few bibliographic sources. We put lot of effort in this research, that represents the first attempt of systematic census of satellite universities in Italy. Attention has been paid in order to find any remote, small and recent satellite campus; in case we missed some cases, they are few and we do not believe they could bring any relevant change in our analysis.

The dependent variable records only the event of founding, we do not consider eventual failures, as the closure of the satellite campus or the cut down of some of the teaching activities. Given that about 15 failures out of 134 founding happened, we will only take into account this occurrence in the computation of density, which will be the number of satellite universities in Italy, net of those which failed.

The dependent variable may occur more than once per each subject in the period of observation. However, since few universities experience a high number of events, after an analysis of the distribution of events per each university (see chapter 6), we decided to include multiple events by summarizing the dependent variable event into two categories: first transition and second transition. If we consider that the event can be interpreted also as a transition from a state in which the university has no dependent satellite campuses to a state in which the university has at least one satellite campus (the first one), and then, might have increased its status with additional campuses, we can also define our dependent variable as a transition from one state to another.

The first transition might be represented as:  $n_{t0}=0$  to  $n_{t1}>0$

the second transition might be represented as:  $n_{t2}>n_{t1}$  with  $n_{t1}\neq 0$

where  $n$  is the number of satellite campuses.

The covariates included in the dataset can be grouped as follows:

- *characteristics of the universities*: we defined a series of dummy variables indicating:

- *newness* of the university: 1 if the university was opened after 1980:

- *previous condition*: 1 if the university was originally born as a satellite university, then gained autonomy and became an autonomous university;

- *funds*: 1 if the university is a private university, mainly supported by private funds;

- *size of the university*: time varying variable, computed as the percentage of students enrolled in that university over the total number of students enrolled in higher education in Italy (source: National Institute of Statistics, ISTAT). It has been operationalized as a categorical variable with 4 modes, each of them corresponding to the quartiles of the total population of university students in Italy (1<sup>st</sup> quartile corresponds to a small university and the 4<sup>th</sup> quartile corresponds to a huge university).

Environmental variables (some of them are common to the previous database):

- *distance to the closest university*: a variable of isolation or distance of the university from other universities elaborated on the basis of distance in kilometers from the city in which the university is located to the next closest city where a university is available. In case another comprehensive university is present in the same city the distance has been computed as 0. We designed a matrix encompassing all the Italian cities in which at least a university is located, distances in kilometers to/from each city have been inserted and finally the minimal distance per each city has been computed. The distribution of the minimal distance has been then divided in three categories corresponding to the terciles of the distribution. Sources for the computation of distances have been the Route Atlas of Italy (Touring Editore) and the website application Google Maps.

- *density*: as the number of satellite universities operating in the country (see 2.2.1);

- *implementation of the law n. 538/1993*: as a dummy variable indicating the years in which the law is operative (since 1994 onward)

- *political orientation of the party leading the government coalition*: operationalized as a categorical variable with 3 modes (right, center, left). It has been taken with no further modifications from the Database of Political Institutions (update 2010) by Beck et al. (2001);

As for the analysis of the founding of new universities, for our models on the founding of satellite universities, we refer to Event History Analysis. Also here observations are recorded on annual basis, according to a person-period scheme, so we will opt for a discrete time model (see previous paragraph). Considerations made in the previous paragraph about the analysis of an entire population instead of a probability sample, and the related consequences on the issue of significance, are valid here as well.

We will run logit regression model, as recommended for discrete time models (Bernardi 2006), separately for estimating the determinants of the first transition and then for the estimates of the second transition. For the specification of the model see previous paragraph.



# **PART I**



## Chapter 3: The Italian Higher Education System

### 3.1 *History of Italian universities*

The total number of universities operating in Italy in 2010 is 89, with the prevalence of public universities: 61 out of 89 are state funded universities; 28 are not state funded, among which 11 are online universities (MIUR 2012). Despite private universities represent about 30%, the amount of students enrolled remains pretty low and represents only 6% of the total amount of enrolments in Italy (Ballarino and Perotti 2011).

The Italian university system can be defined as a unitary system (Meek et al. 1996): universities are almost the only institution entitled to provide tertiary level education, and all of them provide the same kind of certificate. There are other kind of institutions entitled to provide tertiary level education: the academies of fine arts and music (conservatories). The titles provided by those institutions have been made equal to university ones in 1999 (Ballarino and Perotti 2011), but the amount of enrolments remains very limited<sup>8</sup>. There is not stratification among institutions according to their orientation or prestige, as among community colleges and teaching vs research universities in the USA or, for example, in other European countries characterized by a binary system, where different missions are attached to different higher education institutions (ex. *Fachhochschulen* in Germany, *Hogescholen* in The Netherlands).

Another typical trait of Italian higher education system is its level of centralization: built on the model of the French and German system (Vaira 2011), the Italian one has been settled down in the late XX century on the basis of a strong government control by the Ministry of Education and its bureaucratic apparatus. Some degrees of autonomy have been introduced in recent decades, as we will see later, but still, a typical trait of the Italian system is an ongoing tension between center and periphery. As well described in Clark's work (1983), the Italian higher education

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<sup>8</sup> The total amount of students enrolled in academies of fine arts and music (Alta Formazione Artistica e Musicale) was 77.090 in 2010/11, about 4 % compared to the total number of students enrolled in the university system (MIUR Statistical office).



system still belongs to the continental model: characterized by centralized decision making by the Ministry, strong power of academic oligarchies and weak intermediary figures, like deans and directors of departments (Ballarino and Perotti 2011). In a context of strong centralization from one side and strong rulership of professors on the other, has been developed an ongoing tension between center and periphery and the corresponding two groups of interest: faculty members and officials of the ministry. We will come back on this topic later on when dealing with autonomy and recent changes in the organization of universities.

In this paragraph we will give an overview of the main stages that characterize the history of higher education in Italy.

In the period after World War II the rates of enrolment at all levels of education rose in advanced western economies, and even in developing countries. In OECD countries the rates of enrolment in tertiary level education (over the whole population in the age cohort) increased from 9% of the 1960 to about 50% of the 1995 (Schofer and Meyer 2005, Checchi 2006). This process of expansion involved Italy as well, that passed from a rate of 10% in early 1960s, to around 50% in early 2000 (Capano 2000).

As Randall Collins (2000) highlighted, the one we are talking about is not the only expansion that higher education experienced: “(...) expansion of education goes in waves, with each peak followed by disillusionment over bureaucratization and credential inflation, and by actual decline as educators and students flow away to alternate forms of schooling. Then the dynamic of competitive growth sets in again, leading to another wave of system expansion, (...)” (Collins 2000:232). However, the phase of expansion experienced in the XX century is still active and longer than previous ones. At least for Italy, we could consider to be now close to a maximum point of saturation, and that we might to witness a tendency to reduction in following years.

The evolution of the Italian HE system can be divided in three main stages: first, a wide period ranging from 1861 to 1960s, that includes: the unification of Italy, the reforms of the fascist period, and the first decades after the World War II. In this

period, despite the rate of enrolment increased, the system remained an elite one, with less than 15% of the cohort enrolling to higher education, and no reforms were implemented so that the system continued to function without changes up to the 1960s. A second period, from 1960s until late 1990s, witnessed the transition from an elite to a mass university system (when the percentage of graduates is between 15% and 35% of the cohort), characterized by an amazing increase in enrollments, with consequent problems of heterogeneity in the composition of students and a consequent strong pressure for reforms. A third period, from the late 1990s to nowadays, characterized by encompassing reforms, which main outcome has been the implementation of the Bologna Process.

Following the unification of Italy (1861) a set of reforms of the educational system were applied to the whole new country. The reforms implemented in the years around the unification (Casati law in 1859, Minister Mamiani decree in 1861, Matteucci law in 1862 and the law abolishing theological faculties in 1873<sup>9</sup>) mirrored the republican ideals of an intellectual and economic re-birth, among which the stop of the dominance of the Church in the educational sector in favor of lay ideals was a priority. Further, enlarging the participation of people to education (but only to lower levels of education) was considered a tool to shape future citizens. The building of a centralized state system has been conceived to be functional to the building of a national identity (that was not existing before), having a constitutional function of spreading the republican ideals of the new state (Colao 2007, Moretti, Porciani 2007). This is consistent with the neo-institutional literature (Schofer and Meyer 2005; Meyer at al. 2007; Meyer 1977) that emphasizes the role of mid-nineteenth century educational systems in supporting the emerging nation states: universities were conceived to be national institution, their organization was modified to be closely linked to the fate of the emergent national states and to support the new national ideology.

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<sup>9</sup> The law emanated in 1873 symbolized the predominance of lay ideology on what remained as a heritage of the previous religious dominance, since it abolished the theology faculty in all the universities of the new country.

Two were the benchmarks at that time for higher education, mirrored in the Italian system: the French model on one side, with its stress on a strongly centralized apparatus, and the German model on the other side, with its union between research and teaching and its ideal community of master and student aimed at the search of pure knowledge (Ballarino 2011, Vaira 2011).

The laws emanated by Ministers Mamiani and Matteucci in early 1860s designed a new unitary university system characterized by state centralization and by a first attempt of differentiation (that never will come back in the history of Italian universities). At the moment of the completed unification (1870) there were 24 universities inherited from the pre-existing states, with a very unequal distribution on the national territory (mainly concentrated in the north-center regions and very few in the south) and big heterogeneity in terms of quality. They were classified in a three-tier system (see table below): Matteucci's law (1862, then revised by Minister Brogli in 1868) divided between mayor universities and minor universities, the former totally funded by the state (and with better privileges and salaries for professors), the latter funded by the state and the local administration (with lower salaries and privileges for professors). Further, the third tier was represented by the universities of the former Papal State that were declared "free universities", funded by the local administration only and with a lower hierarchical status (Moretti 1998, Ricuperati 2001, Colao 2007, Graziosi 2010). In this framework higher education remained an elite system, with very few students (in great majority males), and universities were a place where training future elite officials in the government and administrative sector.

In the following years, starting from the 1870s new institutions for tertiary education appeared: with the intent to renovate the academic knowledge (considered as conformist and old with respect to the new republican ideals) and with the clear goal of fostering the emerging industrial sector and economic development of the country (Lacaita 2011), new institutions like *Scuole di Applicazione* or *Politecnici* were founded. This track was a step forward into differentiation but it created conflicts and competition for scarce resources with the existing universities.

One of the most important reforms for the Italian higher education occurred in 1923, known as Gentile Reform by the name of the Minister of Education, Giovanni Gentile. That law represented the first attempt of an organic reform of higher education, quite advanced for the time, that tried to combine the survival of an elite model, with some room for autonomy of universities despite the maintenance of a central political role for the State (Vaira 2011). In the ideals of the reform, universities were the place for the seek of knowledge and excellence, but some room for stratification was allowed, re-affirming the distinction elaborated by Matteucci in 1873. The reform stratified universities into: State universities (type A), universities funded by State and local administration (type B), free universities (entirely financed by local governments) and, in addition, the technical institutes mentioned before (Miozzi 1993, Moretti and Porciani 2007, Lacaita 2011). Autonomy of universities was stated, a quite innovative element for the time, foreseeing that single universities, within the framework of their statutes, were free to organize their own teaching activities (for example the number of exams, disciplines and modes of teaching). Despite the reform was designed on the basis of an elitist conception of knowledge, supported also by the stratification of organizations on three levels of prestige, the range of autonomy that was given to the single universities was a pretty innovative element. However, the implementation of the reform had to face many difficulties and the most innovative traits were slowed down and then stopped by the Fascist regime (1922-1943) that took the power in those years. It was during the following decade that the Fascist regime modified the reform in the direction of a stronger state control on all sectors of education, tertiary level included. Ministers Bottai and De Vecchi abolished<sup>10</sup> the distinction in type A, B, free and the distinction between universities and those institutions created for high level technical training as *Politecnici* and *Scuole di Applicazione*, upgrading all those to the status of universities and putting them under the strict control of the state (Capano 2000, Lacaita 2011).

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<sup>10</sup> RD 1935 n°1071, RD 1938 n° 1269

**Tab 1 Ranking of universities according to Matteucci and Gentile scheme**

	Matteucci's Reform (1862)	Gentile's Reform (1923)
University of Bologna	major	A
University of Cagliari	minor	A
University of Camerino	free	free
University of Catania	minor	B
University of Ferrara	free	free
University of Genova	minor	A
University of Macerata	minor	B
University of Messina	minor	B
University of Modena	minor	B
University of Napoli	major	A
University of Padova	major	A
University of Palermo	major	A
University of Parma	minor	B
University of Pavia	major	B
University of Perugia	free	B
University of Pisa	major	A
University of Roma "La Sapienza"	major	A
University of Sassari	minor	B
University of Siena	minor	B
University of Torino	major	A
University of Urbino	free	free

Source: our elaborations

Notes: those universities that in 1862 were still under the control of other States, as Austro-hungarian Empire and Papal State, have been included in following years as soon as they passed under the Italian kingdom.

The second historical period in which we can divide the history of higher education in Italy has been characterized by the emerging of a mass participation to higher education, with rates of enrolment that, starting from 10% in the 1960s, reached about 50% in the 1990s, the average of most advanced countries. Compared to other European and industrialized countries, Italy was a late comer in this respect and, according to Trow's typology (1974), has not yet made the transition to a universal system of higher education (Ballarino 2011), which means a 35% of graduates over the population in the age cohort.

This implied the entrance of a heterogeneous population with different goals and expectations compared to those of the previous elite model, to which did not correspond a change in the practices of teaching and assessing. The process of expansion has not been managed properly through encompassing reforms that could have re-shaped the system in face of the increasing heterogeneity, for

example differentiating institutions. Actually this is what most of the European countries did in the same period: in Germany schools of applied sciences with a technical-professional aim were introduced (Fachhochschulen) in the 1970s, that live together with comprehensive universities, in a well-settled binary system that resemble the dual system of vocational training. In UK as well, a binary system was introduced starting from mid-1960, with the opening of Polytechnics (that however, later in the 1990s, will be paired to universities); other processes of differentiation occurred in France and The Netherland as well (Ballarino 2011, Vaira 2011, Regini 2011).

The emerging problems due to the expansion of enrolments to higher education have been addressed in Italy mainly through emergency measures, contingent and non substantive rulings, while proposals of strategic reforms systematically raised strong opposition (Capano 2000, Graziosi 2010). The system remained attached to highly selective logics, still proposing homogeneous programs, causing high rates of drop outs and a lengthening in the duration of studies (Moscati/Vaira 2008; Ballarino/Perotti 2010). In this context the pressure for the reform of a still unchanged elite system was high and, as a matter of facts, almost every ten years some attempts of reform were put in action.

The first step was in 1969, when access to faculties<sup>11</sup> was liberalized. Before that, only students coming from *gimnasium*<sup>12</sup> had the possibility to choose any faculty, with few exceptions<sup>13</sup>. After the reform of 1969, independently from their diploma, those who completed five years of high school could choose freely the favourite faculties and degree courses. The 1969 liberalization has been pointed as one of the turning points of the expansion, but actually its role in raising the enrolment rate has been questioned and it is more reasonable to say that it just followed an already ongoing trend of expansion (Ballarino/Perotti 2010).

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<sup>11</sup> In the Italian education system faculties are the units in which tertiary level teaching is organized, on the basis of the similarity of the discipline and subject taught. They correspond to the “schools” of the USA higher education system. We will use both terms, faculties and schools, as synonyms; while we will use the term faculty member to refer to professors..

<sup>12</sup> The gymnasium belongs to the high track of upper-secondary school, corresponding to an academic program.

<sup>13</sup> Previous to law n. 910/1969, beyond graduates from *liceo*, graduates with a diploma of surveyor could enrol to Architecture or Engineering and students with a diploma of accountant could enrol in Economics.

The reform dated 1980, introduced by the DPR n. 382/1980 regarded mainly the internal organization of universities: it was about the recruitment of personnel. The existing mass of precarious researchers was hired through *ope legis* mechanism, not based on selective examinations, but rather on seniority. Further, the act foresaw the introduction of some features coming from the Anglo-Saxon model: the multi-professor department, substituting chairs, and the PhD title as the first step for academic career.

The following reforms occurred in 1989 and 1990 (Law n. 168/1989 and law n. 342/1990), and worked in the direction of a larger autonomy and decentralization of the system. The aim of making the higher education system more flexible and closer to the needs of society and economy has been addressed by giving universities the autonomy to write down their own statutes and regulations for the organization of teaching activity, by loosening the national requirements for the opening of new degree programmes and, under some regulations, the freedom to allocate the funds given by the central government. Further, a new Ministry for university, scientific and technological research was created, independent from the previous Ministry of Public Education. Finally, on the side of the organization of teaching, the reform introduced a two-years title, *diploma universitario*, a novelty with a more professional and technical identity, as an attempt to introduce some sort of differentiation in the higher educational system, following a two-tiers model. These courses were fully implemented in 1995 but remained marginal in terms of enrolments. The creation of new courses and universities still needed the central approval by the Ministry, but the requirement of Parliament approval decayed.

Some authors highlighted that the enlargement of university access has been managed mainly pursuing autonomy instead of pursuing a design of stratification or differentiation of higher education supply (Bratti/Checchi/de Blasio 2008). The choice of favoring local solutions, although under the frame of central control, was linked to the idea of a geographical rebalancing. Such an expansion was allowed “to cover the entire national territory and balance the allocation of funds with respect to the southern regions (with the aim of increasing the equality of opportunity to access higher education)” (Bratti/Checchi/de Blasio 2008:33).

The debate about the pursue of differentiation as opposite to the idea of spreading the same kind of institutions with the same rules of the game to the whole territory and opened to all, was not new to the 1990s: it started since the first waves of expansion but the most visible consequences appeared in the 1990s.

Instances in favor of encompassing reforms of the system appeared systematically since the late 1950s, but systematically failed. The cultural-political debate over the reform of the university system come on the foreground in waves, almost every 10 years, first with Commissione Ermini in 1958, then with proposals of reforms in late 1960s (associated to the legislation that liberalized the accesses), later in the mid-1970s-1980s (resulting in the reform about recruitment, departments and PhD), late 1980s (associate to the process of devolution of autonomy) and finally in late 1990s (with the implementation of the Bologna process). For an understanding of the systematic failure (or substantial downsizing) of all attempts of encompassing reform that might have helped to avoid the trap of a “crowded elite system<sup>14</sup>” (Robertson 1977 in Vaira 2011), could be helpful looking at the composition of the actors and the style of interaction that was set up among them. Proposals of reform have been presented by almost all the parties sitting in the Parliament, from left to right wing, but some recurrent dynamics at the basis of the failure might be identified here, according to a scheme elaborate by Vaira (2011):

- most of the proposals were characterized by an autonomous elaboration, prepared without the involvement of the interested actors (or also called stakeholders);
- the style assumed by actors for their interaction was highly politicized, characterized by hostility and conflict: the parts reciprocally emphasized the differences rather than the points in common over which a deal might have been reached, and had the tendency to developed divergent counter-proposals in response to the plans of others.
- the Christian-democratic party, that was at the government for most of the period after World War II up to mid-1990s, as a comprehensive party had a tendency to co-opt emerging social forces in order to take under control consensus. This

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<sup>14</sup> A crowded elite system is a system in which typical traits of the elite system persist even when the number of users increased radically: a system in which values and structures change more slowly than the rates of access (Vaira 2011, p.41).



strategy however, entailed the entrance of heterogeneous interests and instances that the party could not satisfy but could not even frustrate at detriment of consensus and stability. Thus, reformist instances were only ritualistically and ceremonially supported, then let alone to face the complicated parliamentary processes;

- left wing parties approached the issue with a sharp ideological contraposition to everything might have regulated/limited/managed the accesses, in the name of egalitarian ideals of access to university (that actually were not corresponding to actual equality in a model that we said remained elitarian in its intrinsic characteristics and suffered of serious inefficiencies);

- trade unions followed a logic of action based on ideological contrast and focused their attention on personnel issues related to faculty members but especially to administrative and technical positions; on the other side, the main association of employers, Confindustria, remained out of the reformist debate for all the period of expansion of the system, despite some involvement in the design of academic curricula in late 1990s, as an effect of the implementation of the Bologna process. The tradition of relying on-job training that characterizes Italian small and medium firms is one of the reasons that might have been at the basis of this indifference;

- academic corporations and the strong personal rulership of professors are a typical feature of the Italian higher education system (Clark 1983): with respect to reformist attempts the academic corporations followed defensive strategies of the *status quo*, of ideological contrast and of politicization of the debate (also following internal political divisions between democratic and conservatives –in some aspects reflected in the division for fields of studies);

- the students movements on their side approached most of the reform attempts with an ideological perspective, contrasting any change in the direction of selection or differentiation of the system.

The third historical phase was characterized by a renewed attention to the problems of the university system, so that in late 1990s they came to the foreground as a political priority. It was a moment of political renewal, with big changes in the

party system and with a center-left coalition winning the elections for the first time since 1948. The reform of university was regarded as a key issue for modernizing the country, giving new reliability to the university and its actors and to spread the new values of Europeanization (Moscati/Vaira 2008; Ballarino/Perotti 2010, Vaira 2011).

Again, the general orientation was toward the reduction of central authority: some measures in favor of the autonomy of universities in the domain of teaching and allocation of funds were included in a law concerning a general reform of public administration<sup>15</sup>. Further, a commission for studying the future developments of the university in Italy, chaired by the sociologist Guido Martinotti, was set up in 1997.

The proposal of the commission was in the direction of a differentiation of the system, based on a two-tiers model, similar to the French system. In order to avoid the strong opposition of academic oligarchy and to raise the legitimacy of the reform, the government started with a process of consensus-building, based on concertation between social parts, labor unions and employer's associations (Ballarino/Perotti 2010, Graziosi 2010, Vaira 2011).

However, the turning point in this context was played by the Sorbonne Declaration, signed in May 1998 by the Ministers of Education of France, UK, Germany and Italy. The declaration was reinforced in June 1999 by the signature of 29 European countries that gave birth to the so-called Bologna Process, which had the aim of harmonizing the European higher education systems, on the basis of a two cycles model (Luzzatto 2008).

The embeddedness in an European trend and a new law easing the process of recruitment<sup>16</sup> were the key issues that raised the level of legitimacy of the reform and reduced the opposition of the academic oligarchy, allowing its implementation in the Italian system.

The reform was set up in Italy in 1999<sup>17</sup>, implemented starting from the academic year 2001/02, and changed the whole architecture of the curricula. It was articulated in two levels, on the American model, with a three-years title (BA)

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<sup>15</sup> Law 127/1997

<sup>16</sup> Law 210/1998

<sup>17</sup> DM 509/1999

followed by a two-years title (MA), where the former should have been ideally more market-oriented, and the latter should have been more research oriented. In fact this distinction occurred only partially and generally the two cycles were perceived as necessarily coupled, given that the first cycle was not perceived as having the same value of the previously existing 4to5-years titles (with a lot of confusion about BA and MA titles among employers). Further, constraints linked to a strict regulation about the number of courses and associated credits, often resulted in a mere adaptation (or splitting) of the old system to the two-tiers model (Ballarino/Perotti 2010).

The system remained strongly centralized, the Ministry of Education controlled all the organizational, financial and administrative aspects of the universities, with a particular stress on the phase of planning, ironically defined by some authors as having a Sovietic flavor (Capano 2000). Despite the 1990s have been a period of shift in higher education policy, with the conferral of a significant degree of autonomy to the single universities, the system remained university-based and the process of devolution of autonomy to universities remained incomplete (Miozzi 1993, Genovesi 2000, Vaira 2011).

We will focus more on the issue of autonomy in chapter 5, dealing with the development of satellite campuses. But here we propose some final considerations on the issues of selection and differentiation, that have always been a central argument of the debate on higher education in Italy and are again on the foreground in recent years. Historically, as we have seen, any attempt to introduce selection and differentiation, that would have permitted to rise up the general level of education and keep niches of excellence in the research, was strongly attacked and failed (Capano 2000).

However, the opposition of the academic corporations, the wave of contestation of the 1968 movement supported by the left-wing parties blocked any attempt to reform that could have helped to transform the system toward an effective improvement in the equality of access of higher education (but also in terms of actual use of higher education as a public service). The dominant perspective was

the one of avoiding any class discrimination and considering education as a subjective right of the individual. The main outcome of this approach was an impressive growth in the number of universities and in the number of cities with an university site throughout the 1980s and 1990s.

Some forms of selection were first abolished and then re-established, but differentiation remained mainly at an informal level. As mentioned earlier, the reform occurred in 1969 opened the doors of university to all high-school graduates, independently from the track they were coming from (and universities could not decide which students to admit). So selection turned to happen at informal level, along the way, instead of being at the entrance. A very heterogeneous population of students had to deal with a system that remained an elite system in its roots. Students with weakest background were kicked out or stayed for long in the university, that was considered also a prestigious alternative to unemployment<sup>18</sup>, as was theorized by Barbagli about the idea of the university as a “parking lot” (Barbagli 1982) . Under these conditions the university was no longer able to guarantee social mobility and good occupational chances, resulting in an aesthetic appearance of democratization of the accesses, where students coming from lower social classes could not concretely benefit of the opportunities given to the enrolment in an overcrowded and still elitarian system.

In the 1990s some forms of selection have been re-introduced, in particular for disciplines that give access to professions or that require adequate infrastructures (e.g. architecture, education and medical schools). The matter has been very sensitive, given the egalitarian ideals about the liberalization of accesses that ruled since the late 1960s: the limitation of accesses (even if conditional to an examination) was interpreted by highly politicized movements of students as an attempt to reduce the individual right for higher education. So, the rationale for limiting the enrollments had to be justified only on the basis of organizational reasons for preserving high quality in education<sup>19</sup>. The procedure of *numerus*

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<sup>18</sup> Youth unemployment rates ranged around 25% in late 1970s (Istat)

<sup>19</sup> Even words matter: the ministerial regulation (Dm n. 245/1997) does not define it as *numerus clausus* procedure, but rather as norms for a “better planning of access”.

*clusus* has been designed<sup>20</sup> on a double track basis: the access to some courses is planned on national level (by the Ministry), while access to other courses can be planned by the single university. The formers are generally those that give access to the professions<sup>21</sup>, while the latter are defined on the basis of logistic and organizational constrains (for example the availability of high specialization labs or individual workstations, or the request of training/internship during or after the degree) (Masia/Santoro 2006). Anyway, as the Ministry decree states: “access to university courses is free”<sup>22</sup> and the majority of courses remains with no selection at the entrance<sup>23</sup>.

About the other hotly debated topic: differentiation. A central feature of the Italian higher education system in this respect is the legal value of the degree, according to which the degree courses are designed on the basis of a common core of disciplines that makes them highly homogenous through the country. It should assure that the value of a degree provided, for example by University of Bologna is legally the same of a small town, recently founded university. Very recently the debate about the opportunity of keeping alive this feature gained new attention on the political arena (see articles by P. Manzini e G. Capano on [www.lavoce.info](http://www.lavoce.info)<sup>24</sup>). This is particularly true for public employment, where access is ruled by public calls, where academic titles are not weighted on the basis of the quality of the university where the candidate attained the degree. According to some authors, abolishing the legal value would permit to channel a competition among universities for reaching the best positions on a national ranking. On the other side, supporters of the legal value state that it assures a form of equality of access to education.

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<sup>20</sup> Ministry decree (Dm) n. 245/1997 and law n. 264/1999.

<sup>21</sup> Access to the degrees in medicine, veterinary medicine, architecture, education (for primary schools) is regulated centrally by the Ministry.

<sup>22</sup> Art. 1, 1 co., Dm n. 245/1997

<sup>23</sup> In 2011/12 the enrolment to the following courses required to pass a preliminary (and binding) examination, organized on national level: medicine, dentistry, veterinary medicine, architecture (<http://www.accessoprogrammato.miur.it>). Other degree programs may require to pass an examination but they are defined and managed by the single universities.

<sup>24</sup> “Perché cancellare il valore legale della laurea” P. Manzini 27/01/2012 (available at: <http://www.lavoce.info/articoli/pagina1002821-351.html>); “Una soluzione inutile per un problema vero” G. Capano 17/02/2012 (available at: <http://www.lavoce.info/articoli/pagina1002845-351.html>)

Actually, an informal kind of differentiation among universities has always existed: traditionally universities of ancient historical tradition and located in big metropolitan centers hold greater prestige than those of recent foundation and in small towns. But the divide has never been clearly stated on a formal level (e.g. higher tuition fees or selective admission tests). And the ability of employers to rank universities is questionable: Italian economy is characterized by a small percentage of big firms, that have defined human resources policies, while most of the firms, in particular outside of big metropolitan centers, are small-medium size firms very closely connected with the local territory, so that the mobility is not always rewarded<sup>25</sup>.

Further, practices of performance assessment and national ranking have been developed only starting from the last decade, and there is not an unanimous consensus over the different ranks available<sup>26</sup>.

We will return on the topic of differentiation all along the work and in particular when discussing about satellite campuses (chapter 5).

### ***3.2 The diffusion of universities (1861-2010)***

We are going to present here some descriptive statistics about universities and their diffusion in Italy, referring to a pretty long historical period: since the unification of Italy (1861) to nowadays.

In next chapter we will focus our analysis on last three decades only (1980 to 2010) for reasons related to the availability of data.

Before starting, a brief reference to how we define our object of analysis: here we define the university as an institution providing tertiary level education, that is physically located in a geographical area, and that provides undergraduate and graduate courses. We thus exclude all university-like institutions that only provide post graduate, research training (ex. Scuola Superiore Normale di Pisa, Scuola di Sant'Anna) and online universities. In this first descriptive part we include online

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<sup>25</sup> Bertolini/Goglio (2012) show that the geographical proximity of graduates to the firm and the embeddedness in the local environment play an important role in employers' hiring decisions.

<sup>26</sup> At national level the most famous are those provided by La Repubblica (national newspaper) and Censis (public research center).

universities and universities for foreigners, but we will further drop from the analysis since online universities do not have any link to the geographical space where they are placed, and the latter have their target outside of the country. However, given the impressive growth of online universities in last decade, we will dedicate a paragraph to this new form of higher education institution (see 3.3).

### *3.2.1 Descriptive statistics (1861-2010)*

The number of universities that the new unitarian state inherited from previous national states was about 23 units. The geographical distribution was quite unbalanced in favour of the north-center of Italy: two thirds of the universities were in northern-center regions, five out of nine of the universities in the south were in the islands of Sicily and Sardinia, only the University of Naples served the vast southern continental regions.

As we can see from fig.1 and table 2, the number of universities followed a constantly increasing trend, with some particular periods of expansion signaled by the steps in the curve. The first period in which we divided the analysis is the one represented by the years following the unification (1862) up to the first significant law that reformed the public education system, emanated in 1924 (the so-called Gentile Reform, see previous paragraph). In 63 years the number of universities increased by 14 units (+60%), in particular due to the reform which instituted 4 new universities (in Trieste, Bari, Firenze, Milano).

The following three decades (corresponding to the historical periods of fascism, World War II and early post war reconstruction) are characterized by a significant slowdown of the trend of founding signaled by the flat curve between 1925 and 1960, when only two new universities were established (a private confessional university in 1939 and a State-funded university in 1955). The curve starts to go up interestingly since the 1970s and becomes steeper and steeper in the following decades.

The number of universities rises up with 7 new units in the five years between 1980 and 1985, when 5 new state universities were founded in 1982 and other 2

state universities that emerged from the transformation of previous satellite campuses to autonomous universities (Universities of Brescia and Verona)<sup>27</sup>.

In following years the curve becomes steeper and steeper in particular in the two decades of the 1990s and the 2000s: +17 units between 1990-2000 and +15 units in 2000-2010.

In late 1990s, in a couple of years (1998-1999) 7 new universities were opened, 5 of which resulted from a process of transformation of satellite campuses in autonomous universities<sup>28</sup>, and the other 2 emerged as detached parts of bigger universities<sup>29</sup>.

The increase of the decade of 2000s is totally driven by no-State funded universities, “physical” universities (+ 4 units) but especially online universities, that boomed from zero to 11 units in less than ten years. As a matter of fact, the number of State-funded universities reached 61 in 2000 and remained still there. The peak corresponding to 2004-2006 has to be attributed totally to the establishment of online universities.

No-State funded universities played a marginal role in the Italian higher education system up to the 1990s (12%) but they experienced an interesting growth (almost doubling in both the decades 1990-2000 and 2000-2010) that make them count for the 20% of the current total number of universities (31% if we add online universities, that are all private). However, in terms of students they remain quite marginal: no-state universities and online universities together count for about 8% of the total population of students enrolled to universities in 2010/11 (Miur 2012).

It seems that the saturation point for state-driven initiatives is reached, while new actors (private or local administrations) are exploiting new market niches left out by the State.

Regarding the geographical distribution of universities, at the moment of the unification of Italy we can observe a disadvantage for southern regions, compared to northern and central Italy. The gap in the endowment of universities remained,

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<sup>27</sup> For a detailed analysis of the phenomenon of satellite universities please refer to chapters 5 and 6.

<sup>28</sup> University of Eastern Piedmont, University of Foggia, University of Sannio, University of Magna Graecia, University of Insubria.

<sup>29</sup> Milano Bicocca as the second state university of Milan and Roma Foro Italico is university specialized in sports only, that originated from a previous institute of sports (ISEF).



but slowly shrunk in the following years up to 1995, when the number of universities in southern regions became equal or slightly greater than northern regions.

The maps in figures 5 to 7 show the evolution over time of the endowment of universities in the country. At the time of the unification of Italy (we chose 1871 instead of 1861 so to include north-east area and Papal State that were added in those years) universities were mainly concentrated in the north-center of Italy and in the Islands (Sicily and Sardinia), while the endowment of southern regions was very scarce, given that the only university in the south was the University of Naples.

In fig.6 and 7 we can see how the distribution of universities changed across the decades: the main metropolitan areas of Milan and Rome always concentrated a high number of universities, and kept their primacy by increasing further the number of universities on their territory. Between 1924-1960 the number of universities remained almost constant, main changes can be observed for the period 1970s and 1980s, when universities appeared in north-east provinces and southern regions. The expansion of the following decades shows the diffusion of universities all over the territory, with Milan and Rome as the leading provinces in term of number of universities.

**Tab 2 Number of universities. 1861-1970**

	1861 <sup>30</sup>	1925	1946	1960	1970
All universities	23	37	38	39	47
State funded universities	23	34	34	35	41
No-state funded universities	0	3	4	4	6
On line universities	0	0	0	0	0
<i>no-state %</i>	<i>0</i>	<i>8,1%</i>	<i>10,5%</i>	<i>10,3%</i>	<i>12,8%</i>
north <sup>31</sup>	14	23	23	23	26
south	9	14	15	16	21

Source: our elaborations

**Tab 3 Number of universities. 1980-2010**

	1980	1985	1990	1995	2000	2005	2010
All universities	50	57	57	63	74	79	89
State funded universities	44	50	50	54	61	61	61
No-state funded universities	6	7	7	9	13	15	17
On line universities	0	0	0	0	0	3	11
<i>no-state %</i>	<i>12,0%</i>	<i>12,3%</i>	<i>12,3%</i>	<i>14,3%</i>	<i>17,6%</i>	<i>19,0%</i>	<i>19,1%</i>
north	28	30	30	31	36	38	41
south	22	27	27	32	38	41	48

<sup>30</sup> Density is always computed at t-1, so for example, density in year 1925 is the cumulated number of universities up to the year 1924 and so on.

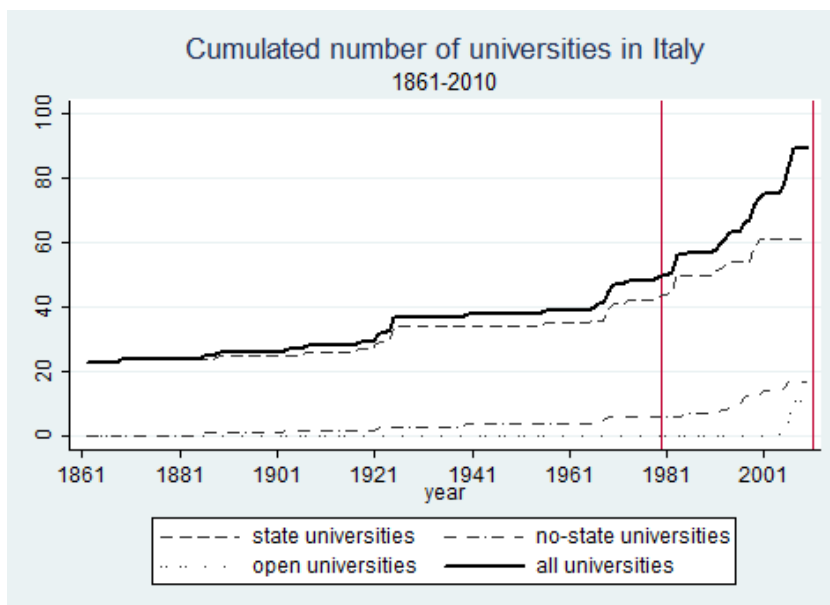
We chose 1861 as symbolizing the unification of Italy, even if the overall process ended only in 1870 with the final takeover of Rome and the surrounding region (part of the domains belonging to the Papal State were annexed to Italy in 1860s, while former Austrian domains were obtained in 1866). 1925 has been chosen as the year following one of the main reforms of the national education system (Gentile reform); 1946 has been chosen as the first year after the end of WWII; 1970 represents the year after the law that liberalized the entrance to university for all those who completed 5 years of high school.

<sup>31</sup> North and South of Italy are defined as follows:

North: Piemonte, Valle d'Aosta, Liguria, Lombardia, Trentino-Alto Adige, Veneto, Friuli-Venezia Giulia, Emilia-Romagna, Marche, Toscana.

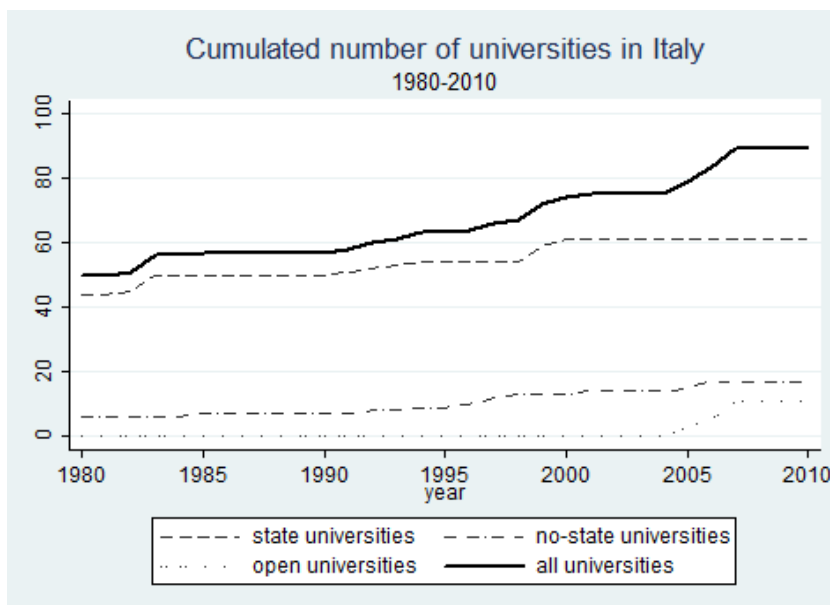
South: Umbria, Lazio, Campania, Abruzzo, Molise, Puglia, Basilicata, Calabria, Sicilia, Sardegna.

Fig 1



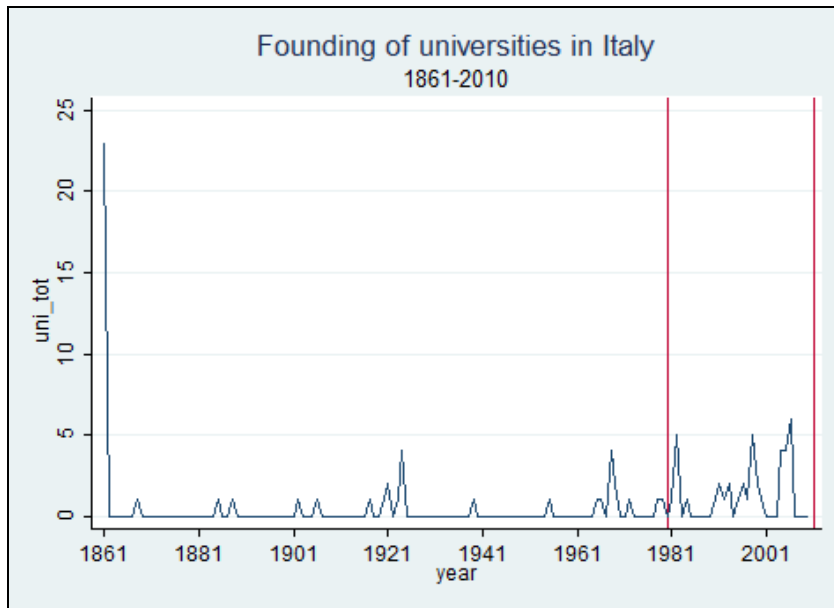
Source: our elaborations

Fig 2



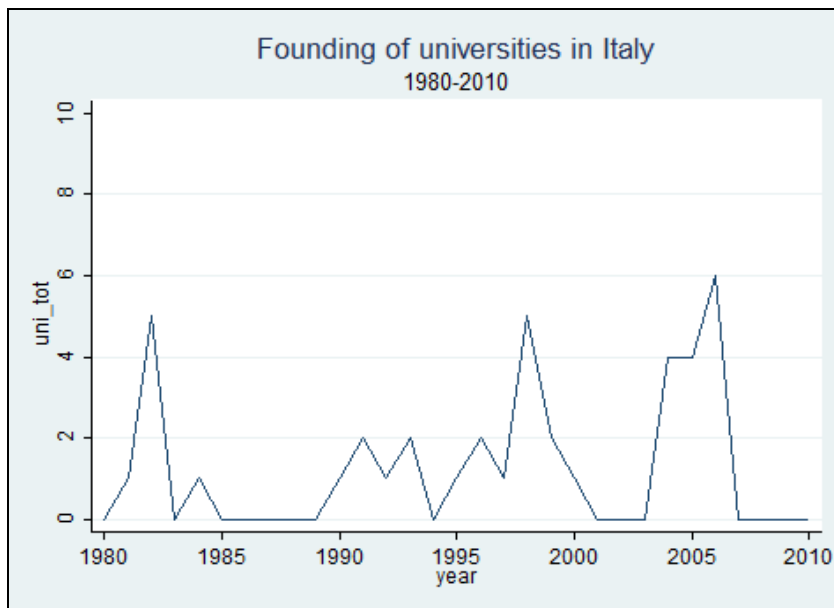
Source: our elaborations

Fig 3



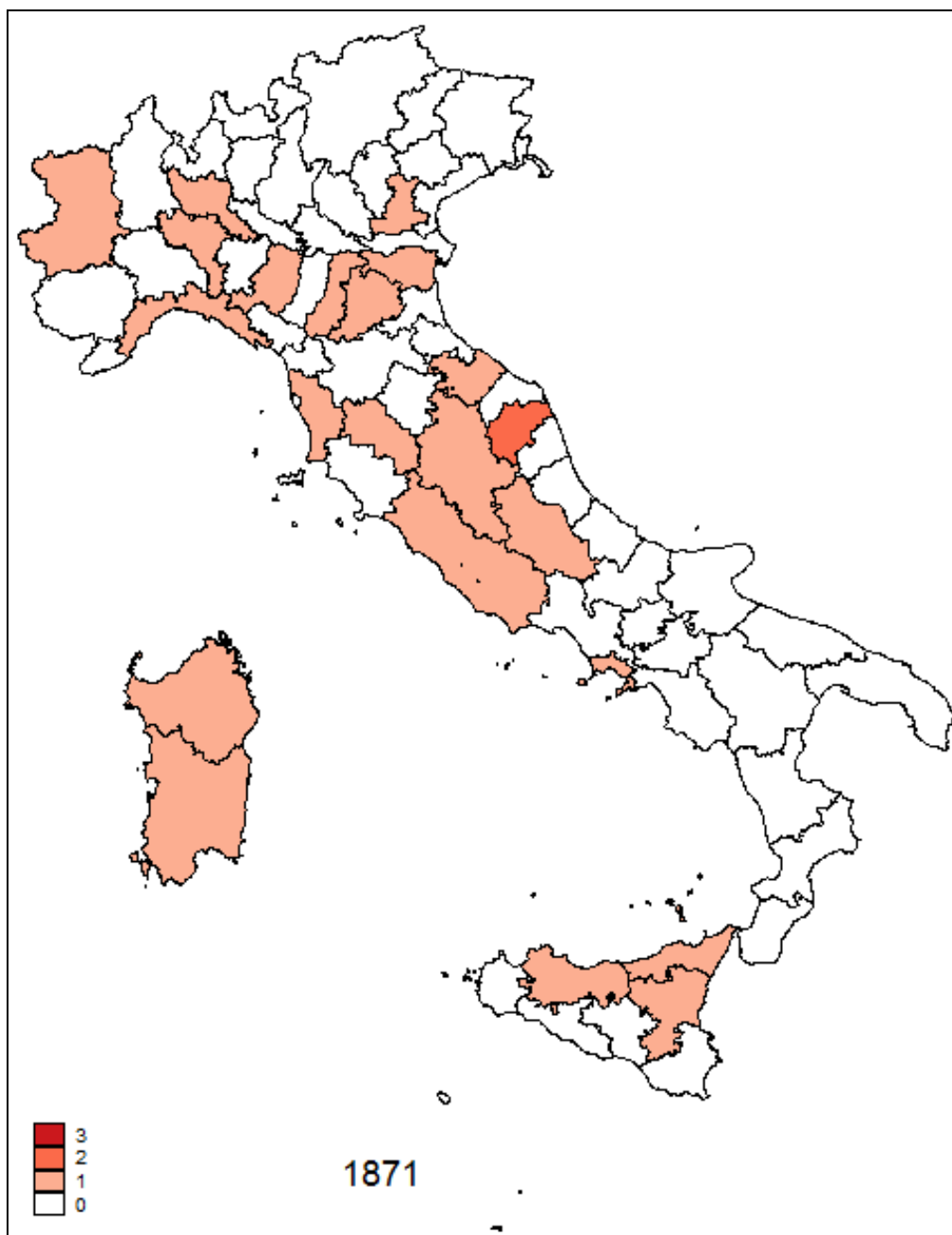
Source: our elaborations

Fig 4



Source: our elaborations

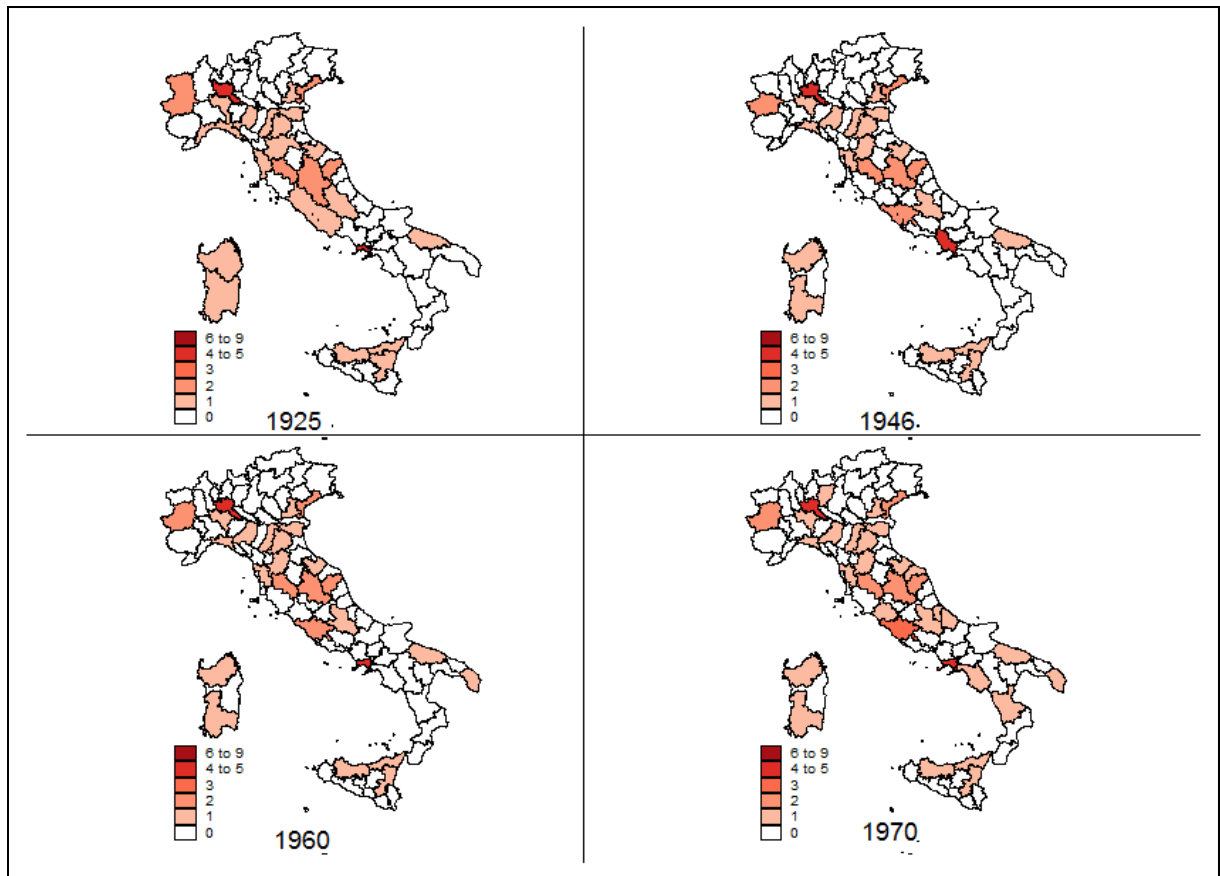
Fig 5 Universities inherited from previous national States



Source: our elaboration on maps from Istat.

Note: national borders correspond to actual ones, while province borders are those at 1871.

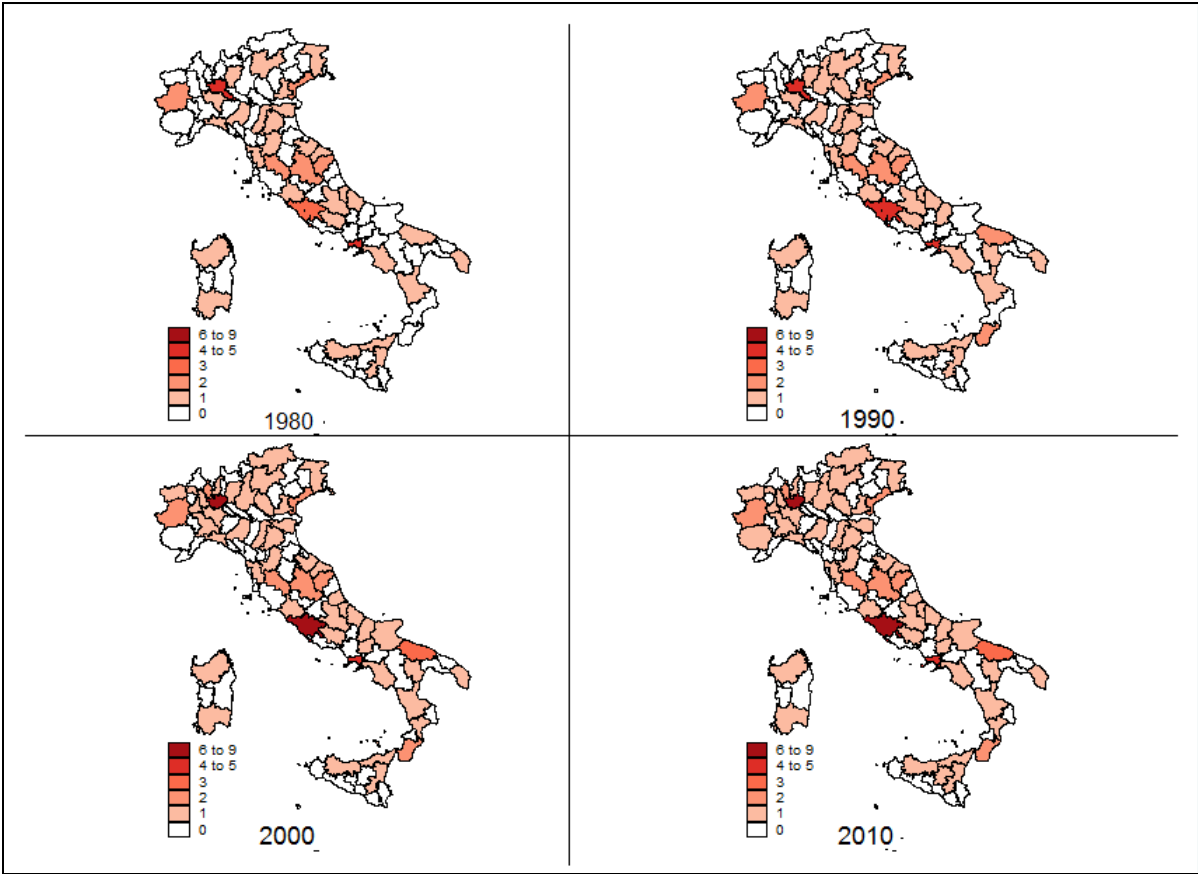
**Fig 6 Universities in Italy at four points in time (1924-1970, excluding online universities)**



Source: our elaboration on maps from Istat.

Note: national borders correspond to actual ones. Province borders for 1924 map are those at 1921; for 1945 map are those at 1936; for 1960 map are those at 1951; for 1970 map are those at 1961.

Fig 7 Universities in Italy at four points in time (1981-2011, excluding online universities)



Source: our elaboration on maps from Istat.  
Note: national borders correspond to actual ones. Province borders for 1980 map are those at 1980 and so on (province borders for 2010 are those at 2001)

### 3.2.2 Online universities

The tradition of distance learning is quite ancient in European countries. For example, in UK the origin of what is also called “open university” can be traced back to mid-1880s. Open University is defined by the Oxford Advanced Learner's Dictionary as “a British university providing degree courses that students can take at home. (...) Students can be of any age and, if they do not have the standard qualifications for entering university, they take an access course before starting their degree.”<sup>32</sup>. At that time the function of distance learning and examination was justified by the mission of colonization: the University of London, established in 1826, was the first institution that allowed students to take exams overseas and there was no requirement of residence on campus. In 1882 there were 17 examination centers worldwide, that grew to 79 in 1937, all of them placed in the colonial domains of UK (Tait 2008): “In 1858 it was agreed that in light of the University of London ‘imperial mission’ – note the ways in which the international role of UK higher education came into play here – examinations could be taken overseas. (...) While this served the wandering British as they built their Empire and their trading bases in the nineteenth century, it also served the indigenous peoples of the countries, or at least those few who could manage in academic English with little or no support at all.” (ibidem, p.86).

The first Open University was founded in UK in 1969, followed by similar experiences in Spain with UNED (Universidad Nacional a Distancia) in 1972 and later in 1994 with Open University of Catalunya; in Germany in 1974 with FernUniversität; in 1984 in the Netherlands and in Portugal in 1988.

The European Union supported and promoted since mid-1980s the diffusion of online and distance learning practices, defined as an important tool for increasing equality of access to education for minorities and disadvantaged people, contributing to the spread of European culture but also, already far before the Lisbon Strategy, as a means by which helping European countries in becoming knowledge-based economies and increasing the level of qualification of the labor force. At first, there were only some resolutions emanated by the European

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<sup>32</sup> Available at: <http://oald8.oxfordlearnersdictionaries.com>



Parliament, then the commitment became more concrete with the publication of two reports in 1991<sup>33</sup> by the European Commission. Finally, the support to the development of distance education was reinforced in Maastricht Treaty that, among others, extended the competences of European Union on education and culture as well (Tait 1996). In the following years, in the framework of the so-called Lisbon strategy, the European Council adopted some action plans on e-learning that ended up in the initiatives e-Europe 2002 and e-Europe 2005, requiring the inclusion of online distance learning methods in existing educational systems. The resolution by European Council in October 2002 particularly stressed the need to modernize existing higher education systems integrating new technologies of learning (D'Addona 2003).

The Italian case has a much shorter tradition and seems to be driven mainly by market forces, as a response to an increase in the demand for tertiary level qualifications.

In Italy the first attempts to promote online and distance learning resulted in the establishment of Consorzio per l'università a distanza (CUD) in 1984, that collected seven universities, some big companies like IBM and Olivetti and the network of Chambers of Commerce (Tait 1996, p. 222). But the first tangible initiatives of e-learning appeared only in the 1990s, included in ministerial three-years plans (Piani di sviluppo universitari), that supported the creation of inter-university consortia<sup>34</sup> (not yet online universities) which purpose was to integrate the online initiatives of the single universities participating in the consortium (D'Addona 1993). Online courses represented only an additional and marginal form of education offered by existing universities, which main business remained in traditional on-site training. It was a first attempt to introduce some innovative forms of distance learning in the framework of traditional universities, but we had

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<sup>33</sup>Report from the Commission on Open and Distance Higher Education in the European Community and the Memorandum on Open Distance Learning in the European Community by the Task Force Human Resources.

<sup>34</sup> The main consortia created at that time were: Consorzio Interuniversitario For.Com., that is now among the founders of Università telematica "Guglielmo Marconi", Consorzio Nettuno and Consorzio ICON.

to wait until 2004 for the opening of institutions providing tertiary level education exclusively using online distance learning technology.

Online universities (called in Italian *università telematiche*) were introduced by the Decree 17th April 2003, approved jointly by Ministry of Education and Ministry of Innovation, that established the criteria for the setup of online courses (for the legal recognition of the certificates provided). The provision of tertiary education through online methods and distance learning was already included in Law 341/1990, under the framework of the autonomy of universities, but it was only in 2003 that clear and common rules at national level were established for this new organizational form of higher education. Currently, the total number of online universities in Italy, recognized by the Ministry of Education, is 11, that all together counted more than 42.000 students in 2010/11. The first three online universities were established in 2004, followed by other three in 2005 and six in 2006.

Online universities provide higher education exclusively through e-learning methods: on-line classes broadcasted in streaming, forums and chats with tutors, and online assessment practices. Physical presence is requested only at the end of each course, for the final evaluation, assessed through on-site methods (written or oral exams). For this purpose students have to reach the headquarter of the university or can go to some exam centers generally located in big cities, according to the size and organization of the online university. Only few of them integrate e-learning process with on-site seminars, like workshops and meeting, attendance to which is generally on a voluntary basis.

Qualifications provided include undergraduate and master programs, in some few cases even PhD programs. In virtue of the institute of the legal value of the degree, the certificates provided by online universities are the same as those conferred by other universities, from a legal point of view.

Although all of them are no-state funded, they often belong to mixed consortia made up of public and private bodies (some big companies, semi-governmental organizations, universities). One of them (*Università telematica “Leonardo da Vinci”*) belongs directly to a State-funded university, the University “Gabriele D’Annunzio” di Chieti e Pescara, while another one is the expression of the system

of Italian Chambers of Commerce (Universitas Mercatorum di Roma). Half of them are based in the national capital, Rome, (five out of eleven) while three are located in the south of Italy (Chieti, Napoli, Benevento) and other three in the north (Como, Milano and Firenze).

Online universities do not enjoy much credibility in the Italian system, are considered a low-rank institution in terms of quality, often attacked on media for being a sort of shortcut for obtaining a degree (thanks also to some practices of recognition of past work experience as academic credits, and a general easiness in passing exams)<sup>35</sup>.

Although being a late comer in this matter, Italy experimented a boom in the number of institutions created: 11 in three years only. How could we try to give an explanation of that? Our hypothesis is that this phenomenon could be linked to the central role that credentials play in the career of public employees and the relatively high level of employment in the public sector in Italy. The relatively easy way in which online universities transform working experience in educational credits and the high benefits in terms of career resulting by owning a degree<sup>36</sup>, created a big demand driven especially by adult workers.

An interesting point that comes out from the brief international comparison is about the source of funding of those online universities: in the Italian case all the online universities have been established on private basis and are not the result of a state initiative (despite we can assume that some sources of public funds are delivered to private online universities as well). On the contrary, Tait (1996) emphasizes that all the projects established in the 1970s and 1980s were the expression of national policies and concludes that, given that the nature of open universities is rooted in the “inadequacy of the higher education sector to meet the

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<sup>35</sup> See articles on the main Italian newspaper, Corriere della Sera, where open universities are defined as “shameful” by the President of Iulm University (private): “Il risultato di tale passo sarebbe l' azzeramento di molte «vergognose» università non statali e telematiche e la «sterilizzazione» del valore legale del titolo di studio, sostiene il rettore dello Iulm.” (7 marzo 2012). Or where open universities are attacked for recognizing working experience as academic credits (L' università che «regala» un anno agli iscritti Uil” , 12 ottobre 2009; “E il maestro Danilo con 15 esami ha preso la laurea”, 19 settembre 2009).

<sup>36</sup> More recently, master degrees are often used by aspirant teachers of primary and secondary school, as additional academic certificates to climb the crowded rankings for the access to tenure offices in the public schools.

challenge of modernity, defined both in terms of who is to be included in the goods of society and what society needs in terms of human capital, (...) Open universities are therefore often state-led interventions” (Tait 2008, p. 92). However, as far as we are concerned, we believe that this conclusion needs to be contextualized. This idea seems not to fit in a context in which tertiary education is already a public domain and soaked by egalitarian ideals, like the Italian one. For example, in the British case Open Universities figure as an alternative and place themselves in the framework of a differentiated and hierarchical system; while for the Spanish case, the rationale behind the UNED was to attempt to overcome strong regional differences settling down the first national project of university (Tait 2008).

Rather, it seems that less ambitious goals are left to the Italian initiatives of online universities. The perspective by which looking at Italian online universities turns to be interesting, is that they could play a role in an attempt to differentiate the national higher education system. Online universities could be part of a bunch of training institutions that provide certificates with a high professional orientation, with particular attention to the long life learning process. This could be possible in a binary system for example, with institutions clearly more market-oriented and others research-oriented.

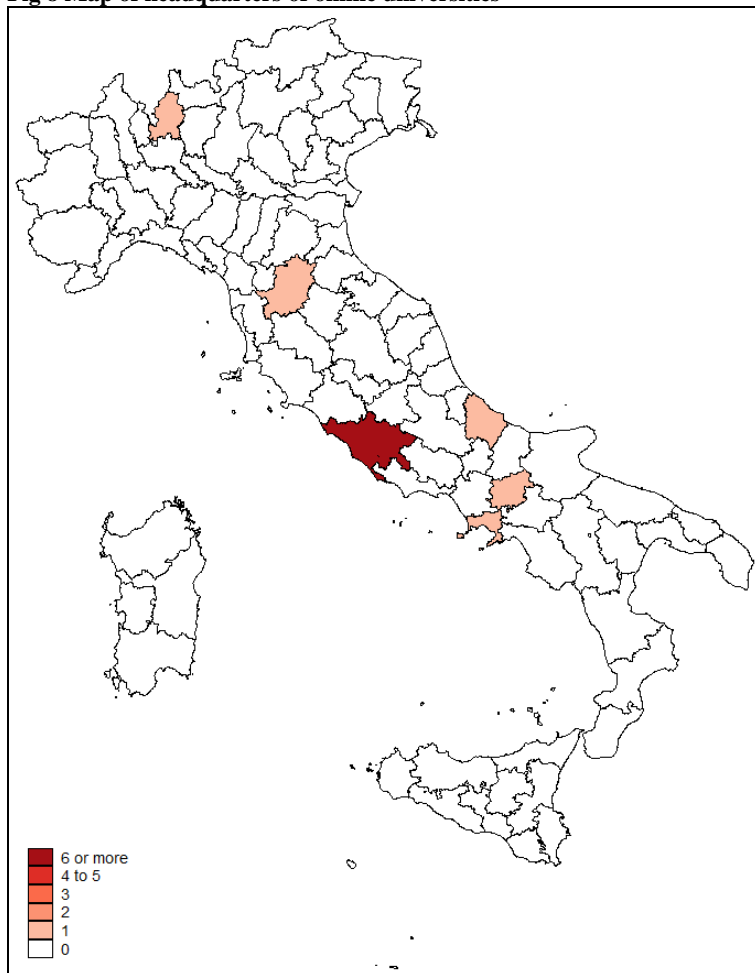
Italian online universities make claims to be equal to traditional universities and aim at resemble more and more academic institutions. It is interesting to observe that about half of the websites of online universities promote their involvement in international networks of research, or the high quality research skills of their faculty members. As if the word “research” became a magic word that could improve legitimacy and attractiveness of any institution, while their main business (and the main interest of the students enrolled in) stays in providing teaching services.

**Tab 4 Online universities in Italy, year of foundation and number of students enrolled in 2010/11**

	Headquarter	Year	Total n. students	Enrolled to 1 <sup>st</sup> year
Università telematica "Guglielmo Marconi"	Roma	2004	13.285	1.965
Università telematica delle Scienze Umane UNISU	Roma	2006	8.610	1.448
Università telematica internazionale "UNINETTUNO" e-Campus	Roma (CO)	2005	6.719	2.712
Università telematica "Pegaso"	Napoli	2006	4.894	844
Università telematica "TEL.M.A."	Roma	2004	1.154	250
Università telematica "Giustino Fortunato"	Benevento	2006	501	45
Università telematica "San Raffaele" - già "UNITEL"	Roma	2006	411	190
Università telematica "Leonardo da Vinci"	(CH)	2004	371	38
Universitas Mercatorum	Roma	2006	201	79
Università telematica "Italian University line"	Firenze	2005	25	0
<i>Total</i>			42.258	8.535

Source: MIUR – Statistical Office

**Fig 8 Map of headquarters of online universities**



Source: own elaborations on maps from Istat

## **Chapter 4: The Founding Of New Universities**

In this chapter we illustrate the results of the empirical analysis for the determinants of the founding of new universities in the period 1980-2011. As already described in chapter 2, we developed a longitudinal analysis using an original dataset built for the purpose of this research that, following a person-period scheme, contains: Italian provinces as units of analysis, a dependent variable indicating the opening of a new university in the province, a series of covariates referred to characteristics of the provinces and of the national context (most of them time-varying).

First we present some descriptive statistics about the variables included in the dataset (4.1) and then we show the findings of a logistic regression model for the occurrence of the event (4.2).

### ***4.1 Descriptive statistics***

An overview of the historical development of Italian universities has been provided in the previous chapter, here we only focus on the period 1980-2011, that is the observation window we opened for the empirical analysis, given the problems in collecting historical series of data for longer periods. The dataset contains 95 Italian provinces, according to the administrative division set in the 1980 (see 2.2.1 for details); the dependent variable is a dichotomous variable that assumes value 1 if the event occurs and 0 otherwise. The event is defined as the opening of a new university in the territory of the province, once it occurs the province goes out of the risk set. There are only few cases of repeated events, that involve the main metropolitan areas of Rome, with 6 events, Milan and Bari with 2 events (despite the latter cannot be considered a metropolitan city, it serves a quite wide area in the south of Italy). However, given the small numbers and the peculiar characteristics of at least the first two provinces, an analysis that took care of repeated events would have been biased by these cases. We thus decided to concentrate only on a single transition model for discrete time data, using a logit model (see 2.2.1).

Table 5 shows that out of the 95 provinces in the dataset 22 experienced the event, (opening of a new university), while the remaining three quarters did not experienced the occurrence of the event in the period considered. Out of these 73 provinces, more than a half (40 provinces) had already a university on their territory, founded before 1980, while the other 33 units neither had any prior university nor experienced new openings in the following period. On average, the time span between the beginning of the observation period and the occurrence of the event is 13 years, with a median value of 16.5 years (tab. 6).

Table 7 summarizes the values of many of our independent variables. Given the limited number of observations we do not provide cross tabulations between event and independent variables (as in chapter 6), but rather mean and standard deviation for all observations and for those that experienced the event.

According to table 7, a negative relationship can be observed between the number of universities operating in the country and the occurrence of the event: events tend to occur when density of universities is relatively lower than total average. On the contrary, a direct positive relationship can be observed between the occurrence of the event and the economic indicators: both the variables used as a proxy for economic development/wealth of the province (per capita added value and total consumption) show a higher mean in correspondence with the occurrence of the events. Similarly, a positive relationship is observed also for variables used as proxies for the demand: the mean values of high school completion rate (number of high school graduates over the total population aged 19 years old), youth unemployment and size of the province (in terms of population) are higher among the subjects that experienced the event, compared to the overall mean. The categorical variable for the political orientation of the government in power shows a more frequent representation of center government rather than right-wing oriented coalitions.

**Tab 5**

Event	Provinces (N)	Provinces (%)
0	73	76.84
1	22	23.16
<i>Total</i>	<i>95</i>	<i>100</i>

**Tab 6**

Time (years)	Observations	Median	Mean	Std. dev.
	22	16.5	13	7.87

**Tab 7**

	mean	std dev
<i>density of universities</i>		
all	62.36	9.11
if event=1	59.68	8.51
<i>added value per inhabitant (Italy==100)</i>		
all	97.18	27.63
if event==1	106.026	50.49
<i>total consumption per inhabitant (Italy=100)</i>		
all	98.078	18.79
if event=1	103.56	26.69
<i>High school completion rate (province level)</i>		
all	60.57	15.70
if event==1	63.99	13.75
<i>Youth unemployment (region level)</i>		
all	27.93	13.57
if event==1	30.82	14.58
<i>Size of the province (% national population)</i>		
all	.919	.811
if event=1	1.75	1.97
<i>Government</i>		
	<i>all</i>	<i>event=1</i>
Right	8	3
Center	13	18
Left	10	1
Total	31 <sup>37</sup>	22

<sup>37</sup> Values of this column refer to the years between 1980-2011 and the relative coalition at the government.



#### *4.2 Findings from logistic regression model*

As described in chapter 2 (see 2.1.1), our aim is to test a set of hypotheses that can be grouped under three main domains: one refers to organizational and institutional processes, represented by the variables density (as the number of universities opened in Italy, time varying) and government, (as the political orientation of the coalition at the power on national level), that might have played a role in shaping the diffusion of universities in the last three decades. The second group of hypotheses can be grouped under the label of economically driven processes: we assume that the founding of new universities might have been oriented by economic factors, that shaped the decision on whether and where to open a new university. The variables used for testing this hypothesis are per capita added value, as a proxy for the industrial development of a province, and per capita total consumption, as a proxy also for the wealth of the province. Finally, we introduce a demand-driven hypothesis that groups the variables high school completion rate, youth unemployment rate, size of the province, that indicate a certain pressure coming from potential customers for the opening of new universities.

Control variables are introduced in order to control for the left censoring of the subjects (provinces that already had a university on their territory prior to 1980) and for the geographical location of the province (whether north or south of Italy).

Outcomes of the logit model are presented in table 8. The issue of statistical significance should not be a big issue for our analysis: as explained in chapter 2 we are considering the entire population of universities, with a low total number of units of analysis. As a consequence, we should not worry about problems associated to the issues of statistical inference and we will relax the interpretation of the statistical significance of coefficients. Instead of applying the criteria of statistical significance as a dichotomous variable (yes/not) we will pay more attention to the interpretation of coefficients. With respect to the component of significance associated to the measurement error, may be useful remind that in our analysis the error term for the dependent variable ( $y$ ) is reduced to its minimum given the particular nature of the dependent variable and the way it has been

collected. While for those independent variables ( $x$ ) that are more likely subject to error measurement (for example economic indicators) we will use more caution in the interpretation of the coefficients.

As far as the first group of variables is concerned, those belonging to the so-called organizational and institutional group, we can observe that the hypotheses seem to be partly verified. First, the curvilinear trend designed by the different categories of density of universities seems to follow what described by literature (see chapter 1) and corresponds to what hypothesized: when the density assumes its highest values (4th quartile) the odds of occurrence of an event decreases, and this is shown in all the models (from mod. 1 to 12). However, we can only describe here a trend, given that the variable density is never significant. When taken separately (mod.1) the density shows a less clear trend, with a slight decrease in the risk when the values of density are the second category (about -10%) and an increase only when the values are in the third category (+2 times). However, in the final model it shows a more clear curvilinear trend (mod. 12): when the values are relatively low (1st quartile) the probability is low (see predicted probabilities in the appendix fig. A.1), then the risk increases of 1.4 times when the variable assumes values in the 2nd quartile, continue to increase when values are within the third quartile, and then the risk of event decreases of almost 40% when the density assumes values in the fourth quartile (see appendix, fig. A.1 for predicted probabilities). On the contrary, the hypothesis about the effect of left wing oriented governments on the risk of opening a university are not verified, since center coalitions (compared to right wing coalitions) increase the odds of experiencing the event of about 4 times (with significant values), while when left coalitions are at the power the relative risk decreases of 0.5 times (mod. 2 and 3). However, we should take with caution those estimates since might be traced back mainly to the peculiar distribution of the government variable (see tab. 7).

With respect to our economic variables, the results go in the opposite direction of what hypothesized: we can observe a direct positive relationship between the proxies for economic development and wealth of a province and the chances of experiencing the event (mod. 6 and 7). In the case of per capita added value, there seems to be a curvilinear trend, not very deep, but with a slightly sketched U shape

( see margins in fig. A.1, light grey curve when the other variables are kept at their means). The relative risk of experiencing the event decreases when the variables assumes values in the second tercile (compared to the first tercile), while increases again, with probability values that are slightly greater than the first tercile (0.0023 vs 0.0017) for the provinces in which the per capita added value assumes values in the third tercile of the distribution (compared to the case in which the values belong to the first tercile)<sup>38</sup>. However, the results have to be taken with caution given that the coefficients are never significant. The variable indicating per capita total consumption shows a more clear relationship (and significant throughout the models), with a steep increase of the odds ratio (and of the probability) in correspondence with values that belong to the third tercile of the distribution: the higher the values, the higher the relative risk of experiencing the event (+5.3 times in mod.7). Due to the quite high number of missing data related to the difficulties in reconstructing historical series of data, we introduced a fourth category in which we gathered all the missing data, thus permitting us to estimate the effect of the variable, when available, without biasing the entire estimates.

Finally, the variables grouped under the label of a demand-driven process perform more or less as expected (mod. 8 to 11). The variable that indicates an increase in the number of “potential customers”, i.e. the rate of high school graduates over the total population aged 19 years old in the province, that thus could increase the number of future students, indicates a direct positive relationship (despite only slightly significant in mod. 11). As soon as the rate of high school completion increases, the odds ratio of experiencing the event increase as well: +2.7 and +4.7 (in mod.11) and a probability of event that goes from 0.0008 of the first category to 0.003 of the third category (see fig. A.1). While for the variables related to the rate of youth unemployment in the region (not available at province level) and for the size of the province (in terms of % share of population over the total national population), there seem to be a sort of threshold: in both cases there is not an important decrease/increase between the first and second tercile, but rather it is when the values are in the third tercile that the relative risk of experiencing the event increases in an important way (respectively +2.9 and +5.7 times in mod.11).

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<sup>38</sup> The fourth category is for missing data.

Despite the trend cannot be taken without margins of error for the variable size, that is highly significant, some caution has to be taken for the variable youth unemployment.

In the final model we put together all the hypotheses, and outcomes are shown in model 12. The relations before mentioned are still observable in the final model with some slight changes. When the number of universities becomes very high (values of density in the fourth quartile) the odds ratio of experiencing an event (compared to the case in which the density is in its first quartile) decreases of about 40%, while to medium-high values of density (second and third quartile) corresponds a higher relative risk for the provinces of experiencing an event, an increase of about 1.4 and 1.6 times (compared to the case in which density is in its first quartile), drawing a slightly sketched curvilinear trend, as drawn in fig A.1. However, as said before, estimates describe a relationship that is not supported by statistical significance.

The variable for the effect of the political orientation of the government remains pretty stable across the models and confirms in the final model a higher relative risk for the years in which center oriented governments are at the power (with a borderline significant coefficient), with respect to right wing coalitions. On the contrary to what hypothesized, left wing governments do not show a positive effect on the relative risk of opening a new university. However, as highlighted before, the estimates might mirror the peculiar distribution of the variable and thus we tend to use caution in commenting outcomes.

The economic hypothesis suggests that the relative risk of experiencing the opening of a new university is greater for those provinces that have high values of economic performance: when the per capita added value is in its third tercile the odds ratio increases of 1.3 times, compared to the case in which the added value is in its first tercile (despite not supported by statistical significance). Much stronger (and highly significant) is the effect of the per capita total consumption variable: when the province holds values that belong to the third (and second) tercile of the distribution (compared to the first tercile), the relative risk increases). See fig.A.1 for a sketch of the curvilinear trend.

The group of proxies for the demand of higher education confirm their trend in the final model: when the high school completion rate is high (fourth and third tercile) the relative risk for the province of opening a new university increases of respectively 4.4 times and 3.7 times, compared to the case in which the province has a completion rate that assumes values included in the first tercile of the distribution. On the contrary, only high levels of youth unemployment seem to increase the propensity to open a new university of 3.3 times (with borderline statistically significant values) compared to low values of youth unemployment, while when values belong to the second tercile the chances decrease of about 30% (but are not significant). Finally, the size of the province (irrespective of the age composition of the residents) seems to matter, particularly for big provinces: when the share of the province is between 0.87% and 6.8% of the total national population (third tercile, that includes 13 provinces) the relative risk of opening a new university on the province territory increases of +6.5 times and is highly significant (see fig.A.1 for a picture of the trend).

Finally, the control variables: the relationships they draw remain pretty stable throughout the models (with exception of models 9 and 11 for the geographical variable), but the odds ratios slightly vary. On a general level the fact of having already an university on the territory, that has been founded prior to 1980, reduces the chances of experiencing the event again: in the final model the decrease is about -90% (and the relation is statistically significant all across the models). On the contrary, being in the south of Italy seems to slightly increase the relative risk of opening a new university but it is not supported by a significant value<sup>39</sup>.

In conclusion, we could summarize the results of our empirical analysis as following: for the estimates of the founding for new universities we can say that there might be at work some ecological processes that draw a trend with an initial increase of founding at a stage in which the level of density is relatively low, a sort of saturation level indicating a top point in the carrying capacity of the environment, after which the trend of founding starts decreasing<sup>40</sup>. Economic

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<sup>39</sup> However, a cross-tabulation between the dependent variable and the geographical area shows an equal distribution of the events between north and south.

<sup>40</sup> Despite the component of the measurement error for the variable density is reduced to its minimum, we cannot further generalize, since the variable remains not significant.

factors seem to play a role indeed, especially in suggesting where the new universities are opened: those provinces that perform better than the Italian average, at least in term of per capita added value and above all, in terms of per capital total consumption, have a much higher propensity to experience the opening of a new university on their territory. From our data it seems that the estimated distribution of founding goes in the opposite direction of what hypothesized: new universities are not opened in depressed areas, but rather in economically dynamic centers<sup>41</sup>.

Finally, it is the demand-driven group of hypotheses that seem to play a relevant role: where the pressure of the potential demand is high due a relatively high number of high school graduates (despite not significant) and a relatively high rate of young people unemployed (borderline significant) is relatively high compared to other provinces, and in those provinces that concentrate a relevant part of the Italian population (highly significant), the relative risk of opening a new university is much higher. However, the level of youth unemployment in the region seems to suggest a controversial effects: from one side it goes in the direction of an increase in the potential demand for higher education, as formulated in the hypothesis of the parking lot (Barbagli 1982), but on the other side it is in contrast with the other economic variables, that indicate a well-developed environment as the most likely background for the opening of a new university. Yet we have to remember that we introduce a variable in which youth unemployment is measured at regional level, instead of province level, as for the index of total consumption. We can assume that regional and province rates of youth unemployment are highly correlated, but considering also the low number of units of analysis in our dataset, we may reasonably believe that this controversial effect might be associated to few cases that show high levels of total consumption on province level but high levels of youth unemployment on regional level.

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<sup>41</sup> Given that the variable for total consumption seems to be particularly significant in this respect, we tried to identify the provinces that show highest vales of per capita total consumption (third tercile). Considering the entire time range of observation the provinces that showed values of total consumption per inhabitant belonging to the third quartile of the distribution are mostly located in the north and center of Italy up to the regions of Tuscany and Marche. The values of the index of total consumption are included between 108 and 146, with a mean value of 119 (with Italy=100).

Thus, keeping in mind the limitations of our variables, we could conclude that the process of opening of new universities is mainly driven by the demand and tends to occur in areas that show good performances in terms of economic indicators of industrial production and wealth, and that simultaneously are highly populated areas.

**Tab 8 Estimates of logit regression for the opening of a university. Odds ratios.**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
density university (ref= 1st quartile)												
2nd quartile	0.896 (0.633)		1.163 (0.814)				2.514 (2.388)					1.433 (1.349)
3rd quartile	2.069 (1.042)		2.011 (1.068)				1.488 (2.215)					1.675 (2.092)
4th quartile	0.262 (0.287)		0.778 (0.935)				0.488 (0.574)					0.605 (0.646)
Government (ref=right)												
center		4.034** (2.539)	3.887** (2.651)				3.137 (2.792)					3.669 (2.949)
left		0.368 (0.424)	0.490 (0.571)				0.543 (0.649)					0.447 (0.541)
added value per inhabitant (100=Italy) (ref=1st quartile)												
2nd quartile				0.287 (0.377)		0.200 (0.293)	0.253 (0.354)					0.371 (0.518)
3rd quartile				1.679 (1.486)		1.160 (1.247)	1.517 (1.514)					1.329 (1.364)
missing				2.368 (1.540)		3.448 (2.761)	3.608 (2.903)					2.454 (2.159)
total consumption per inhabitant (100=Italy) (ref=1st quartile)												
2nd tercile					1.057 (0.937)	1.430 (1.433)	1.380 (1.295)					1.860 (1.958)
3rd tercile					4.642* (4.017)	5.739* (5.791)	5.338* (4.701)					9.881** (11.21)
missing					0.895 (0.577)	0.532 (0.438)	0.813 (1.278)					2.243 (2.985)
high school completion rate (ref.=1st tercile)												
2nd tercile								2.261 (2.015)			2.700 (2.433)	3.721 (3.645)
3rd tercile								3.539 (3.076)			4.716* (4.335)	4.459 (6.188)
missing								2.285 (1.833)			2.929 (2.402)	2.121 (2.214)
youth unemployment (ref=1st tercile)												
2nd tercile									0.400 (0.271)		0.536 (0.422)	0.713 (0.603)
3rd tercile									1.645 (0.871)		2.902* (1.839)	3.352 (2.818)
missing												
size province (population) (ref=1st tercile)												
2nd tercile										0.749 (0.548)	0.751 (0.589)	0.833 (0.645)
3rd tercile										5.23*** (2.861)	5.76*** (3.404)	6.53*** (4.024)
missing										1.225 (1.347)	2.140 (2.430)	1.002 (1.224)
had universiti	0.307** (0.176)	0.311** (0.174)	0.309** (0.177)	0.299** (0.171)	0.271** (0.156)	0.256** (0.150)	0.271** (0.158)	0.287** (0.171)	0.316** (0.180)	0.15*** (0.0923)	0.13*** (0.0899)	0.112*** (0.0774)
South of Italy	1.480 (0.647)	1.474 (0.632)	1.480 (0.645)	1.564 (0.980)	2.608* (1.508)	2.585 (1.676)	2.844 (1.981)	1.507 (0.671)	0.823 (0.380)	1.453 (0.654)	0.569 (0.314)	1.254 (0.928)
Constant	0.009** (0.0037)	0.004** (0.0030)	0.003** (0.0028)	0.007** (0.0058)	0.006** (0.0049)	0.005** (0.0046)	0.001** (0.0030)	0.004** (0.0030)	0.013** (0.005)	0.006** (0.0028)	0.002** (0.0021)	0.0001** (0.00042)
Observations	2,549	2,549	2,549	2,549	2,549	2,549	2,549	2,549	2,476	2,549	2,476	2,476
Pseudo R-squ	0.0539	0.0814	0.0913	0.0563	0.0514	0.101	0.152	0.0363	0.0410	0.0835	0.115	0.227
P	0.0237	0.00372	0.00163	0.0355	0.0291	0.0207	0	0.282	0.0016	0.00031	0.00035	0

Note: Robust SE in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1





## **PART II**



## **Chapter 5. Satellite Universities**

Our definition of satellite university encompasses a wide variety of situations in terms of number of students enrolled and courses provided, but satellite universities can be gathered together under some common features: they are financially and administratively dependent on a parent university, are located in small-medium towns, while universities are generally located in big cities, often regional capitals. They mainly provide teaching activities at undergraduate level but some provide graduate level qualifications as well.

The usual path of development of a satellite campus starts with the activation of some few courses, then gradually their organization and structure becomes more formalized within the framework of the parent university. The number of courses provided in the satellite sites is much lower than those provided in the headquarter, but they are qualitatively the same as in the mother universities, and professors teaching in the former are faculty members of the latter.

Another common feature is the financial contribution of local government, that generally consists in providing buildings and services associated to the maintenance and/or a direct contribute for covering part of the expenses (for example for libraries and reception personnel).

### ***5.1 The development of satellite universities***

The phenomenon of the opening of small satellite universities can be dated back to the 1950s. The first Italian university that opened a satellite campus in the surroundings was the Catholic University of the Sacred Heart (Università Cattolica del Sacro Cuore), the main private confessional university in Italy, located in Milan. After about 30 years from its founding (1921) it opened a first satellite site in Piacenza in 1953, followed by one in Rome in 1958 and one in Brescia in 1965. In 1959 the Free University of Urbino opened a campus in Ancona. But these were not isolated experience, the process continued with other state universities opening decentralized campuses in the following decades. Since 1953 to 1980 thirteen

satellite universities were founded<sup>42</sup> (tab. 4), but the phenomenon boomed in the 1990s, decade in which about 50% of the satellite campuses have been opened (71 out of 134).

**Tab 9 Satellite universities (years 1953-1970)**

<b>University (parent)</b>	<b>year</b>	<b>Town (satellite university)</b>
Catholic University of the Sacred Heart, Milan	1953	Piacenza
Catholic University of the Sacred Heart, Milan	1958	Rome
University of Urbino	1959	Ancona
University of Padova	1963	Verona
University of Parma	1964	Brescia
Catholic University of the Sacred Heart, Milan	1965	Brescia
University of Trieste	1968	Udine
University of Siena	1969	Arezzo
Polytechnic of Milan	1969	Brescia
University of Turin	1970	Vercelli

Source: own elaborations

The period between late 1980s and late 1990s has been a period of big expansion in terms of number of new satellite universities across the country. This booming is often associated by some authors to the introduction of a new legislation giving more degrees of autonomy to the universities in the field of teaching and budget allocation (Capano 2000, Miozzi 1993, Bratti et al. 2008). The reforms in favor of autonomy that occurred in 1989 (law n.168/1989) and 1993 (budget law for the year 1994, n. 537/1993) have been addressed as one of the key determinants for the expansion of decentralized sites, as a result of the relax of constrains imposed over universities by the Ministry.

Actually, the topic of autonomy is a leitmotiv of national higher education policies since the unification of Italy, it did not appear all of a sudden in the 1980s. As Vaira (2011, p. 31) argues, the autonomy of universities has been a recurrent topic in the political and cultural debate for more than a century, a topic that became a policy legacy that characterizes the history of our national higher education system. As we described in chapter 3, the Italian higher education system has been

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<sup>42</sup> Most of the earlier satellite universities will gain autonomy in the following years and become autonomous universities.

strongly centralized, and proposals for giving larger space of autonomy in organizational and administrative terms to universities have been proposed since Gentile Reform, the first big reform of the national system in 1923. However, innovative ideas included in the proposals of reform have been downsized or cut off at the stage of the final approval of the policy. The first reform that directly addressed the topic of autonomy (and that did not fail) has been the so-called Ruberti reform, from the name of Minister of Education at that time. With respect to the topic of satellite universities, the main bulk of the reform is represented by Law n°168/1989 which, first of all, created the new Ministry for University and Scientific Research, as a separated body from the already existing Ministry for Public Education, with the aim of symbolizing autonomy and the aim of focusing the attention on research issues in particular. Second, the law allowed universities to write down their own Statutes if the Parliament would have not ruled with a specific law on autonomy (framework law) within a year. One year passed without any framework law, so starting from 1991 single universities started slowly to approve their own Statutes. The reform was developed with the idea that the principle of autonomy was the right tool to make the university more flexible and closer to the needs of the society and the economy. Law n. 168/1989 has been considered a milestone in the process of reform of higher education for being the first one addressing the issue of autonomy and the first to grant it effectively, the first encompassing reform of the system that came after many years of contingent measures, taken under a sense of emergence, and oriented only to reduce the effects of already ongoing processes (Vaira 2011). The reform was then completed by other important measures about teaching: two-years programs with a professional orientation (diploma universitario) and some measures about financial supports of students through scholarships and grants were introduced. As far as the topic of satellite campuses is concerned, another important step is represented by Budget Law for 1994, which among others, changed the ways of funding of universities.

Before 1994, the public funding coming from the Ministry was clearly divided in sub-sections entitled to specific activities (professors, libraries,...). After budget law n. 537/1993 universities were free to allocate their funding on the basis of their

preferences, given some guidelines, and gained autonomy in defining the amount of students fees (within some strict limits decided centrally by the Ministry, i.e. students fees cannot represent more than 20% of the funding coming from the Ministry).

Loosening the control of the central State over the allocation of funds and allowing the single universities to write down their own statute and regulations over teaching and research was considered as the best policy in order to make universities more responsible and thus to increase their performances.

According to some authors (Capano 1998, Vaira 2011), the implementation of the reform of 1989 was slowed down by internal resistances from part of the academic corporations that opposed any sort of change and also from part of the students who performed an ideological conflict against the opening of the university to external actors (as we have seen in chapter 3). Thus, the following measure about the budget allocation has been interpreted as a top-down move (a measure about the organization of universities included in a general budget law) put in action in order to enhance the implementation of the reform.

Whether a consequence of this process of reform, or depending on other factors, the point is that the founding of satellite campuses boomed in this period. But it seems that the process of founding follows own paths of development, since some of the satellite sites appeared already years before the laws on autonomy and continued to be founded even many years after the implementation of the laws. We will see in following chapters whether and to what extent the association between the two events can be verified by our empirical analysis.

In the decades after Ruberti reform in 1989, the issue of autonomy of universities continued to be placed on the foreground. Also during the preparatory stages of the reform that will occur in 1999, led by a committee of experts headed by prof. Guido Martinotti and nominated by the Minister for University and Research Luigi Berlinguer, autonomy remained one of the pillars. The final report elaborated by the committee identified autonomy as one of the tools for the modernization of the higher education system: once satisfied some general requirements defined at central level, the universities are free to behave and plan their activities within the

framework of the autonomy, in a bottom-up perspective that try to foster innovation from the bottom, as opposed to what occurred up to that moment, when every change was driven by the top (Vaira, 2001).

As far as our topic is concerned (i.e. satellite campuses), the transition to the new model, called “3+2” (undergraduate + graduate degree), had consequences on the number of programs and courses provided by the universities, that increased the supply also in their satellite campuses (if available). The trend of founding of satellite campuses registered an increase in the first five years of the 2000s (tab. 10).

**Tab 10 Number of satellite sites (net, including closures)**

	1960	1980	1985	1990	1995	2000	2005	2010	2011
<b>Italy</b>	<b>4</b>	<b>12</b>	<b>12</b>	<b>23</b>	<b>54</b>	<b>85</b>	<b>115</b>	<b>114</b>	<b>109</b>
North-west	0	6	5	11	25	29	34	33	29
North-east	2	3	2	6	10	14	17	18	18
Center	2	2	2	2	9	17	27	30	30
South	0	1	3	4	10	25	37	33	32

Source: own elaboration

In the following years, the debate over satellite campuses became harsh. It even worsened in following years, with the center-right Berlusconi government in power since 2008 and during the preparatory stages of the reform of higher education made by its Minister of Education M. Gelmini (approved in December 2010).

The political debate over the efficiency and sustainability of the current higher education system in general (and on satellite campuses in particular) was quite bitter, accusing satellite campuses of being a waste of public funds, the result of personal interests and local powers. On the side of communication, the preparatory stages of the reform were characterized by the recurrence of the need to “reduce”, to “shrink”, to “cut” all the sources of waste of the public higher education system, among which, satellite campuses were addressed as the main responsible. The tone



of the debate can be gathered by some press articles that appeared on the major national newspapers<sup>43</sup>:

*“ (...) a phenomenon that Censis defined as “the doorstep university”. (...) the logic behind the decentralization process is the one of Risiko: occupy territory. Or rather to satisfy vanity and demagoguery of local governments” (our translation, La Repubblica, June 27, 2009)<sup>44</sup>*

*“Satellite campuses represented an increase in teaching and often a fraud against students, providing them with a tertiary level education that has very little to do with tertiary education” (our translation, Corriere della Sera, October 29, 2009)<sup>45</sup>*

*“...an inefficient and squandering structure has been created, ruled by an academic corporation oriented to its own interests (...) a non-sense increase of disciplines, of degree programs and satellite campuses (have been created) with the only aim of multiplying vacancies for faculty members” (our translation, Corriere della Sera, June 5, 2010)<sup>46</sup>*

On the other side it is true that local governments played a key role (see 5.2). The rhetoric of local development and knowledge society filled all the speeches and documents of local administrators, at regional but especially at province level. It seemed that every province, every town needed -and had the right to claim for- knowledge, research and innovation as the pillars of local economic development and the basis for its competitiveness. On an informal level we can assume a convergence between local interests and the mother university. We will describe in detail the dynamics behind the opening of a satellite campus in next paragraph, but here we can briefly summarize that there were reasonable benefits for both parties: for the first group the presence of the university on the territory may be exploited

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<sup>43</sup> The translation smooths the strengths of the original sentences, for this reasons we provide in note the original quotation for Italian readers.

<sup>44</sup> Original sentence: “Un fenomeno che il Censis ha definito “l' università sotto casa”. (...)si decentra con la logica del Risiko: occupare il territorio. Oppure per soddisfare vanità e demagogia di amministrazioni locali.” (“Le sedi decentrate tra Risiko e demagogia”, La Repubblica, 27 giugno 2009)

<sup>45</sup> Original sentence: “Le sedi decentrate hanno rappresentato una moltiplicazione della docenza e molto spesso anche una truffa a danno degli studenti, offrendo loro un servizio universitario che di universitario aveva molto poco (“Nel mirino i mini-atenei: 37 corsi con un solo alunno «Ora devono fondersi»”, Corriere della Sera, 29 ottobre 2009).

<sup>46</sup> Original sentence: “(...) è venuta crescendo contemporaneamente una struttura inefficiente e sperperatrice, governata da una corporazione professorale volta quasi sempre ai propri esclusivi interessi. (...) una moltiplicazione insulsa delle materie, dei corsi di laurea e delle sedi decentrate al solo scopo di moltiplicare i posti per i docenti (“Tra illusioni e pregiudizi”, Corriere della Sera, 5 giugno 2010).

for electoral purposes: the university can be shown to electors as their own achievement, in terms of prestige and contribute to the innovation of the local economy. From the point of view of the mother university the costs of opening a new satellite site are quite limited: infrastructures for teaching (buildings, maintenance,...) are often paid by local governments; faculty members are paid by the State (professors are public employees in the Italian higher education system); finally the increased number of students allowed universities to claim for more funding from the State (in the distribution of funding the number of students enrolled still matters) and partly meant more revenues coming from tuition fees. Everybody claimed for a university or at least a “piece” of university, i.e. a satellite campus, on their territory. Representatives of local governments (at province and regional level), representatives of semi-governmental bodies (like Chamber of Commerce, banking foundations) or social parts (for example the association of employers) filled their speeches with the need of research and innovation to re-start local economies (for disadvantaged areas) or to keep the pace with external competition (for well economically developed areas). The presence of institutions for tertiary level education was considered a key condition for local development, even in cities’ strategic plans for the development of territories<sup>47</sup>

But research and innovation, as general post-secondary training, were not enough: they had to be excellent. Excellence is a recurrent topic in these respects, every territory wanted to have a piece of university that was “special”: innovative, research oriented and different from (often wishing better than) the mother university, super specialized over the issues of interest for local economies. But it is a never-ending race toward specialization and uniqueness that seldom is what territories need. There is a sort of detachment between the political ambitions and aspirations of prestige by local governments and what territories actually need. Economies of the Italian provinces (as the national economy in general) would be hardly able to receive and exploit innovative scientific research by its own: the economic structure is based on small firms, often family-run, based on traditional productive sectors with low levels of specialization and innovation. Without the help of intermediary agencies, of encompassing and organic public policies for

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<sup>47</sup> See <http://www.pianostrategico.cuneo.it/documento-di-programma.html>

innovation, the dialogue between research and local economies is hard to be successful.

Rather, as far as we are concerned, the presence of satellite universities on those territories would be more fruitful if interpreted in the framework of a differentiation of the higher education system. Despite the persistence of a unitary model, demand for education in the mass system is not the same for all: not everybody aims at receiving the same kind of education. There could be a portion of this demand that is more oriented to vocational training or has specific needs (for example adults or working-students) that could be better answered by a local campus. Further, local firms could better benefit from graduates trained in vocational, professionally oriented degree programs tailored on the needs expressed by firms, rather than having a counterpart that produces research and innovation that they do not know how to use and cannot exploit. But this is not the case, at least at the present moment. Becomes clear the distance between the rhetoric and what happens in reality: the programs that are taught in the satellite campuses often have a generalist orientation that can hardly be justified by the needs of the local economy, and representatives of employees are often marginally involved, if not absent, in the process of creation of satellite campuses.

The point is that, regrettably for territories, nobody wants to have a B-series higher education institution. What is interesting to notice is that, despite the rhetoric and the ambitions of locals, satellite campuses in reality continue to have difficulties in being considered on the same level of universities, and if not formally, at least informally, they are perceived commonly, among citizens, as a lower ranking institutions.

This difference in what are satellite universities on a formal level and how they are perceived on an informal level reminds a typical trait of the Italian institutional context, where there are often two separated levels coexisting: a formal, normative level in which the actors play as they *should* play (or how they are expect to), following the ritualistic and prescribed roles assigned to them, and an informal level, characterized by the *actual* behavior of actors. With respect to the case of satellite campuses, on a formal level institutional actors assure that qualifications attained in a satellite campus have the same legal value as those attained in the

mother university, and no objections in terms of levels of quality provided are made in formal communication. However, off the record on an informal level, the perception among citizens<sup>48</sup> that satellite campuses are not equal in status to mother universities is common. The fact itself that most of them only provide undergraduate courses identifies them as a different entities compared to the original ones (the mother university) and the ideal candidate for being the provider of more business-oriented higher education institution.

## 5.2 *Satellite universities: three case studies*

In the following paragraphs we illustrate some case studies about three specific satellite universities, chosen among the universe on the basis of specific characteristics. Two of them represent the early stages of the development of satellite sites (1950s-60s), while the third case is about the mature period of spread of satellite universities, in the 1990s. Two of them are located in the north of Italy, one in the center; with respect to the origin of funding, we encompass all the possibilities: one is public, one is private (confessional) while the third was (at the time of the events) a free university, funded by local administrations.

The focus of the first two cases is mainly on the phase of founding, on the historical conditions and events that led to the opening of the satellite campus, while we will not investigate the further stage of functioning of the new campus. In the third case, instead, we will start analysing the phase of foundation and the rationale that brought to the opening of the satellite campus, but we will also be able, given its temporal proximity, to investigate the recent (and most recent) developments<sup>49</sup>.

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<sup>48</sup> We do not have yet evidence about the perception of employers in this respect, but it would be an interesting area of research.

<sup>49</sup> A limit of this case study section is represented by the difficulties in collecting historical materials for the early period (generally before the 1990s). Literature that reconstructs the historical development of satellite campuses is very scarce (if not lacking at all) and fragmented in single university's publications. Archival data may be another solution but the access is regulated by the university and the process of admission is not easy (besides being highly time-consuming). Another problem related to the collection of data, in particular for the description of the environment, the actors and the dynamics associated to the founding of the campus is represented by the difficulties in interviewing the actors (as previous provosts, deans, professors or presidents of the province administration) involved in the process at that time, that often are currently retired or no longer available.

Before dealing with the three cases in detail, we introduce some considerations about the theoretical model that lays behind the case of satellite universities. We will try to elaborate a theoretical scheme that leads us in the interpretation of the events, by identifying the key actors and the directions of relationships among them.

Two main factors are recurrent in the histories of satellite campuses (not only of the first ones but also of those in 1990s): the crucial role played by local actors and the convergence of interests among them and parent universities.

We can summarize our model as composed by mainly three actors:

- a) parent university (the university that generates the satellite campus, with the latter dependent on the former)
- b) local institutions (term used to generally refer to province and town level administrations, accompanied by religious associations, religious and secular charities, cultural associations)
- c) national State

We can figure out that in our model the opening of a satellite campus can bring benefits to the first two actors, at the expenses of the third one:

a) the mother university has a series of benefits: increases the number of students (with positive consequences in terms of tuitions and public resources available); increases its importance on the territory, improving the coverage on the geographical area where it is located; it increases its importance in terms of size, students and personnel compared to the other (competitor) universities. Further, academic corporations might benefit from the opening of a satellite campus and the associated opening of new positions, which permits them to allocate junior scholars, representing a relief valve for reducing internal completion for academic jobs;

b) local governments and local lobbies on their side, finally satisfy their desire of increasing legitimacy and power by becoming “a city with a university”: the fact of presenting to their constituency the success of having a university on the territory (often masked with the rhetoric of local development, knowledge and innovation) brings in electoral advantages. For them, the counterpart is that they have to

contribute to support financially the creation of the satellite campus. But actually, here comes on the scene the third actor;

c) national state: part of the resources for the opening of satellite campuses come indeed from the territory, by means of local associations and charities, but most of the resources coming from local governments are *de facto* resources transferred from the center, national resources. The national state is the only actor that has something to lose in the game: the amount of resources transferred to both the territories and the universities increases, and what does it have in turn? Something that we might define as a short-term benefit: a higher number of infrastructures for higher education that in the short period may help in meeting an increasing demand, but soon the game will slip out of control and will turn into a problem. On a micro level, however, we might believe that some representatives of the state could have personal gains at the expenses of the public actor. The recurrent trait of the Italian society by which the particular tends to prevail at the expenses of the public seems to emerge again in this field. Ministers (but even high-rank officials) might have benefitted on a personal level from a generous management of public policies, that resulted in prestige and consensus among their constituency.

There are then two additional actors that integrate the framework:

d) firms: they are an actor that would be potentially interested in the development of satellite campuses but, despite the rhetoric about the importance of a university on the territory for supporting technology transfer and innovation in the local system of firms, the involvement of companies remains pretty limited. Some representatives of employers sit in the associations generally constituted for the funding of the satellite campus, but their contribute tends to remain marginal<sup>50</sup>. Thus, despite the stress given to possibility of benefitting of a positive cycle of production-diffusion-transfer of knowledge and to the importance of a joint

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<sup>50</sup> We will see that early, in the case of Piacenza campus of Catholic University, the farmers' association was quite critical, and later on as well, in the case of Cuneo campus by the University of Turin, representatives of employers are not member of the association created for the management of the campus, and only in very recent years only the local chamber of commerce brought its contribution.

planning of teaching activities for improving workforce training, we might assume that actually firms as a collective actors are set apart of this process, maybe because not interested or maybe because they do not even have the tools for dealing with this issue<sup>51</sup>.

e) students (and their families): in this work we only concentrate on the macro level (universities as organizations) and we only consider some macro-level indicators of students in the following empirical analysis (as the number of students enrolled), however we believe it is useful to mention that on a micro level, the characteristics of students enrolled in satellite campuses diverge by those of students enrolled in the headquarter. There exist little empirical research on the subject, but some authors (Cassone 2009; Bertolini, Melis 2010; Goglio 2011; Rossi, Goglio 2013) highlighted that those students enrolled in satellite campuses, compared to those enrolled in the headquarter, more often come from families with lower social and economic background, have a higher age at the moment of enrolment and more often are working-students. For the sake of the argument we will not go down in detail here but, considering also the very low level of mobility of students and the underdevelopment of policy for students mobility that traditionally characterizes Italy, we can assume that those actors might have played a role in claiming for the creation of local infrastructures for higher education. As we will see later in our case studies, the pressure coming from the bottom characterizes both the early and later stages of development of the satellite campuses.

However, the relationship among the three main actors (local institutions, universities and state) have not always been stable over time, but rather the state support to satellite campuses is a complicated issue: the behaviour of national governments toward satellite campuses changed radically over time. At an early stage, at the time of the first experiences, central governments were quite severe on

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<sup>51</sup> There is little literature in this field, but some preliminary evidence (Bertolini S., Goglio V., 2012 “Capitale umano e società della conoscenza: i laureati nelle imprese cuneesi” Quaderni Fondazione CRC, n. 15), shows how often local firms do not need (over)qualified employees due to their small size and their specialization in mature sectors. And further, small and medium firms have often difficulties in developing medium-long term plans of human resource management.

the possibility of new faculties, motivated by concerns about the inflation of educational credentials that would have followed with consequences on the employability of graduates. This moderate and hesitating behaviour contributed to keep under control the diffusion of the new organizational form. The attitude radically changed and was transformed in even a supportive and favourable legislation in the 1990s (the provision of satellite campuses was explicitly enhanced in development plans by the Ministry). The behaviour of the central government then changed again in last decade, and become very hostile: at least in terms of public discourse, the satellite campuses were almost entirely identified as a source of waste of public resources, a place where academic corporations could satisfy their desires of power and a low-level track of higher education detrimental to students, for whom the only solution was the closure (in practice, about 10% of satellite campuses were closed between 2005 and 2010). If we come back to the scheme drawn above, we might try to interpret this change as follows: at a first stage local actors and universities, linked together by convergent interests, found a compliant counterpart in the state. The state, despite being the weakest and more disadvantaged actor in the game, maybe pressed by the steep increase of enrolments (and maybe led by private interests of high-rank officials involved), decided to cooperate with them assuring financial and legislative support. At a second stage however, the state stopped cooperating, denied its involvement and withdrew radically from the game. It is not easy identifying the source of such a radical change, but we may believe that the coming up of a period of fiscal crisis and general shrinkage of public expenditure in European countries between late 1990s and 2000s (in particular in a country like Italy, already under pressure due to the high level of national debt) made expensive public policies no longer feasible. A serious period of shortage wakes up an actor that up to that time was compliant with most of its constituencies, but as soon as the macro environment turns bad, starts realizing that the initial project quickly slipped out of hands and tries to bring it back under central control, but dynamics already have a life of their own.



### *5.2.1 Catholic University of the Sacred Heart, Milano: satellite sites in Piacenza and Brescia*

The Catholic University of the Sacred Heart of Milan was the first Italian university to open a satellite campuses, already back in the 1950s. This is the reason why we consider it worthy of being the first case study, in order to investigate the initial steps of the phenomenon.

The university was founded as a private confessional university in 1921, recognized by the Minister of Education in 1924 with Gentile Reform. The founder and spiritual father of the university was Father Agostino Gemelli, a medical doctor, that elaborated the idea that a new elite trained on the basis of catholic values was needed. The purpose was to create the basis (made up of highly educated men) for a new ruling class that would have brought the catholic movement on the foreground on the political and social arena (Carera 2010). To better understand the conditions of the founding, we remind here that the national education system (higher education included), was designed on the basis of liberal and secular values (even anticlerical), as the effect of the attempt to define the identity of the new national state toward liberal values (see chapter 3). After the unification, the higher education system was monopolized by the State, with the ideal of educating people to citizenship, as opposed to the dominance of the Church (also due to a more secular dispute over the control of territories by the new Italian Kingdom). It turned to have effects on the lower levels of education (mainly primary) and on higher education as well (i.e. abolishing faculties of Theology in 1873). The history of the Catholic university is rich of interesting episodes but, for the aim of the chapter, we will focus only on the events that led to the opening of the first satellite campuses.

Between mid-1950s and mid-1960s the Catholic university opened three satellite campuses: Piacenza in 1953, Rome in 1958 and Brescia in 1965. We will deal here with the satellite campuses in Piacenza and Brescia, rich in terms of available literature and closer to our interests, while we will only briefly approach the case of Rome.

Before starting, it is important to mention that a very early version of satellite campus was represented by the opening in 1926 of a special section<sup>52</sup> of the school of Magistero (an old version of the Faculty of Education) in Castelnuovo Fogliani (Piacenza). But it was not fully a satellite campus, since it was a detached section exclusively reserved to nuns, designed for improving training of nuns involved in (primary) education, preserving them from the “risks” associated to the contact with a gender mixed university (the headquarter in Milan) and in general with the society.

The opening of the School of Agriculture in Piacenza in 1953 was the very first experiment of extension beyond the borders of the headquarter.

The original ratio of the satellite campus in Piacenza can be traced back to the conditions of Italy and Italian economy in the early period after World War II: Italy was a rural country, seriously backward compared to other European countries, people working in agriculture lived in conditions of extreme poverty, and the backward methods of production needed to be substituted with modern techniques that could increase productivity and efficiency. The founder and provost of Catholic university, father Gemelli, saw the potential of studies in the field of agriculture that could support and boost the development of the country. From here the idea of establishing a school of agriculture in an area characterized by rural tradition, about 90 km south of Milan, in Emilia Romagna region. It worth noticing that the area chosen by father Gemelli, although being rural, was actually one of the most advanced rural areas of Italy, with some degrees of industrial organization in the agriculture and food sector, and good potential of development in terms of variety of cultivations and stock-breeding.

Actually, a very first proposal for a school of agriculture was advanced by some professors from University of Macerata<sup>53</sup>, in the center-east of Italy, that proposed Gemelli to use a donation made by a local nobleman, explicitly designated to the establishment of a school of agriculture which realization should have been left to clericals close to the Pope, and subtracted to any interference of civil

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<sup>52</sup> Apostolico Istituto del Sacro Cuore

<sup>53</sup> We will see in next paragraph that the University of Macerata in next years will refuse the offer made by the Consortium of Ancona for the establishment of a faculty of Economics.

administrations (municipality or province) (Bocci 2008). But the project was soon put aside, due to problems associated to the war (the proposal arrived in 1943) and due to legal problems associated to the use of the donation. An important aspect of the foundation of the school in Piacenza is the involvement of all levels of local actors: all church-related institutions, from upper levels to single parish, but also civil authorities and, among them, even those politically far from a catholic orientation. It has been described as a joint effort for a common superior ideal, an example of mediation and integration of the different components of the local society (Bocci 2008). A crucial role was played by the prefect<sup>54</sup>, and the provincial and municipal administrations of Piacenza: from a political perspective the latter were characterized by moderate and center-oriented currents (christian-democratic and the moderate wing of the communist party), quite rare for that region and for that historical moment (mainly characterized by the presence of the communist party) (Bocci 2008). An expression of this cooperative effort was the establishment of EPISA (Ente provinciale di istruzione superiore agraria) in 1948, one year before laying the foundation of the buildings of the school (the foundation stone was laid in 1949). EPISA was an agency in charge of collecting and coordinating the contributions coming from the local institutions, civil and religious, associations and other bodies that supported the opening of the school in Piacenza<sup>55</sup>. It is still active nowadays, changed its name in EPIS<sup>56</sup> (Ente di Piacenza e Cremona per l'istruzione superior), and extended its support to all the schools present in the joint satellite campus of Piacenza and Cremona. The

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<sup>54</sup> The prefect is an organ of the state, representing the national government on local level, specifically, the province. There is one prefect in each province.

<sup>55</sup> The bodies represented in EPISA were: Istituto Toniolo, Catholic University, Opera Pia Alberoni, municipalities and provincial administrations of Piacenza and Cremona, the prefect of Piacenza, Chamber of Commerce, Association of farmers, Association of entrepreneurs, Association of retailers, Bank of Piacenza, the bishop, the body for the reconstruction of Piacenza, consortium for technical education, the civic hospices (Bocci 2006, p. 294).

<sup>56</sup> Current partners of EPIS are: Amministrazione provinciale di Cremona, Amministrazione provinciale di Piacenza, Banca di Piacenza, Camera di commercio, industria, artigianato e agricoltura di Piacenza, Comune di Cremona, Comune di Piacenza, Confederazione nazionale Coldiretti, Confindustria, Diocesi di Piacenza-Bobbio, Fondazione di Piacenza e Vigevano, Istituto Giuseppe Toniolo di studi superiori, Opera pia Alberoni, Regione Emilia Romagna, Unione Commercianti, Unione Provinciale Artigiani, Università Cattolica del Sacro Cuore (Banca di Piacenza newsletter, 2008).

organizational design of Episa mirrored the structure of Istituto Toniolo (involved in Episa as well), the founding organism of the Catholic University.

The new school needed the central approval by the Ministry of Education and Ministry of Agriculture, in order to confer degrees with legal validity. This process was not easy: actions explicitly directed to limit competition were taken by the University of Milan, which put pressure on the Minister of Treasury, trying to slow down the process of approval of the new faculty, afraid of the potential competition for students (as already happened in the 1930s when private university Bocconi of Milan explicitly hampered the project of Catholic university to open a school of Economics (Bocci 2006, 2008)). Anyway, the process ended up in a first good evaluation by Consiglio Superiore della Pubblica Istruzione (of which Gemelli was member since 1948). The support by the ministry of Education Antonio Segni and the help by some christian-democrat members of the Parliament led to the final decree of establishment signed by the President of the Republic in August 1951<sup>57</sup>.

An interesting point is that Gemelli, in a speech to the Ministry aimed at obtaining his approval, defines the school as a “free school” inside the body of Catholic university, comparing the new faculty with the few free universities existing at that time. The aim of provost was to show that, given the associative nature upon which the school is rooted, financially sustained by the bodies that promote them, nothing is requested to the State in terms of economic resources for its founding of functioning, thus the approval should not be denied (Bocci 2008). Further, in order to prevent worries about the job placement of graduates coming from the Ministry of Education<sup>58</sup>, Gemelli explained that the involvement of local institutions could have been a guarantee in this respect.

However, even in this context the establishment of the new school could not avoid critiques, both on local and national level. First, the idea of the new school was opposed by the farmers, suspicious and frightened by the idea of having

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<sup>57</sup> Decree n. 1774, 31 agosto 1951

<sup>58</sup> It is interesting to notice that, despite worries about the job placement of graduates seems to be a side effect of the transition to a mass system of higher education, actually already at that time the Minister of Education already worried about the proliferation of graduates “(...) avrebbe pesato agli occhi della Pubblica Istruzione, ostile alla moltiplicazione di Facoltà che non davano sbocchi lavorativi ai propri laureati.” (Bocci 2008, p. 179)

technicians controlling their work, considering any technical education as useless compared to (their) experience developed through informal training. Second, the opposition came from the political arena, in particular by the left wing: since the Catholic university was seen the mother of the christian-democratic current, the new school would have been the nursery for growing agrarian reformers of clear christian-democratic orientation (Bocci 2008). This caused some delayed and/or missing donations by some of the partner member of Episa and in political debates in the civil local institutions. Problems of fund raising were constant through the whole process that led to the opening of the school, so that at a certain point (1952) it was considered the opportunity of involving the Province of Cremona in the Episa. This move was explained by economic reasons first (the Province of Cremona had some interests in using the school for the development of its own territory, and contributed with a fair donation) and second, it was a way for not limiting the initiatives of the Catholic university to single cities. Further, in order to increase the connections with the territory and showing the contribution of the school in improving the everyday management of rural affairs, some courses reserved for non-university audience were organized (for example a course specific for priests on modern techniques in agriculture, with priests in charge of transferring the knowledge to their followers in the countryside; a course for wine producers organized jointly with the local Chamber of Commerce).

The satellite campus opened in Brescia in 1965 is the third experience for the Catholic university, the sixth example on national level (see tab 9). The satellite campus in Brescia was opened in 1965, first hosting the school of Magistero (faculty of Education), then in 1971 a faculty of sciences<sup>59</sup> was added, followed by a faculty of sports in 1974 (Carera 2010).

Since the beginning the focus of the campus in Brescia was on education, teaching and the training of teachers. The roots of this orientation can be find in the local environment: once again the actors of the territories play a crucial role for the establishment of the satellite campus. Since late XIX century there has been an intense exchange between the catholic movement in Brescia and the one in Milan,

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<sup>59</sup> With a single course in the teaching of mathematics.

headed by Gemelli. The former has always been a reference point, supporting ideally and financially (through donations) the project of establishment of a catholic universities. Further, in Brescia there was an active catholic publishing sector, with the publishers “La Scuola”, “Morcelliana”, “Queriniana”, a long tradition of pedagogic studies and many institutions (for example Fondazione Giuseppe Tovini) and personalities of the local church with whom Gemelli was in close relationship. That network of relationship seemed to fit particularly projects of educational studies, keeping in mind the greater aim of father Gemelli, of creating a new elite class of catholics: educational studies would have been the first step to train teachers who would have trained the future members of this elite class<sup>60</sup>. However, despite the project of a school in Brescia was circulating since the late 1930s, the institution of a school of education, specifically, met some obstacles. From one side it was considered inappropriate given the circumstances: Catholic university had already a school of education in Milan; the Ministry for education questioned the existence itself of Magistero, as such, planning a reform of that schools; further, the Ministry would have raised worries about job opportunities of those graduates (Bocci 2006). On the other side, the provost who took the place of Gemelli (who passed away in 1959), Francesco Vito, was more interested in a school of Economics. Vito was an economist as well, which made him more sensitive to the requests of an increasingly dynamic local economy. The second choice would have been a school of Science, given that professors of University of Parma were no longer available to teach in the section for nuns in Castelnuovo Fogliani. An additional concern was about the risk of cultural narrowness implied in establishing a small university in a small city: “the small university in a small city, (...) is now sign of isolation and intellectual poverty, even more than poverty in libraries and scientific infrastructures” (Bocci 2006, p. 276, our translation)<sup>61</sup>.

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<sup>60</sup> Interview to Aldo Carera, professor of Economic History at the Catholic University of Milan, (June 11, 2012)

<sup>61</sup> Original sentence in italian: “la piccola università nella piccola città, un tempo simbolo di raccoglimento e di lavoro fecondo, è oggi segno di isolamento e di povertà intellettuale prima che di povertà di dotazioni librerie e di strumenti scientifici” (Bocci 2006, p. 276)

In 1962-64, the doubts of the provost and other personalities were won, thanks to the mediation of some personalities of the church (the archbishop) and from the catholic environment (Istituto Toniolo). They finally agreed on the project of a faculty of Magistero in Brescia and in fall 1964 a civic committee was created as expression of the different components<sup>62</sup> (religious and lay) working for the settling of the university in Brescia, that gave origin to EBIS (Ente bresciano per l'istruzione superiore).

However, unlike the case of Piacenza, local actors did not build a compact group, a divide was running between lay and religious actors: a part of the actors, maybe worried by the power that the religious component was going to take, even started to take contacts with State universities (University and Politechnic of Milan), negotiating the opportunity of their settlement in Brescia and created a new, rival, committee: CUB (Consorzio Universitario Bresciano) made up by the municipality and the province administration.

In 1965, pushed by the urgency of preventing competing initiatives, an agreement inside the catholic environment was reached: the provost accepted to settle down the school of education first, but with the commitment to develop a similar project for a school of science in following years. On their side, the promoting committee accepted the conditions given by the Catholic: the new school would have been totally under the control of the mother university. Finally, once approved the statute of the EBIS (with the aim of overcoming the split between the two components of funders -EBIS and CUB), in November 1965 the new courses of education started and the satellite campus in Brescia was officially opened.

Two interesting points are worth to be highlighted here: on one hand the idea of a university in Brescia was never questioned. The dispute was mainly on which kind of school to establish, but local authorities did not want to give up the opportunity to be a university site. On the other hand, faculty members of the Catholic university were put under pressure for opening satellite campuses in other cities of Italy. We can see that already at that time, there was a sort of rivalry, a race among

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<sup>62</sup> The early members of this committee were: La Scuola publisher, Morcelliana publisher, Alma Tovini Domus, Collegio Arici, and two local banks, coordinated by the bishop (Bocci 2006).

Italian cities that desired to be the location for a new university settlement. Despite it is considered a typical trait of the 1990s, the period of major expansion of satellite campuses, we can find its roots already here, thirty years before. We can assume that a bottom-up pressure was existing already since the period after World War II, but the pressure was kept under control (despite not systematically) by a strongly centralized system up to the 1990s, when the requests coming from the territories slipped out of control.

Another interest point is represented by the juridical form that the new school took. If the school of education in Brescia would have been established as a brand new school, an approval from the Minister of Education would have been required. Yet, the line of the Minister was to oppose the opening of new schools, even more in the case of an already existing faculty of education in the headquarter (as in the case of Catholic university, that since 1936 had a faculty of Education in Milan). Thus, the solution was to split the already existing school of education, keeping a single dean and a single executive board. This operation figured as an internal re-organization only: the splitting of chairs in different locations, keeping the original unity of the school, did not meet juridical obstacles and was taken away from the check by the Minister. Further, the opening of the campus has been justified by data about enrolments: the number of students enrolled in the faculty of education was constantly increasing in the headquarter and among them, 15% came from Brescia (Bocci 2006).

Finally, few words on the opening of the school of Medicine in Rome. It was the second satellite campus of the Catholic university (and the second experience in Italy), established in 1958 by a Ministry Decree, and officially opened in 1961. The opening of a school of medicine has been for many years an intense desire of father Gemelli. Agostino Gemelli, a medical doctor himself, since the opening speeches in 1926/27 considered the Catholic university as “incomplete, unfinished” since lacking of a medical school, that would have represented the field where the perfect union between science and Christian values could have been reached (Carera 2010). There is little literature on the steps that led to opening of the school in Roma, but the main driver for the location of the school was the



donation made by Pope Pio XI to Catholic University<sup>63</sup>. The donation included a big parcel of land (with a church and annex building) in the periphery of Rome. The school was associated with a hospital, in order to combine theoretical training with medical practice. In the following years, in mid-1960s, were added new courses for professional nurses and obstetricians.

Currently, the Catholic university has 4 satellite campuses, beyond the headquarter in Milan: Brescia, Rome, Piacenza and Cremona (jointly), Campobasso.

### *5.2.2 Free University of Urbino: the satellite university in Ancona*

The University of Urbino has a long tradition that can be traced back to the XVI century, when the interests of Pope Julius II and the Duke of Montefeltro met, both aimed at extending their power over that area. Thus, a Studium Generalis was settled down with the papal bill of 1507. In mid XVII century the dukes lost their power over the territories, and the civic administration took their place, sharing the jurisdiction on the university with the Church.

In 1862, just after the unification of Italy, the laws reorganizing the higher education system of the new state established that the University of Urbino had to be included among free universities (Matteucci law), which meant that formally no financial burden was on the side of the State and rather local administrations were entirely in charge of the funding of the university<sup>64</sup>. However, in 1951, law n. 1551 established that free universities could receive a State contribution as a form of compensation, as a result of the exempt to tuition fees for students with economically disadvantaged background. Only in 2006, by means of a decree of the Ministry of Education dated December 22, 2006, the university had been transformed in a state university.

Currently the University of Urbino falls into the category of middle university, with more than 14.000 students in the academic year 2010/11. Currently the University has two satellite campuses, one in Fano and one in Pesaro (within the same province).

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<sup>63</sup> Interview to Aldo Carera (June 11, 2012)

<sup>64</sup> Testo unico delle leggi sull'Istruzione superiore, 1933, art. 4.

The Free University of Urbino was the second university to open up a satellite university, and the campus established in 1959 in Ancona was the third experience of satellite university in Italy (after Piacenza and Brescia by the Catholic University). In the case of the satellite campus in Ancona the role of local actors emerges as particularly determinant, more than in all the other cases we take here in exam. Indeed, the establishment of some sorts of university settlement was strongly claimed by local administrations since the first years after the end of World War II. Furthermore, two towns of the same region<sup>65</sup>, at the same time, competed not only for attracting the university on their territories, but specifically for having a faculty of economics, and all of them were well equipped with local committees ready to design proposals and financial plans (Sori/Martellini 2001). At that time three universities were active in the region (Marche): two free universities in Urbino and Camerino and a state university, in Macerata. However, local actors perceived an urgent need of new faculties (in particular those considered more useful for local development: economics, medicine, engineering) and a geographical re-allocation of the university sites (in particular Urbino and Camerino were located in centers geographically isolated and difficult to reach). In 1948 the administrations of Ancona, Ascoli and Urbino produced a formal document that was submitted to the Minister of Education, requiring the settlement of 7 new faculties<sup>66</sup> distributed over 5 different locations<sup>67</sup>, to be placed under the administration of the universities of Urbino and Camerino. Among those 7 faculties, the faculty of Economics was claimed by three towns at the same time: Ancona, Ascoli and Urbino. However, no agreement was reached among the three on which town should have been the definitive location. This aspect weakened the proposal, that anyway, was rejected entirely by the Minister, with the motivation that the jurisdiction should have been transferred to the future new regional administration (at that time in the phase of settlement) and that the towns should have expressed a common position over the location of the new faculty of

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<sup>65</sup> Ancona and Ascoli

<sup>66</sup> Faculties of: economics, medicine, engineering, humanities, agriculture, physic-mathematics and school of music.

<sup>67</sup> Ancona, Pesaro, Camerino, Macerata, Urbino (with the latter three already university sites)

economics. In the meanwhile the town of Ascoli (since 1947) organized a local “Consortium for higher studies” made up of the municipality, province administration and the local chamber of commerce, that arranged some preparation courses for local students enrolled at the faculty of economics of the University of Rome. After ten years, in 1957 the town of Ancona, by means of the newly constituted Consortium (again made up of municipality, province administration and local chamber of commerce), presented a new proposal to the Minister, for the establishment of the Free University of Ancona. However, the Minister refused the second request as well. The Minister motivated his refusal on the basis of considerations about the opportunity of reinforcing already existing universities rather than creating new ones, and on considerations about the worry of increasing the number of graduates that would have faced problems of unemployment.

After the second rejection, the members of the Consortium had to downsize their expectations but did not give up their project and immediately after started a process of negotiation with the existing universities. First, they asked the support of the State University of Macerata, preferred to the other two free universities in the region, since an agreement with a state university would have been a low cost solution, given that the request of public funds would have been easier, and the state recognition for the new faculty would have been quite rapid. However, the University of Macerata was not interested in the project and refused the proposal<sup>68</sup>. Finally the negotiation process met the interest of Carlo Bo, provost of the Free University of Urbino, a relevant Italian economist, that already had some ambitions of founding a faculty of economics in his university. The two parts reached easily an agreement in 1959, thanks also to the very favorable conditions offered by the Ancona Consortium: the cost related to the funding and functioning of the new faculty fell entirely on the Consortium and the University of Urbino

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<sup>68</sup> It is interesting to notice that in 1943 a proposal for establishing the faculty of agriculture was instead moved from some professors of the University of Macerata to the rector of the Catholic University (see previous paragraph). However, we can hypothesize that at that time the proposal was based on the spontaneous initiative of some professors of the University of Macerata, close to the catholic movement, but lacked the support of the leadership of the university.

would have been totally free in the selection of the faculty members and in the design of teaching activities.

In November 1959 the new faculty of economics, located in Ancona but dependent on the Free University of Urbino was inaugurated (followed by the State recognition in February 1960). The opening of the faculty was celebrated as a great achievement among local administrators and among students (basically the middle-upper class), but the event was not celebrated by local newspapers as a big event, and the new project could not avoid some opponents (Sori/Martellini 2001). Opponents, on their side, objected that in absence of a well-developed industrial system and rather, with the persistence of backward rural conditions, the new faculty and its graduates, despite the training in the most advanced economic theories, could not bring any improvement. Further, the major concerns were placed on the financial sustainability of such a project, compared to the endowment of the local administrations. On the other side, the reasons of the promoters were strictly linked to the idea of bringing development and innovation in the local economic system. The economic system of the region at that time was in the middle of a delicate phase of transition from an agricultural backward context based on sharecropping to an emerging model of industrial development based on small firms (in following years the area will become a successful example of the model of the Third Italy (Bagnasco 1977), based on small and medium firms located in industrial districts). Promoters of the initiative supported their project highlighting that the new faculty of economics would have helped the economic and social transition of the area, sustaining the emergent new industrial forms. Further, supporters of the initiative stressed the need of an adjustment in the distribution of universities not only in terms of location but also in terms of fields of study: the existing universities were located in centers isolated and difficult to reach but also historically concentrated in the fields of law, while the new period of expansion was characterized by the claim of more technical, scientific or business oriented fields of study. Another important component of the society that celebrated the event was represented by students: the new faculty permitted to reduce costs associated to higher education (given that up to that point they had to move to the bigger universities of Rome, Bologna or Perugia) and the new faculty

was welcome as an opportunity to enlarge access to higher education to a wider audience (Sori/Martellini 2001).

However, the desire of the city for higher education studies was not satisfied by the faculty of economics only. In 1969 the Consortium made up by local actors approved the transformation of the satellite campus in a free university itself and added a new faculty of engineering and the first three years of the medical school. Those changes were finally approved by the Minister of Education in 1970, and in January 1971 the Free University of Ancona was transformed in a State University. In January 2003 the University of Ancona changed its name in Polytechnic University of Marche.

Another interesting source of information about the founding period of the faculty of economics is represented by the opening speeches made by the provost of the Free University of Urbino, Carlo Bo, in early 1960s (Marra and Sichirollo, 1998).

In the opening speech held in November 29<sup>th</sup>, 1959, the provost refers explicitly to the new school settled in Ancona and to the critiques and controversies that the decision arose. It seems that there were many doubts underlying the debate: about the quality of teaching, about the risk of a loss of resources and power on the territory, and foremost, the fear that the satellite campus could be the first step for the birth of a new university. All those doubts are never stated by the provost in his speech, but can be easily gathered by his words, since he felt the need to assure citizens and authorities that the new school does belong to the Free University of Urbino, and that it is an idea rooted in that environment.

Second, he remarks that the location in Ancona is due to economic and teaching reasons, explicitly referring to the aim of increasing the chances of access to higher education for students with poor economic resources. In this respect, the provost underlines that the opening of the satellite campus helps sustaining the development not only of the area but of the whole region, economically backward and relatively poor compared to northern regions. According to provost's words, most of the 300 students enrolled to the first year in Ancona come from families with a poor economic background.

Finally, he remarks that the new institution in Ancona is financially supported by the local civic bodies in Ancona, but the school is a own idea of the university and

there is no risk that it could split from its mother. Actually, despite the reassurances of the provost, the satellite campus will soon become an autonomous university in a decade. It is interesting to notice that the provost, in order to make a good case for the satellite campus, explicitly refers to recent experiences of the Catholic University: the example of the school of agriculture is given, underlying that it did not come out as an autonomous new university<sup>69</sup>. This claim sounds like a search for external support, a search for legitimacy that comes from outside, a process that can be traced back to what we call a imitative processes of isomorphism (DiMaggio and Powell 1991). From these early cases and from what we will see later in next paragraphs about the more recent expansion, it seems that universities, pressed by local actors, tended to resemble one each other in the dynamics of expansion.

As far as we have seen, the case of the satellite campus in Ancona seems to go in the same direction of the theoretical framework we drew in the introduction to the case studies. We can identify here, even more than in other cases, the pressure from local actors who showed to be pro-active and well equipped for reaching their goal. Students may have played a significant role in pressing local administrations from the bottom, as we might infer from their participation to the preparatory courses set up by the consortium, and from the relatively high number (about 300) of students enrolled in the first year of activity of the new faculty in 1959. On the side of the university, there are three interesting points to mention: first, the three universities of the region did not seem to be in a race for occupying territories. Rather, towns competed among them, and were not able to reach a common position that would have enhanced the chances of the proposal presented to the Minister. With respect to the universities, significant is the denial of the University of Macerata that, despite a previous attempt to attract the Catholic University (then failed due to practical problems and maybe because of lack of interest by the leadership), after a decade denied its support to the Ancona Consortium. Second, it

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<sup>69</sup> “(...) la sua struttura (...) è stata definita qui, fra queste mura, da professori di Urbino e non c’è alcun timore che essa possa staccarsi dal nostro tronco. Del resto, se abbiamo avuto quest’idea, non è stato un caso: c’è il precedente di un’altra Università libera, la Cattolica, che da anni per le stesse ragioni e nelle stesse condizioni ha istituito una Facoltà di Agraria a Piacenza. Non so che se ne sia staccata, diventando una nuova Università.” (Marra, Sichirollo, 1998, p. 354).

seems that the process of creation of the satellite universities goes in hand with the overall process of expansion of the universities. Indeed, in the draft presented to the Minister in 1948 the requests of new faculties in new areas came along with the request of expansion of the headquarter. It seems that the competition was running among towns while at university level there was a sort of mutual cooperation among the universities, probably favored by a rapidly increasing demand that would have not let unsatisfied anyone. Third, the reference made by the provost in his opening speech to the other experiences of satellite campuses of the Catholic University is an interesting example of the search for an external legitimacy that can support the new form introduced. It seems that universities always keep an eye on what peers do, and that following the road of some leaders may enhance one's legitimacy, enforcing processes of isomorphism.

An interesting (new) version of isomorphism can be found in the behavior of universities that were born originally as a satellite campus: the Polytechnic University of Marche, the new university that came out from the satellite campus in Ancona, currently has three satellite campuses: one in Pesaro, the other two in Fermo and Ascoli. We will see later, in the empirical analysis (see chapter 6), that there seems to be a sort of self-imitative process that leads universities that were originally born as satellites themselves, to behave as their own parent universities did a decade or more ago, and open up new satellite campuses in the surroundings.

### *5.2.3 University of Turin: the satellite campus in Cuneo province*

The University of Turin is a public university located in the north-west of Italy, with a long historical tradition that traces back its origins to the XV century. It is classified among huge universities, with about 70.000<sup>70</sup> students on 13 faculties. It provides undergraduate and graduate courses, Phd and Master programs.

Across the last 40 years it opened several satellite universities (up to ten<sup>71</sup>) most of them in the same geographical region (Piedmont), and two in the surrounding regions of Valle d'Aosta and Liguria. Three of these campuses gained autonomy in

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<sup>70</sup> Source: [www.unito.it](http://www.unito.it) for the academic year 2011/12.

<sup>71</sup> The satellite campuses and related date of opening are: Vercelli (1970), Novara (1975), Alessandria (1987), Aosta (1991), Ivrea (1991, downsized in 2010), Biella (1992), Asti (1995), Sanremo (1995), Pinerolo (1996, closed in 2010), Cuneo, Savigliano, Alba (1996).

late 1990s and merged together creating the University of Eastern Piedmont in 1998 (Vercelli, Novara, Alessandria), while one was closed (Pinerolo) and another one has been downsized to only one degree program (Ivrea). In 2011/12 the satellite campuses still active and belonging to the University of Turin are those in: Biella, Asti, Ivrea, Sanremo, Aosta and Cuneo province. We will focus our case study on the latter.

The satellite university based in Cuneo province is structured on three towns: Cuneo, Savigliano, Alba. The organization of the academic supply changed a lot since the first years, but generally the majority of academic courses are provided in the town of Cuneo (8 undergraduate programs and 1 graduate program in 2011/12), while a smaller number of courses are available in the towns of Savigliano (4 undergraduate programmes) and Alba (1 undergraduate). Further, there are other academic activities at post-graduate level in the same area, linked to the economic specialization of the area in the agriculture and food sector: two specialization courses and a master program on farming and food security by the faculty of Veterinary Medicine in Moretta, and the Alpine Laboratory of Paleomagnetism in Peveragno (a joint center of research that involves the Universities of Turin, Milan, Urbino, Parma and Roma Tre). These courses and centers of research were born on the initiative of the single faculties in Turin, financially supported by local administrations (and in some cases by some firms) on the basis of single agreements signed by the parts.

The process of creation of the satellite campus began in the early 1990s, when some faculties of the University of Turin, by their own initiatives, started to locate some teaching activities in the area, within the organization of degree programs that formally remained located in Turin, the University's headquarter. The rationale behind was to get closer to the needs of students resident in Cuneo area and enrolled at the University of Turin; an attempt to reduce costs and transportation burdens associated to the need to commute or to move to the regional capital for studying. There was an explicit request from local administrations (at province and town level) to single faculties to bring classes closer to students' place of residence, in particular for the youngest (first years of



degree courses). Thus, single faculties of the University of Turin autonomously decided whether and how to organize their presence on the territory, following the proposals advanced by the local administrations, that took care of the provision of spaces for teaching and of compensations for the mobility of professors<sup>72</sup>. The process was thus driven by the autonomous initiative of schools, in absence of a common plan of development planned centrally by the university. And it was with no costs for the university: lease and maintenance of the spaces for teaching and daily allowances for professors were at the expenses of province and town administrations<sup>73</sup>. Faculties, set free to decide whether and how to settle in the satellite campus, behaved in very different ways: some of them simply decided to double the courses held in the headquarter, replicating them in the satellite campus; some others decided to create new and original degree programs, different from those in the headquarter and available only in the satellite campus.

The history of the satellite campus can be divided in three main historical periods, corresponding to the stages of creation, development and reinforcement.

The first stage (1989-1995) has been characterized by a scattered development of single degree programs or single courses, according to above mentioned rationale. In the academic year 1989-90 the first courses for the undergraduate program for social workers, belonging to the faculty of political sciences, were opened. They were followed by the courses of Law Faculty (1993) and by other programs of the Faculty of Political Sciences (1994). In the same period a degree program in enology was opened in Alba (Cuneo province) by the Faculty of Agriculture. The first half of the '90s can be defined still as a period of test: several projects were activated but later on, on the basis of the actual demand and due to management problems, were cut down. An example is the opening in 1994 of a degree program in foreign language and a course for translators and interpreters, in the town of Fossano (Cuneo province); both of them have been closed in the following years due to the high costs.

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<sup>72</sup> Interviews to Aldo Enrietti, professor at the Department of Economics, University of Turin, director of the Faculty of Political Sciences in Cuneo campus (June 7, 2012); interview to Francesco Paolo Barcia, professor at the Department of Political Studies, former director of the Faculty of Political Sciences in the Cuneo campus (October 17, 2012).

<sup>73</sup> Interview to Francesco Paolo Barcia (October 17, 2012).

The second stage (1995-2008) can be defined as a phase of development for the satellite campus, characterized by a more structured organization of the supply, an increase in the number of courses available and an improvement of the services provided.

In 1995 the province-level administration led the establishment of an association that collected several local institutions with the aim of promoting, establishing and managing the satellite campuses on the territories of the province of Cuneo<sup>74</sup> (not exclusively linked to the University of Turin, but open to other interested universities). That step stated the commitment of local administrations to financially support the satellite campus by covering all the expenses for professors' allowances and for the provision of buildings and maintenance.

In the period 1998-99 new courses were added: the undergraduate program in nursing by the Medical School, then followed by other degree programs in the field of healthcare in 2002; the two postgraduate school we mentioned at the beginning, on farming and food security by the Faculty of Veterinary Medicine in Moretta; and finally an original course in herbal medicine by the Faculty of Pharmacy, opened in 1999 in the town of Savigliano.

The implementation in 2001/02 of the reform following the agreements of the Bologna Process (see chapter 3) that transformed the old model into a first 3-year course (BA) followed by a 2-year course (MA), contributed to increase the number of courses offered. It was a moment of expansion of the supply for the campus as well, with a quantitative increase of available courses thanks to the arrival of new faculties and a general improvement in the organizational structure of all degree courses. Besides the new degree programs in healthcare by the Medical School, in 2002 two new course by the Faculty of Education were opened in Savigliano. In 2004 were introduced new degree programs by the Faculty of Economics and by the Faculty of Agriculture in the town of Cuneo.

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<sup>74</sup> Associazione Insediamenti Universitari in Provincia di Cuneo.

Current partners of the Association are: Provincia di Cuneo; Comune di Alba; Comune di Bra; Comune di Cuneo; Comune di Fossano; Comune di Mondovì; Comune di Ormea; Comune di Peveragno; Comune di Savigliano; ASO Santa Croce e Carle di Cuneo. The Association also supports satellite campuses in the province of Cuneo that belong to universities other than University of Turin (University of Eastern Piedmont, Polytechnic of Turin, and other tertiary level institutions like the Conservatory, Fine Arts Academy...).

Up to that time there was not a collective agreement encompassing all the faculties of the University of Turin, but rather each faculty signed single and separated bilateral pacts with the Association. It was only in 2005 that the first collective agreement between University of Turin (thus including all the faculties operating in the satellite campus up to that time) and the above mentioned Association, has been signed. This first agreement had a two-years validity, requiring a renewal in 2007, but the duration was then prorogated to two years more, postponing the deadline for the renewal in 2009<sup>75</sup>.

The third stage (2009 to nowadays) can be defined as a phase of reinforcement, characterized by a further tightening of the relationship between the university and local actors, symbolized by two main events: the opening of new infrastructures and the renewal of the agreement between the University of Turin and the local Association.

The beginning of this period can be identified in the academic year 2008/09, when two brand new campuses were opened, one in Cuneo for the faculties of Political Sciences, Economics and Law, and one in Savigliano for the faculties of Education and Pharmacy. This operation had the explicit aim of improving the infrastructures for teaching but served also as a symbolic sign for the territory and its actors. The new infrastructures for teaching came from the renovation of previous historical buildings, in both cases placed in the historical city center. They linked together the courses that previously were spread in many (often uncomfortable and cramped) different places across the city. They became a well visible sign of the presence of the university on the territory, even physical, thanks to the everyday flow of students and professors in rush hours, and the participation of citizens to the cultural events hosted there.

The other important event of this stage is the renewal of the agreement signed in 2005: the new pact, signed in January 9, 2012, stated a concrete and reinforced commitment for next ten years by local administrations<sup>76</sup> and the University.

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<sup>75</sup> Interview to officials from the Division for Institutional Affairs of the University of Turin (October 11, 2012)

<sup>76</sup> The institutions which signed the pacts were: provincial administration of Cuneo, municipality of Cuneo, municipality of Savigliano, municipality of Alba, the public hospital of Cuneo, the association for the settlement of the university in Cuneo province

However, the renewal of the pact did not come without problems: the presence of the university on the territory had its opponents since the beginning and the renewal was an opportunity to launch a quite harsh debate about the meaning, costs and benefits of the university in the territory. Starting since mid-late 2000s, there was on national level a quite rough campaign against the proliferation of satellite sites on the national territory, mainly driven by issues of economic sustainability under the framework of rationalization of the public expenditure for higher education. The satellite campus in Cuneo province could not avoid this hostile climate and itself was put under question. The main claim from the local institutions was about the link between the university and the territory: local institutions were not satisfied by the idea of just having a campus that provided higher education certificates, but wanted a major commitment from the side of the University in providing research, additional to teaching, and in particular, research linked to the needs and characteristics of the area. This hostile climate characterized the couple of years prior to the renewal, but after an intense activity of negotiation (also carried out by some “social brokers” on local level, as the banking foundations) was finally brought to a positive outcome.

The new agreement signed in 2009 stated that commitment of local administrators and various actors, collected together in the Association, to support financially the activities of the campus, providing physical infrastructures, covering the total costs related to their maintenance and covering two thirds of the costs related to teaching (for one third covered by the University). The innovative feature of the pact is that local actors directly enter in supporting research, stating the commitment to fund 30 positions of assistant professor for ten years, which activities (teaching and research) have to be carried out in the campuses in Cuneo province. The agreement is integrated by a financial plan (Patto Locale) that includes among the subscribers, besides the institutions member of the above mentioned Association, two new actors that provides additional funds: the regional-level administration (Piedmont region) and Fondazione Cassa di Risparmio di Cuneo (the third bank foundation of the region in terms of assets). On his side, the University of Turin stated its commitment to fund 12 associate professors and 9 full professor to be dedicated to the campuses only. But problems continued, mainly due to the retrenchment of

public expenditure that caused a reduction of funds, so that after two years from the signature a revision of the pact was required. The outcome was the postponement of the renewal to the academic year 2024/205 (originally set to 2018/19), and the entry of new subscribers that joined the original group: another banking foundations (Fondazione Cassa di Risparmio di Savigliano) and the local Chamber of Commerce of Cuneo, while the province administration of Cuneo withdrew from the pact<sup>77</sup>.

This latter withdrawal is an interesting and unexpected event from a theoretical point of view.

As described in our model and as observed in the case studies, province administration has always been positively involved in the creation of the satellite campus. It worked also for the campuses in Cuneo province, where the administration promoted the local Association for the establishment and management of the satellite campuses and was the first one to provide buildings for classes. So, how to interpret such a radical change? The interpretation is even further complicated if we consider that province government is led by the Lega Nord party. Lega Nord is a right wing, xenophobic party that claims the separation of the north of Italy from the rest of the country since its beginning. Lega Nord is traditionally characterized by having a strong tie with local communities, to be particularly strong in rural and provincial areas, it is generally well rooted in local networks, and its major strength stays in the ability of interpreting and collecting the needs of their constituencies, particularly oriented in the defense of local interests.

Thus, if we consider that the satellite university can also be interpreted as a policy that goes in the direction of meeting the local demand by: - reducing the burdens associated to commuting or moving to the regional capital; - generating economic returns and employment on the territory<sup>78</sup>; - enlarging the access to higher education to children of families with lower socio-economic background (see

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<sup>77</sup> Interview to Aldo Enrietti (June 7, 2012).

<sup>78</sup> Some preliminary evidence of the economic impact of the satellite campus in Cuneo province is shown in Rossi F., Goglio V., (2013) "Il contributo economico delle sedi universitarie decentrate: il caso del polo cuneese dell'Università di Torino"(The economic impact of satellite universities: the University of Turin campus in Cuneo province), in *Sviluppo Locale* n.1/2013.

p.110; and we might assume that at least part of the local constituency of Lega Nord belongs to this category), we should expect that the party will be supportive of the project.

However, one of the first moves of the new provincial government, after the election, has been to question the financial contribution to the satellite campus. The interpretation of such a radical change can go in two directions: financial issues and ideological reasons. As described in the theoretical model, we might think that the coming up of serious constraints to public expenditure in recent years compromised seriously the financial sustainability of these projects that are no longer feasible in a context of scarce resources. But we might also believe that these issues are made more “urgent” due to other aspects, maybe ideological. As a matter of fact, education in general, and higher education in particular, are not key issues of the political agenda of Lega Nord, they do not belong to the core system of values of the party and in a moments in which many instances compete for being put in the agenda, we might assume that those that are out of the system of values and do not involve a consistent part of the constituency are the first ones to lose support.



## **Chapter 6. The Founding Of New Satellite Universities**

In this chapter we illustrate the outcome of the empirical analysis for the founding of new satellite campuses over the period 1980-2010. As mentioned in the data and method chapter (see 2.2), the analysis has been run on a unique dataset built specifically for the present research, that collects data about the opening of satellite campuses for each of the 75 Italian universities. The dataset includes information about the individual characteristics of the universities and some environmental covariates, referred to the organizational and institutional context.

We first introduce some descriptive statistics about the evolution of satellite universities since the 1950s to nowadays (6.1), then we will focus on some descriptive statistics about the variables included in the dataset for the period 1980-2011 (6.2) and then on the findings of the logit model for the transition to the first event (6.2.1) and then for the second transition (6.2.2).

### ***6.1 Descriptive statistics***

Before introducing the results of the regression model we present here some descriptive statistics about the founding of satellite universities that can be useful for describing the context of the analysis. We first refer to the entire life cycle of satellite universities: since the first year in which a satellite campus opened up, in 1953, to nowadays, 2011. A more complex analysis on the founding of satellite campuses will follow for the period 1980-2011.

The number of satellite universities in Italy, net of failures occurred through time, is presented in fig. 9. By failure we indicate all the cases in which a satellite campus closed or was transformed in something else. As a matter of fact, it happened through time that some satellite campuses gained the status of full university, or rather, some other have been closed. The total number of satellite campuses in which teaching activities have been intensely reduced or stopped at all, is about 14 units, of which 10 have been closed between 2008 and 2009,



respectively by University of Foggia and Polytechnic of Turin. Similarly, the event of the upgrade of a satellite campus to the status of autonomous university, involves 13 satellite campuses that have been transformed and gave birth to 9 brand new universities, mainly in the years 1982 and then 1998-1999. Thus our definition of “net” number of satellite universities refers only to those satellite universities that are active at the time of observation.

The curve in fig. 9 can be divided in three main parts: a first period between 1950-1990, a second one from 1990s to mid-2000s and a third one made up of the last 5 years.

In the first stage the curve increased slowly but constantly up to the 1990s. Since then the curve becomes much steeper and corresponds to the stage of maximum expansion that lasted for more than a decade, with a first slowdown few years before 2000, increasing again immediately afterwards. Yet, in very recent years (2008-2010) we can identify a third period in which the curve turns down, corresponding to a phase in which the founding rate stops and some failures occur. As we can see in fig. 11 and 12, the trend of founding of new satellite campuses was pretty regular up to 1990, when the founding boomed up to late 1990s, registered a stop in 1998-2002 to go high again in 2003-2004. These trends design a sort of half-bell curve that suggests that ecological processes of density dependence could be at work.

Referring to geographical distribution, we can see that at the beginning of the process, up to the 1990s, satellite universities were a phenomenon mainly diffused in northern regions (in particular north-western regions). Slowly the other areas caught up but the expansion continued to be significant for the north and north-west in particular. A balance between north and south has been reached in early 2000, when the curve of the south overlaps the curve of the north-west, while numbers for north-east are still lower than all the other areas. We could say that the two geographical and economic extremes of Italy, the north-west and the south were the main leaders of this expansion.

As well highlighted in fig. 10, we can see that the expansion in north-western and southern regions was kind of complementary. While the curves for north-east and center, even if increasing, stay low for the whole period, the curves for north-west

and south emerge as the leaders in different periods. The curve for the north-west is the first one to come off of the group, while the curve for the south remains slowly increasing. But as soon as the north-west curve slows down and then becomes flat, the curve for the south increases and finally they end up to overlap each other. It seems that once the first comes to reach its maximum expansion (what we could call also as a point of exhaustion or maximum carrying capacity), the other starts to take the lead.

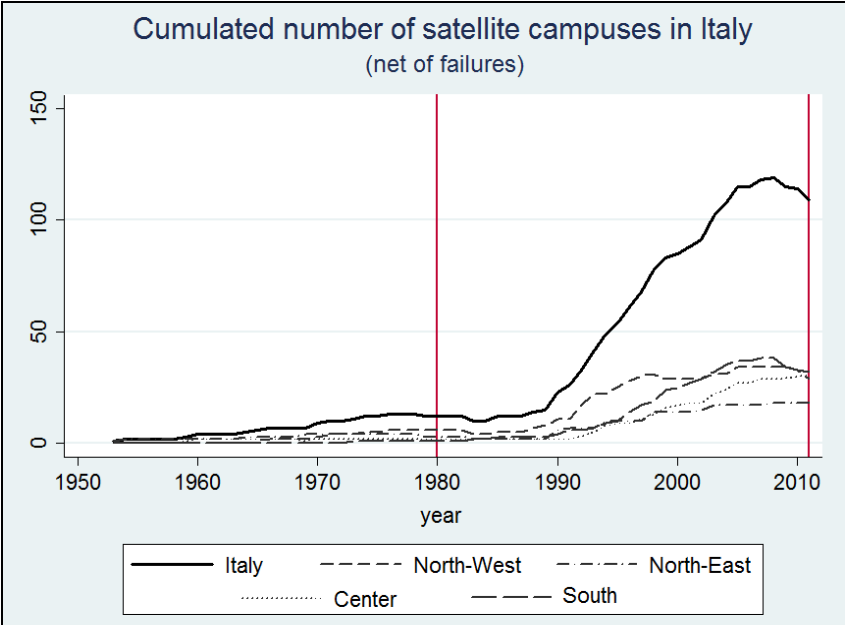
Figure 13 shows a maps of Italy in four points in time, showing the distribution of universities over time.

**Tab 11 Number of satellite universities (net of failures)**

	1960	1980	1985	1990	1995	2000	2005	2010	2011
<b>Italy</b>	<b>4</b>	<b>12</b>	<b>12</b>	<b>23</b>	<b>54</b>	<b>85</b>	<b>115</b>	<b>114</b>	<b>109</b>
North-West	0	6	5	11	25	29	34	33	29
North-East	2	3	2	6	10	14	17	18	18
Center	2	2	2	2	9	17	27	30	30
South	0	1	3	4	10	25	37	33	32

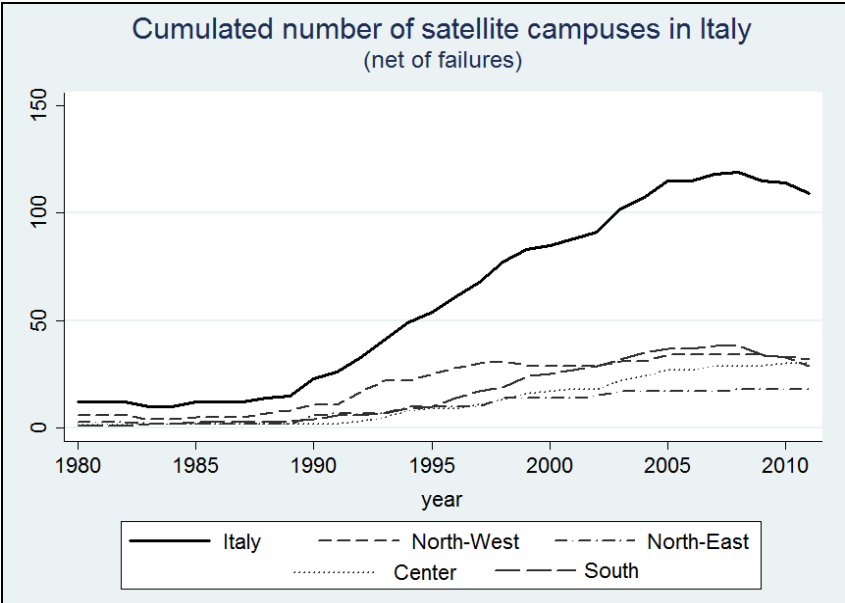
Source: own elaborations

Fig 9



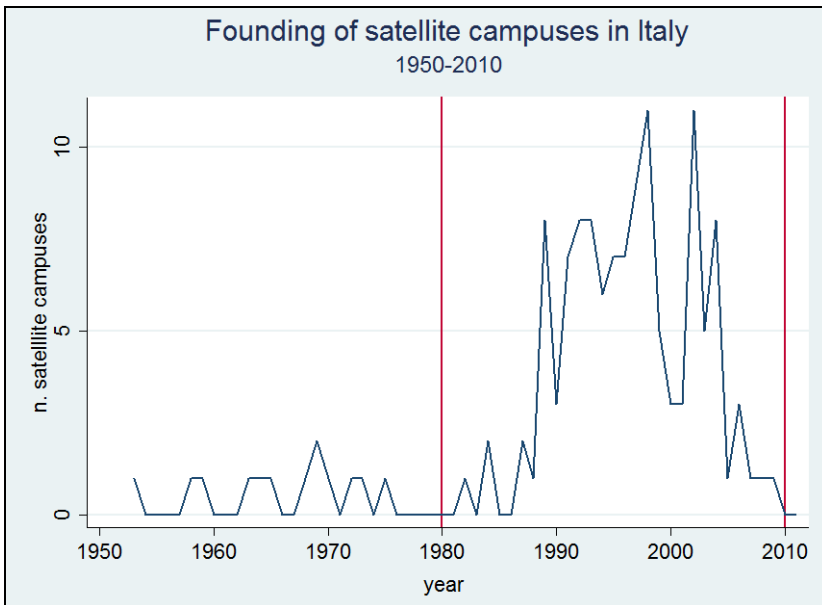
Note: the red lines indicate the observation window of the empirical analysis.  
Source: own elaborations

Fig 10



Source: own elaborations

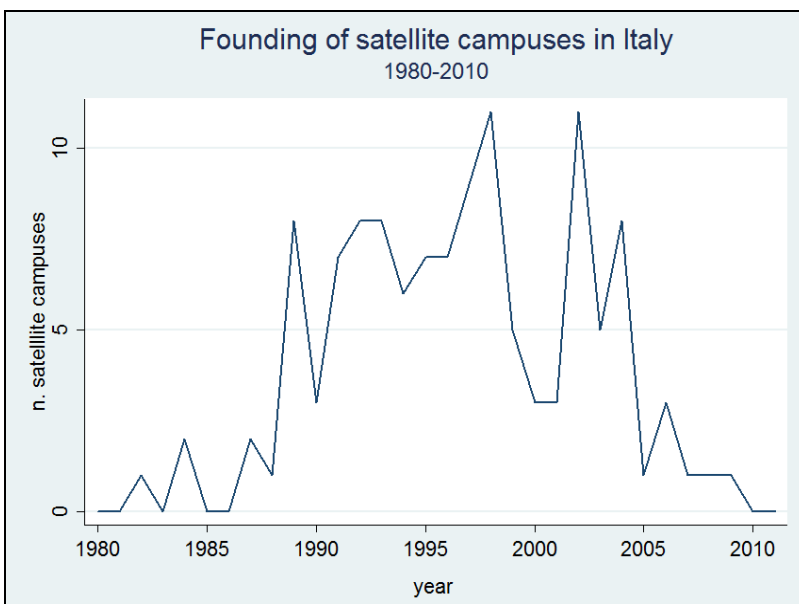
**Fig 11**



Source: own elaborations

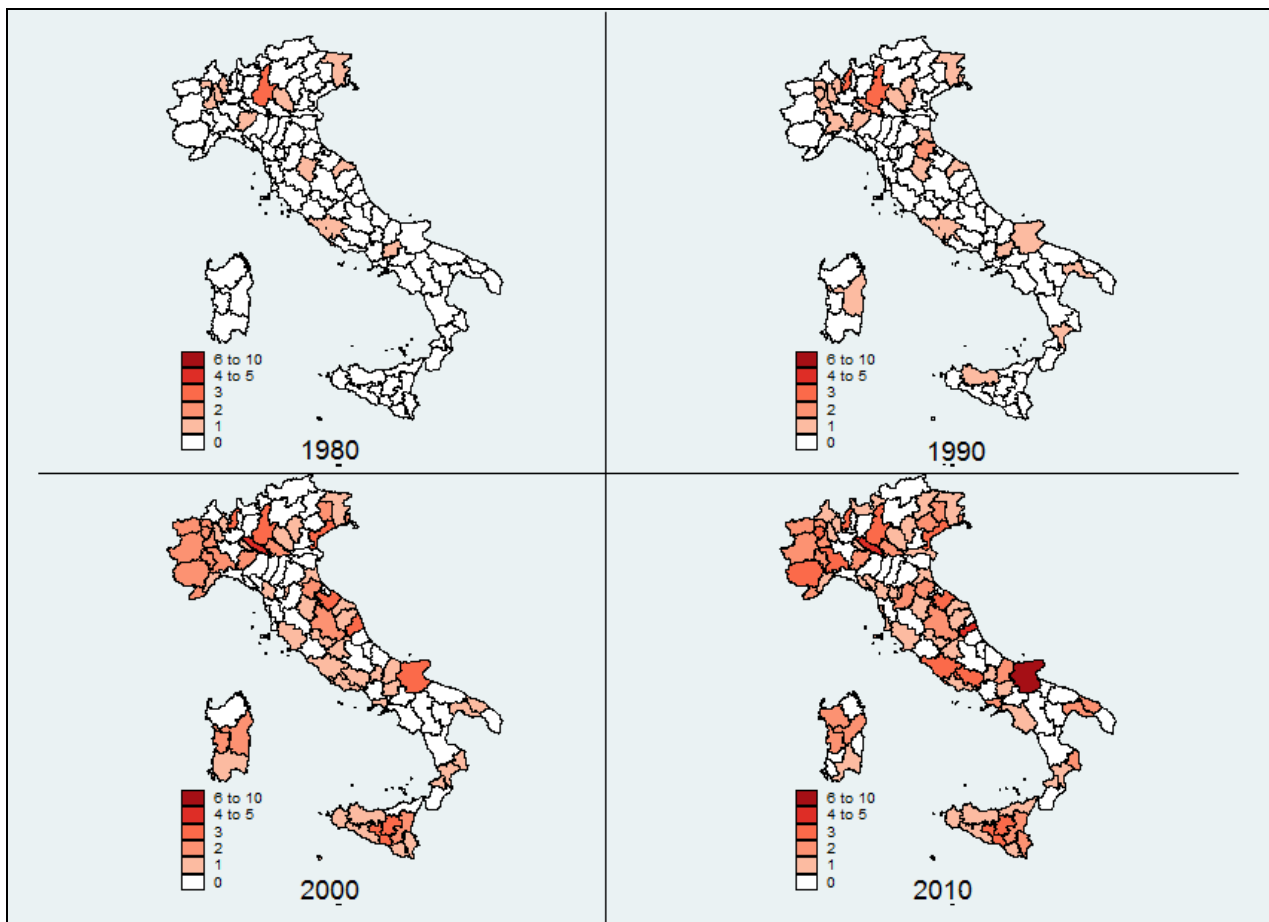
Note: the red line indicate the observation window of the empirical analysis

**Fig 12**



Source: own elaborations

Fig 13



Source: own elaborations on maps from Istat

## 6.2 Findings

As we mentioned in the previous chapter, the most dynamic period for satellite universities had its start in the late 1980s, when the number of campuses doubled in five years and then kept a quite intense pace of founding (see fig. 3 and 4). For this reason we decided to deepen our analysis mainly over the last thirty years, since 1980 to 2010. In the present paragraph we present some descriptive statistics, accompanied by the results of a logistic regression for the occurrence of the first transition, and then for the occurrence of the second transition. The dependent variable under study is the occurrence of an event, defined as the opening of a satellite university. If we consider that this event can be interpreted also as a transition from a state in which the university has no dependent satellite campuses to the state in which first, the university has at least one satellite campus (the first one), and then, might have increased its status with additional campuses, we can also define our dependent variable as a transition from one state to another. The first transition might be represented as the transfer from  $n_{t0}=0$  to  $n_{t1}>0$  where  $n$  is the number of satellite campuses; the second transition might be represented as  $n_{t2}>n_{t1}$  with  $n_{t1}\neq 0$ .

For most of the universities the first transition occurs when they open up one satellite university, but five<sup>79</sup> of them (12%) experience multiple events at the same time (tab. 3). However, irrespective of the number of satellite campuses that are opened in the same year, we can assume that the determinants at the basis of the process are the same, thus we group all these cases under the label of “first transition”. The second transition also implies different values of  $n$ , but generally speaking we group under the term “second transition” the cases that have  $n_{t2}>n_{t1}$  (with  $n_{t1}\neq 0$ ), irrespective of the absolute number of satellite campuses opened.

Unlike the previous paragraph (6.1), where we considered the net number of satellite universities active on the national territory, we focus here on founding rates only and we do not consider the dynamics that could have happened afterward (closures or autonomy). Even though these events open up undoubtedly

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<sup>79</sup> The universities of Calabria, Udine, Messina, Piemonte Orientale transit from 0 to 2 campuses in the same year, while the University of Bologna opens up 3 satellite campuses in the same year.

interesting research questions, for the purpose of our work we will focus only on the state of founding and the determinants on the side of parent university<sup>80</sup>.

### *6.2.1 Findings from logit model for the first transition*

Before analysing the data about the first transition we sum up here some descriptive statistics about the population that made up our database (tables 12 to 15). Over the total number of 75 universities that potentially could have experienced the event of opening up a satellite campus in the period 1980-2011, about half (36 units) never opened up a satellite campus. Out of these 36 universities only 2 had already opened a satellite campus before 1980<sup>81</sup>, thus resulting in 34 universities that never experienced the event of having a dependent satellite university. If we consider the total number of universities that experienced at least one event in the period considered (tab. 12), we see that most of them experienced the event twice: 28% resulted in having 2 satellite campuses during the period of observation. The number of universities that experienced five or more events is pretty interesting as well: 9 universities (23%) opened up 5 or more satellite campuses in the period 1980-2011, among those only one university (University of Turin) opened up 8 satellite campuses in the period 1980-2011.

If we only consider the universities that made the first transition and the distribution of events we can see that the average time before the transition is 11,9 years, with the median value at 12 years (tab. 14), confirming that the phenomenon boomed in the 1990s.

From a cross tabulation between dependent and independent variables (tab. 4) we observe that there seems to be an increasing positive relationship between size of the university (defined on the basis of the number of students enrolled) and the distribution of events: the ratio of universities that experienced the first transition

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<sup>80</sup> With respect to the stories of closures and autonomy attainment, given the small number of events, the relatively recent happening, and especially the complex network of interests and actors that are at work, we consider that the issue could be better investigated with specific case studies and qualitative methods rather than a quantitative analysis. Hopefully we will be able to underpin the subject with future researches.

<sup>81</sup> University of Urbino and University of Trieste

increases as the size increases, up to the value of huge universities, where three out of four experienced the transition, against one quarter among small universities. As far as the source of funding is concerned, the distribution of event is in favour of state funded universities (61% of state universities experienced the transition) while only 18% of no-state funded universities opened at least one satellite campus.

Similarly, the transition to the first satellite campus is less frequent among new universities (defined as those founded after 1980): only 22%, while 66% of the universities that were born before 1980 made the transition. Finally, the first transition is pretty frequent among universities that were originally satellite campuses themselves: two thirds of them made the first transition. A positive relationship is observed also for the variables distance (the greater the distance to the closest university, the higher the number of events) and for center and left coalitions.

**Tab 12**

<i>Universities that had at least one event</i>		
n. events	n.	%
1	7	17.9
2	11	28.2
3	7	17.9
4	5	12.8
≥5	9	23.1
total	39	100.0

**Tab 13**

Time (years)	Observations	Median	Mean	Std. dev.
	39	12	11.97	5.93

**Tab 14**

		N	%
no transition		36	48.0
1st transition	1 satellite campus	34	45.3
	2 satellite campuses	4	5.3
	3 satellite campuses	1	1.3
total		75	100



**Tab 15**

<i>size</i>	1 <sup>st</sup> transition		Total
	N	%	
small	6	26.1	23
medium	8	50.0	16
big	9	47.4	19
huge	13	76.5	17
total	36	48.0	75
<i>funding</i>			
state	36	61.0	59
no state	3	18.8	16
total	39	52.0	75
<i>age</i>			
open<1980	33	68.8	48
open>1980	6	22.2	27
total	39	52.0	75
<i>previously satellite</i>			
not	33	50.0	66
yes	6	66.7	9
total	39	52.0	75
<i>distance (min)</i>			
1st tercile	9	37.4	24
2nd tercile	11	45.8	24
3rd tercile	19	70.4	27
total	39	52.0	75
<i>density (of universities)</i>			
1st quartile	5	100	5
2nd quartile	20	100	20
3rd quartile	12	100	12
4th quartile	2	5.3	38
Total	39	52.0	75
<i>Government</i>			
Right	5	12.2	41
Center	23	100	23
Left	11	100	11
total	39	52.0	75

As introduced in chapter 2, we tested our hypotheses (see 2.1.2) using a logit regression model for estimating the transition to the first event(s), defined as the opening of at least one satellite campus in the time span considered. As shown in the chapter on data and method, the predictors we use are: for the first hypothesis

dummy and categorical variables referred to the characteristics of the single universities (newness, source of funding, previous satellite campus, size of the university in terms of students enrolled); for the organizational hypothesis a categorical variable with 4 modes indicating the total number of satellite campuses already active in Italy per each year (net of failures); for the institutional hypotheses: a dichotomous variable for the implementation of law n. 537/1993 about financial autonomy of the universities, and finally a categorical variable for the political orientation of the national government as third hypothesis. In addition, we included a dummy variable that controls for the left censoring of the sample (whether the university already opened up satellite campuses before 1980) and another dichotomous variable for the macro geographical area of the country where the university is placed (north/south).

Table 16 shows the results of the estimated models: we first tested the single hypotheses separately, including controls, and finally tested the final model putting together the four hypotheses. In order to make easier the interpretation of results we show here odds ratios instead of log odds regression coefficients (Mills 2011). With respect to the issue of statistical significance we remind here the considerations expressed in chapter 4: we are considering the entire population of universities, with a low total number of units of analysis. As a consequence, we should not worry about problems associated to the issues of statistical inference and we will relax the interpretation of the statistical significance of coefficients. Instead of applying the criteria of statistical significance as a dichotomous variable (yes/not) we will pay more attention to the interpretation of coefficients. With respect to the component of statistical significance associated to the measurement error, may be useful recall that in our analysis the error term for the dependent variable ( $y$ ) is reduced to its minimum given the particular nature of the dependent variable and the way it has been collected. While for those independent variables ( $x$ ) that are more likely subject to error measurement we will use more caution in the interpretation of the coefficients (even if in this model all the variables have

been collected directly by the researcher, do not come from survey data, thus lowering the chances of measurement error<sup>82</sup>).

Models 1 and 2 test the group of hypotheses linked to the individual characteristics of the parent university. The first one includes dummy variables for intrinsic characteristics like newness, origin, source of funding, while the second model includes categorical variables that, beyond being individual characteristics of the university, can be also considered as proxies for the demand of higher education, given that the size in terms of number of students enrolled might indicate a certain pressure coming from students for having access to higher education; second, the variable “distance to the next university” indicates whether there are available alternatives in range for the student. In model 3 we grouped together all these variables linked to the first hypothesis on the characteristics of the universities.

The hypothesis n.1 seems to be partly confirmed by the empirical analysis (mod.1 to 3): being a relatively new university and being a private (or better, no-State funded) university has a negative effect on the probability of experiencing the first transition. For new universities (founded after 1980) the odds of experiencing the transition to the first satellite university are roughly 2 times lower than for older universities, given the other variables are held constant. Similarly, being a private university reduces of about 80% the odds ratio of opening a satellite campus, compared to state funded universities<sup>83</sup>.

The size<sup>84</sup> of the university shows a positive effect on the probability of experiencing the first event, and designs an interesting curvilinear effect (that we will observe also for the other categorical variables, distance and density). Although not significant, the variable seems to suggest that the relative risk is much higher for the category of huge universities: being a huge university (defined

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<sup>82</sup> As an example: the variable distance has been created on the basis of actual distances in km between town, as recorded in rout atlas. The same can be said for the dichotomous variables for the individual characteristics of the universities.

<sup>83</sup> The variable for new universities, despite significant in the first model, then becomes not significant in the following models with a p-value=0.18 in the final model. The variable for no-state funded universities is not significant in all the models with a p-value=0.19.

<sup>84</sup> The variable size has been lagged of a period of one years, in order to estimate the size of the university at a point in time previous to the year in which the satellite campus has been opened up. This in order to exclude the number of students enrolled in satellite campuses from the computation of the size.

as belonging to the fourth quartile of the distribution) increases by 2.2 times the odds of experiencing the first event, compared to small universities; the effect is positive also for big universities (belonging to the third quartile) that, compared to the category of small universities, increase by 1.93 times the odds of opening a satellite campus. However, the effect becomes negative for medium universities: their odds of making the transition decreases of about 20% (compared to small universities). In appendix we provide some plots of the predicted probabilities that draw this curvilinear effect for the variables size, distance and density, both when taken separately (bivariate regression) and when the other variables are held at their means (fig. A.2).

As the previous one, the results for the variable distance are not significant, thus, keeping in mind the weakness of the estimates, it seems to depict an interesting curvilinear effect: there seems to be a sort of threshold beyond which the effect becomes positive. Indeed, the chances of making the first transition increase for those universities that belong to the third tercile of the distribution<sup>85</sup>: when the next university is far 75 km or more, the chances to make the transition become 1.5 times higher (compared to the first category). While the chances seem to be negative for those belonging to the second tercile (compared to the first group): when the next university is between 35 and 70 km of distance, the chances of experiencing the first transition are 0.55 times lower (- 45%) than the case in which the closest university is less than 35 km far away (first tercile).

On the contrary, the results for universities that were originally born as a satellite campus themselves differ from what hypothesized: the odds of experiencing the first transition to satellite universities is much higher and highly significant for previous satellite universities than for others. Being an university that was originally born as a satellite university itself increases the chances of making the first transition of 5 times, compared to universities that were born as autonomous since the beginning.

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<sup>85</sup> Estimates of the third category are initially significant (mod. 2) and then turn to be not significant.

Models 4 to 6 test the organizational and institutional hypotheses taken separately. The hypothesis linked to organizational processes due to the density in the population seem to be confirmed in the analysis: the variable density taken alone (mod. 4) shows a curvilinear effect where the odds of making the transition are negative when the values of density are high (fourth quartile), but positive (and significant) when the density assumes values belonging to the second and third quartile. Further, when the density has values belonging to the second quartile the relative propensity of making the transition are 5.3 times higher (compared to the first quartile) and go down to 3.0 when the density is in the third quartile (compared to the first). Thus, up to a certain value the relative risk remains positive but decreases, afterwards it becomes negative.

Model 5 deals with the estimates of the effect of the implementation of the reform in the budget allocation of universities (introduced by law n. 537/1993): we hypothesized that, relaxing the constraints for the allocation of the funds coming from the ministry, the universities might feel free to allocate them in increasing their presence on the territory, on the basis of the competition for the territory that we theorized in previous paragraphs and because of the increasing crowding. However, when taken alone, the odds ratio is negative (and not significant), indicating a lower probability of opening a satellite campus in the years in which the reform is effective, compared to the previous years. But we should take with caution this result given that the variable has been operationalized as a dummy variable for the year before/after the law, there could be some calendar effect associated to it, and further, the variable is omitted in the final model due to problems of collinearity. Model 6 takes into consideration the effect of the political orientation of the national government: as described in hypothesis 4, we expect a positive association between coalitions led by left wing parties and the opening of satellite campuses. When the variable is taken alone, despite the odds ratio for left wing coalitions is positive (1.9) as hypothesized, the odds ratio for center governments is higher (and significant), diverging from what assumed. When the government is led by parties belonging to the center wing (as coded by the ParlGov dataset, Beck et al. 2011) the chances of making the transition to the first

event seem to be 2.5 times greater than when at the government there are right wing parties (reference category).

The final model is presented in column 7. The results for the first hypothesis remain confirmed (here applies the caution about significance we mentioned above): the sign of the relationships remain the same but the odds ratios slightly vary. Being a new university and being a private university reduce the chances of making the first transition to satellite universities, with a decrease in the odds ratio of -57% for new universities (compared to universities born before 1980) and about -80% for private universities (compared to state funded universities). The effect of being born as a satellite university still remains high (and highly significant throughout the analysis): the chances of making the first transition are 5.3 times higher than for universities there were not previously satellite campuses. The effect of size remains more or less constant (and still not significant), holding the curvilinear effect saw before: a positive (and higher) effect for huge universities (+2 times) and big universities (+1.69), while negative for medium universities (-40%). In terms of predicted probabilities (fig. A.2), the probability of making the transition when the university belongs to the first quartile of the distribution is 0.01, 0.007 for the second quartile and then greater than 0.02 for the latter categories.

The results for distance are confirmed (still not significant) as well: there seems to be a positive effect (about 40% increase in the relative risk) for universities that are relatively “isolated” (when the closest university is more than 75 km away) compared to those less isolated (less than 35 km), while the universities belonging to the second category should experience a decrease in the chances of making the transition of -46% compared to the reference group. In terms of predicted probabilities (fig. A.2) the probability of making the transition for a university that is “less isolated” is 0.016 while 0.007 for the second category and then higher to 0.02 for the “most isolated” universities.

The hypotheses grouped under the label of organizational and institutional processes in the final model vary under some aspects. The curvilinear effect shown by the variable density when taken alone is still visible but in the final model the fourth mode becomes positive (although remains not significant) as the second and

third categories, that also increase their odds ratios (and remain highly significant). However, as shown in fig. A.2 the predicted probabilities still draw a curvilinear effect: the predicted probability of making the transition are 0.003 when the density is at its minimum, grow to 0.03/0.04 for the central modes and then fall to 0.009 when the density is at its maximum. Yet, with respect to the variable government, the odds ratios result inverted in the final model (and the estimates for both the categories turn to be not significant): the category for left-wing coalitions is still positive but higher (2.9) than the mode for center coalitions (1.7). However, as seen in chapter 4, the distribution of the variable for national governance should be interpreted with caution due to potential calendar problems and to a particular distribution of the variable.

The effect of control variables remains relatively constant (and not significant) throughout the models and indicate a higher propensity of making the transition for universities that already had at least one satellite campus before 1980 (1.5 times higher than for those universities with no satellite campuses previous to the beginning of our observation window); a negative effect for being a university located in the south of Italy (about 40% less of chances of making the transition compared to universities located in northern regions)<sup>86</sup>.

To summarize, we can draw some preliminary conclusions from our model: it seems that the transition from not having dependent campuses to a state in which the university has at least one satellite campus may be addressed mainly to the potential demand. Biggest and oldest universities, share a higher probability of making the transition to a satellite campus. Similarly, the more isolated the university the higher the probability of making the transition, or said differently, the more difficult to reach an alternative university (or the more distant a potential competitor), the higher the probability to extend the presence of the university on the territory. Particularly significant seem to be imitative processes: as suggested by the variable density, the propensity to make the first transition to (at least) the first satellite campus increases strongly and significantly when the total number of

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<sup>86</sup> A cross-tabulation of the distribution of the dependent with the geographical variable shows a slight advantage for the north (21 vs 18 occurrences).

satellite universities in the country is in its medium-high values (compared to low values of satellite campuses), while high values (fourth quartile) have a smaller and less linear effect (first negative then positive). We might say that, once the new form begins to be accepted and legitimated, a sort of race for following the new “fashion” spreads among universities, according to a logic as: the more my peers have satellite campuses, the more I must have it.

On the contrary, hypotheses linked to institutional processes seem to be less relevant, or at least, go in a different direction from what hypothesized: the effect of the reform in the field of budget allocation seems to be irrelevant. Also the effect of the political orientation of the government at the power seems not to be so clear as stated in the hypothesis: no right wing governments have a positive effect indeed, but with a not clear effect for left wing coalitions and center coalitions.

Thus we could call it as a demand-driven phenomenon, strongly associated with a tendency to implement imitative processes among peers. Where the pressure for new infrastructures is higher (as we can assume for huge universities with more than 30,000 students) and there are not easy-to-reach alternatives for students, the universities may try to solve the problem of crowding by expanding their presence in the surrounding areas, using a rather flexible and quick organizational form. Further, this form has the clear advantage of increasing the opportunities for land covering and demand grabbing: as described in chapter 5, we have seen that territories, but also universities are in a competition with one another for the coverage of the territory and for satisfying the potential of local demand. Thus, a strategy for bringing relief in terms of crowding results to bring also advantages in terms of coverage of the territory and exploitation of the local demand.

However, the very surprising result lays among the universities that were originally settled down as satellites campuses: how can we interpret such a strong result, with a high and consistent coefficient throughout the analysis, opposite to what hypothesized? We believe it could be helpful to frame the possible explanation in two central concepts we already dealt with in the theoretical background: the notions of isomorphism and legitimation. If we consider that:



a) opening a satellite campus seems to be a typical action of huge and historical universities of the north and center of the country, that generally own a higher status in an informal ranking of prestige;

b) on the contrary, being born as a satellite campus marks the university as belonging to a B-series, at an informal perceived level (at least for the first years of their life),

we could interpret the decision of opening a satellite campus as the result of an imitative process which has the aim of legitimizing itself among big and traditional universities. Said differently, the opening of satellite campuses can be seen as a signal of power, prosperity and attractiveness of the university, a sort of “trend” launched by the leaders in which nobody wants to be left behind. The imitative processes implemented by former satellite campuses might be driven by the search of legitimacy among the leaders, or at least as an attempt to show themselves as able to keep the pace with the “innovations” of the other universities, trying to overcome the potential handicap coming from their lower status origin.

In addition, it is interesting to notice that the imitative process works also *within* the same organization: former satellite universities, once become “adult” tend to perpetuate the same scheme that gave them birth, a tendency to propose once again the same organizational model that they “learnt” from the mother university. It could be defined as a sort of intergenerational imitative process, a mother-son imitative process, that could be traced back, although in a variant version, to the case of mimetic isomorphism as described in the famous tripartite scheme by DiMaggio and Powell (1991).

**Tab 16 . Estimates of logit regression for the *first* transition to satellite campus. Odds ratio**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
founded >1980	0.340** (0.164)		0.488 (0.259)				0.438 (0.271)
ex satellite uni	3.979*** (1.967)		5.199*** (3.152)				5.370*** (3.320)
no-state funding	0.538 (0.359)		0.227 (0.275)				0.202 (0.247)
Size (ref=small)							
medium		1.207 (0.780)	0.797 (0.537)				0.601 (0.432)
big		2.716* (1.398)	1.931 (1.133)				1.691 (1.019)
huge		3.286** (1.626)	2.246 (1.301)				2.169 (1.353)
distance to closest university (ref=1 <sup>st</sup> tercile)							
2 <sup>nd</sup> tercile		1.107 (0.601)	0.549 (0.296)				0.461 (0.298)
3 <sup>rd</sup> tercile		2.617** (1.163)	1.517 (0.634)				1.379 (0.693)
density satellite campuses (ref=1 <sup>st</sup> quartile)							
2 <sup>nd</sup> quartile				5.368*** (2.620)			11.10*** (6.781)
3 <sup>rd</sup> quartile				3.077** (1.644)			13.74*** (10.81)
4 <sup>th</sup> quartile				0.574 (0.490)			3.272 (3.228)
law n. 537/1993					0.643 (0.232)		
government (ref=right)							
center						2.562* (1.294)	1.713 (0.972)
left						1.897 (1.042)	2.926 (1.998)
had satellite univ <19	1802 (0.893)	1114 (0.474)	1367 (0.616)	1985 (0.910)	1791 (0.729)	1797 (0.725)	1.524 (0.886)
South of Italy	1093 (0.424)	0.672 (0.249)	0.739 (0.302)	0.800 (0.277)	0.872 (0.286)	0.861 (0.282)	0.572 (0.282)
Constant	0.0322*** (0.0106)	0.0138*** (0.00642)	0.0291*** (0.0202)	0.0131*** (0.00575)	0.0371*** (0.0101)	0.0162*** (0.00780)	0.00357*** (0.00386)
Observations	1,277	1,158	1,158	1,277	1,277	1,241	1,123
Pseudo R-squared	0.0394	0.0542	0.0869	0.0724	0.0136	0.0207	0.161
p	0.000324	0.00602	0.00715	0.000328	0.118	0.100	0.000116

Notes: Robust SE in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### *6.2.2 Findings from logit model for the second transition*

For the analysis of the second transition we use a subset of the previous database, which contains only those universities that already made the first transition (39 over 75). Again, it is designed according to a person-period scheme, with the university as unit of analysis and covariates included per each year from the year after the first event to the occurrence of the second event. Once the second event happens the unit goes out of the risk set.

Before entering the description of the model we provide here some descriptive statistics for dependent and independent variables included. Out of 39 universities, 28 (72%) made the second transition that, for most of them (19 units), represented the opening of the second satellite campus, while for nine universities represented the opening of a third or more satellite campus (tab.18). The mean value of the time span between the occurrence of the first and the second transition is 5.9 years (tab. 19), exactly the half of the time span needed for the first transition (11.9), as well as the median value: half of the population made the transition 5.5 years after the first event (12 years for the first transition).

Tab. 20 gives an overview of the distribution of the independent variables, combined with the distribution of the events. As we can observe, the absolute numbers are pretty low, and in some cases the percentage value is not indicative. Anyway, the cross tabulation seems to suggest again: a positive relation between the occurrence of the event and the size of the university, the presence of center and left coalitions; a negative association with the budget law and a curvilinear relationship for the variable distance.

Table 21 shows the estimates for the transition to the second event (irrespective of the number of satellite campuses open as a consequence of the event): the first hypothesis keeps the same direction of the relationships in the second transition (and remain not significant), but with some changes in the values of the odds ratios (mod. 3). The surprising outcome is about universities born originally as a satellite campus: still they keep an advantage but the estimates are no longer significant and the odds ratio is much lower (compared to the odds ratio for the first transition).

Being a new university and being a no-state funded university still reduce the odds of making the transition to the second round of satellite campuses, respectively of -65% and -62%, with the estimates for no-state funded universities that become significant. The size of the university turns to be negative in the analysis of the second transition, but the decrease is inversely related to the dimension (higher decrease for smaller universities): estimates for medium universities are significant and indicate a decrease of the relative risk of making the second transition, (compared to small universities) of about 70% (while the decrease is about -40% for huge universities, but is not significant). As drawn in fig. A.3, the predicted probabilities seem to suggest that the second round is mainly driven by small (and still huge) universities. The variable indicating a sort of “isolation” from other competitors still has the curvilinear effect (fig. A.3), but becomes stronger and significant: the chances of making the second transition increase of 2.6 times when the distance to the next university is in the third tercile, compare to the first one, and are significant through the models.

With respect to the organizational and institutional hypotheses, we can observe that the effect of the density variable is still curvilinear (fig. A2) but compared to the first transition, odds ratios become much lower and are no longer significant. The odds of making the second transition seem to increase when the total number of universities in Italy is between the second and third quartile of the distribution. But when the total number of universities grows to the second quartile the chances of making the transition decrease of about 66% (compared to the case in which the density is within the first quartile). The budget law n. 537/1993 seems not to have any effect on the transition to the second event if taken separately (mod. 6), while the government variable suggest an increase of the odds for center government. However, in the final model (mod. 7), the variable for the budget law shows a slight positive effect (+28%) but not significant, on the odds of making the transition (compared to the years in which the law was not implemented). The variable for the political orientation of the coalitions in power suggests a positive (but not significant) effect of both center and left governments, with a higher odds for the latter (compared to right governments). As mentioned before, the estimates for these variables should be treated with caution, due to contrasting results,

potential calendar problems associated to the distribution of the variable and their lack of statistical significance.

The control variable controlling for the left censoring (if the university had already satellite campuses before 1980) remains positive (but not significant) and increases its value in the analysis for the second transition: the relative probability of making the second transition are 2.18 times higher for those universities that had already satellite campuses previous to 1980. On the contrary, the control variable for the geographical location of the university turns to be positive (but not significant): compared to northern regions, universities that are locate in the southern regions should have a slight increase in the odds of making the transition (+15%).

According to our estimates, we could say that the leading features that we observed in the first transition are still relevant for the occurrence of the second event, although with interesting changes. Among individual characteristics of universities the age and source of funds still matter, but the past history (being a satellite campus) turns to be not significant and shows a much lower intensity. The size of the university does not show any longer a positive relationship, but on the contrary, it seems that the second transition mainly involved small universities (and partly huge ones). The hypothesis of the demand-push is still supported, but now it is driven mainly by the variable distance, that shows a curvilinear effect according to which the further the next university, the higher the odds of making the second event. Similarly, density processes that supported the hypothesis of imitative process turn to be not significant and reduce substantially their strength. It might suggest that once the environment becomes crowded, or that the desire for status (having a satellite campus as the peers) is satisfied, the imitative process slows down. While from a political perspective, it seems that again, while there is not clear differentiation between left and center governments and the relations are not significant, right wing coalitions might reduce the chances both for the first and second transition.

**Tab 17**

	N	%
Total n. universities	75	100
1st transition	39	52,0
2nd transition	28	71,8

**Tab 18**

2nd transition	N	%
2 satellite campuses	19	67.9
3 satellite campuses	5	17.9
4 satellite campuses	3	10.7
5 satellite campuses	1	3.6

**Tab 19**

	Observations	Median	Mean	Std. dev.
Time (years)	28	5.5	5.89	3.91

**Tab 20**

	2nd transition		total
	(n.)	(%)	n. universities
<i>size</i>			
small	4	100	4
medium	4	44,4	9
big	8	66,7	12
huge	11	84,6	13
total	27	71,1	38
<i>funding</i>			
state	26	72,2	36
no state	2	66,7	3
total	28	71,8	39
<i>age</i>			
open<1980	25	75,8	33
open>1980	3	50,0	6
total	28	71,8	39
<i>previously satellite</i>			
not	25	75,8	33
yes	3	50,0	6
total	28	71,8	39
<i>distance(min)</i>			
1st tercile	9	69,2	13
2nd tercile	5	55,5	9
3rd tercile	14	82,3	17
<i>density</i>			
1st quartile	7	100	7
2nd quartile	13	100	13
3rd quartile	5	31,2	16
4th quartile	3	100	3
<i>budget law</i>			
not	9	100	9
yes	19	63,3	30
<i>government</i>			
Right	9	45,0	20
Center	14	100	14
Left	5	100	5

**Tab 21 Estimates of logit regression for the second transition. Odds ratios.**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
founded >1980	0.390 (0.334)		0.351 (0.342)				0.382 (0.341)
Previous satellite	0.874 (0.781)		1.465 (1.465)				1.530 (1.450)
No-state funding	0.313*** (0.131)		0.386** (0.177)				0.379** (0.165)
Size (ref=small)							
medium		0.402 (0.254)	0.296* (0.185)				0.320* (0.213)
Big		0.603 (0.360)	0.341 (0.224)				0.422 (0.276)
huge		1.137 (0.619)	0.607 (0.396)				0.707 (0.466)
Distance to closest universit (ref=1 <sup>st</sup> tercile)							
2nd tercile		0.989 (0.639)	0.678 (0.496)				0.664 (0.449)
3rd tercile		3.384*** (1.598)	2.648* (1.381)				2.587* (1.257)
Density universities (ref=1st quartile)							
2nd quartile				1.574 (0.749)			1.527 (1.561)
3rd quartile				1.192 (0.770)			1.251 (1.510)
4th quartile				0.443 (0.325)			0.504 (0.676)
law n. 537/1993					1.003 (0.477)		1.281 (1.423)
Government (ref=right)							
Center						1.602 (0.771)	1.241 (0.687)
Left						0.959 (0.589)	1.448 (1.156)
had satellite univ <1980	1.852 (1.158)	1.919 (1.079)	2.317 (1.323)	(1.634) (0.877)	1.696 (0.978)	1.639 (0.859)	2.186 (1.214)
South of Italy	1.614 (0.942)	0.952 (0.522)	1.119 (0.695)	1.350 (0.690)	1.251 (0.668)	1.336 (0.703)	1.157 (0.685)
Constant	0.08*** (0.0422)	0.07*** (0.0436)	0.1** (0.122)	0.06*** (0.0381)	0.07*** (0.0407)	0.05*** (0.0302)	0.08** (0.0829)
Observations	336	318	318	336	336	336	318
Pseudo R-squared	0.0305	0.0680	0.0779	0.0287	0.00504	0.0126	0.0981
p	0.126	0.0407	2.54e-05	0.476	0.815	0.746	2.39e-08

Notes: Robust SE in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1





## Conclusions

The expansion in the endowment of higher education institutions in Italy and the driving forces behind this process have been the main topic of our dissertation. The focus has been mainly on macro level variables, observing how the aggregate number of universities and satellite universities evolved through time, since the unification of Italy to nowadays. Our work has been organized on the basis of two main objects of analysis: the first part dealt with the increase of universities operating in the country, while the second part dealt with the diffusion of satellite universities. For each of the two object of analysis we had both a descriptive and analytic purpose: at first we concentrated on describing how the process of founding of new universities (and afterwards, their modern extension, satellite universities) developed through time. On a second stage the focus of attention moved to the analytic level: is it possible to isolate some typical features that shaped the process? Are there some element that appear to be particularly significant for interpreting the phenomenon?

Scientific literature on higher education mainly focuses on the micro level reasons of this expansion and the associated aspects of social inequalities, but the topic of macro level expansion of organizations for higher education is still little investigated, especially in Italy. We believe that the findings of our work might contribute to the existing literature first by filling the gap of empirical evidence about satellite campuses and by re-organizing evidence on universities. Second, our contribution goes in the direction of bringing some new arguments in the debate about the organization of higher education in Italy, also by providing a systematic reconstruction of the contributions available in literature that are still fragmented across disciplines. Finally, we believe that some of the final considerations might be generalized from the specific Italian national case and may contribute to the scientific literature also from a theoretical perspective.

The dissertation analysed took into consideration universities as organizations and their evolution over time. We provided a reconstruction of the evolution of the

supply of higher education over 150 years in Italy, trying to combine together the sociological and historical approach. We will provide here a general overview on the whole system and then we will consider findings for the two objects of analysis separately

The establishment of new universities in Italy occurred in waves, that are characterized by specific features: the first peak was recorded in mid 1920s, as a consequence of the Gentile reform in mid 1920s; a second one can be identified in late 1960s, a third one in early 1980s and then, a final long period of expansion between 1990s and 2000s. We might summarize that the evolution of the higher education system in Italy has been characterized by a first phase (late 1960s) in which new universities were founded in order to rebalance an asymmetrical distribution of higher education institutions on geographical level, in particular in favour of southern regions; a second phase of expansion (early 1980s) has been driven still by purposes of rebalancing, but also by some first cases of upgrading of satellite campuses to full autonomous universities. Then, from the 1990s an impressive growth of that peculiar form of organization of universities (satellite campuses) that had little diffusion up to that time, started to boom and lasted for about 15 years between 1990 and 2005. Late 1990s indeed, experienced a new wave of foundation of universities, mainly driven by the upgrading of previous satellite universities and the decoupling of huge universities (as Rome and Milan). Finally, a very recent new wave has been observed in mid-2000s, entirely driven by private universities, especially online universities.

To summarize, we might say that part of the expansion observed in our period of analysis can be traced back to some governmental plans managed centrally by the Ministry, then the central control started to become looser and local forces began to occupy domains in which they were previously excluded. Yet, the expansion of the 1990s, despite being the result of local pressures was anyway mediated by the center, in particular in the case of the upgrade of satellite universities. On the contrary, the expansion that characterized the latter period of the 2000s seems to be driven almost entirely by private universities, especially online universities, without the direct involvement of the center. Private universities remained a marginal actor in terms of students enrolled, but the interesting point, from a macro

perspective, is that there seems to be a saturation process in which, first, state-driven initiatives give way to bottom-up processes characterized by the participation of mainly local actors, but nonetheless mediated in some way by the center. After a saturation point, however, state-driven initiative become no longer feasible (or no longer legitimated in times of retrenchment of public spending) and turn to open up the floor to new actors that exploit the market niches left out by the state.

Further analysis has been devoted to the evolution of universities for the last three decades of major expansion (1980-2010) using quantitative methods. The hypothesis formulated at the beginning of the analysis have been mostly verified by the data, although some limitations of the model forces us to use caution in the interpretation of the estimates. On the basis of our findings we might say that the expansion of universities in the last thirty years has been mainly driven by factors that can be associated to the demand for higher education, with a distribution of universities mainly in highly populated areas and with good economic performances. Indeed, for those provinces that concentrate a relevant part of the Italian population, and in those areas where the pressure of the potential demand is high compared to other provinces (as an effect of the rate of youth unemployment and of the number of high school graduates) the relative risk of experiencing the opening a new university is much higher. Besides, economic factors seem to play a relevant role as well: those provinces that perform better than the Italian average, in particular in terms of total consumption, should experience a higher propensity to have a new university on their territory. This finding goes in the opposite direction of what hypothesized but it interestingly suggest that, despite the rhetoric about the positive cycle between knowledge production, innovation and economic development that the presence of a university should stimulate, the establishment of universities was not used as a tool for boosting the development of economically disadvantaged areas. Rather universities better fit an environment that is already sustainable, with a well-developed economic system, above the average of the country. And only in such a context the university's contribution might be beneficial. We might be induced to consider that approaches referring to

regional innovative systems and triple helix model, seem to fit better for the interpretation of experiences of high-tech clusters in foreign countries. Finally, the hypothesis that there might be some ecological processes influencing the shape taken by the process, seems to be observable in our data (despite not significant): after years of growth, the system reaches a sort of saturation point (represented in our data by the third tercile of the distribution of the total number of universities), after which the trend of founding should show some trends of decrease.

The second part of the dissertation dealt with satellite campuses, that rapidly spread in the country since the 1950s, and that still remain a peculiar feature of the Italian higher education system, in comparison with other European models. In order to try to catch the many aspects of such a complex phenomenon, we first described the evolution of the process and then tried to develop a conceptual framework about the actors involved and the relations among them, also recurring to the method of qualitative case studies. From a methodological point of view the quantitative approach remains the main reference for our work, but the section on case studies, despite not exhaustive, resulted helpful in describing some aspects of the phenomenon that hardly could be caught by a quantitative approach only.

The model developed for the analysis of the case studies highlights the interaction of three main actors (local institutions, parent universities and the national state) and the convergence of interests between the first two of them, at the expenses of the third one. We have seen how local administrations have always been playing a key role in the process of foundation. They had both something to gain and to lose in the interaction: the satellite campus brought benefits in terms of prestige and electoral advantages, but this came with a cost: the financial sustainability of the site. Parent universities are the only actor that has a lot to gain and nothing to lose: satellite campuses were a cost-free operation and moreover brought gains in terms of status (at least at local level), additional students and personnel (with consequent additional resources). On the contrary, most of the burden was on the state, the only actor that has to lose in this game: the amount of resources made available to the first two actors are nothing but public national resources, in the form of transfers to local administrations and resources for new academic (and

administrative) personnel and contributes for additional students. In return the state received a short-term benefit: a higher number of infrastructures for higher education that in the short period may have helped meeting the increasing demand, but soon slipped out of control and turned into a problem. However, the behaviour of the central government changed radically in the last decade and become hostile, at least in terms of public discourse, so that in practice about 10% of the satellite campuses have been closed in last 5 years.

Identifying the source of such a radical change is not an easy exercise but we might try to interpret the change as follows: at a first stage local actors and universities, linked together by convergent interests, found a compliant counterpart in the state which, despite being the weakest and more disadvantaged actor in the game, pressed by pressure coming from the bottom, decided to cooperate with them assuring financial and legislative support. But we might assume that, despite on a macro level the state as institution had nothing to gain, there might have been, on a micro level, individuals representative of the state that had personal gains. Ministers (but even high-rank officials) might have benefitted on a personal level from a generous management of public policies, that generated prestige and consensus among their constituency. At a second stage however, the state stopped cooperating, denied its involvement and withdrew radically from the game. We might believe that, due to the coming up of a period of fiscal crisis and general shrinkage of public expenditure in European countries, in particular in a country like Italy, already under pressure due to the high level of national debt, expensive public policies were no longer perceived as feasible. A serious period of shortage wakes up an actor that up to that time was compliant with most of its constituencies, but as soon as the macro environment turns bad, starts realizing that the initial project quickly slipped out of hands, and turns to attempt to bring back under central control dynamics that however, already have a life of their own.

After having identified the main forces at the origin of the development of satellite campuses on macro level, we focused the empirical analysis on the search of micro level characteristics of the parent universities that, together with environmental variables, might have been determinant in the chances of opening a satellite campus. Given the unique nature of the phenomenon, characterize by the

recurrence of the events, we first developed a model for the first transition, then a model for the second transition (irrespective of the actual number of satellite campuses, but rather paying more attention to the “waves” of the phenomenon). Findings from our model for the first transition seem to suggest that<sup>87</sup> again the phenomenon may be interpreted as demand-driven, but strongly associated with a tendency to implement imitative processes among peers. With respect to the demand, it seems that, where the pressure for new infrastructures is high (as we can assume for huge universities with more than 30,000 students) and where the level of isolation is relatively high, with no easy-to-reach alternatives for students, the university (more often a state funded university) may try to use a rather flexible and quick organizational form in order to solve the problems of congestion and to come closer to the local demand. Or, said differently, we may also assume that the more distant a potential competitor, the higher the propensity of the university to extend its presence (or control) over the territory. As seen in the qualitative section, the competition among territories and universities for land covering and demand grabbing is an underlying tension, and universities might have found in satellite campuses an useful tool that resulted to have a twofold utility: from one side the satellite campus brings relief to the problem of crowding, on the other it provides status gains on the level of territorial coverage and exploitation of local demand.

Particularly significant in this respect is the hypothesis of imitative processes: the estimates of the variable density seem to suggest that the propensity to make the first transition increases strongly and significantly when the total number of satellite universities in the country is in its medium-high values. We might say that, referring to the notion of isomorphism and legitimacy we introduced in the theoretical background, once the new form of organization begins to be accepted and legitimated, a sort of race for following the new “fashion” spreads among universities. It looks like individual universities start following a logic similar to what happens with fashion in groups of peers, where there are some leader who innovate (in this case innovate their organizational setting), and the others follow

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<sup>87</sup> Keeping in mind the intrinsic limitations of our model, based on few units of analysis and the entire population.

the trend: satellite campuses became a “must have” in order to be legitimated, (or “cool” if we want to follow the fashion analogy).

But the very surprising result lays among the universities that were originally settled down as satellites campuses: a result contrasting with what hypothesized and that inspires some interesting considerations in line with what mentioned before. If we consider that: a) opening a satellite campus seems to be a typical action of huge and historical universities of the north and center of the country, that generally own a higher status in an informal ranking of prestige; b) on the contrary, being born as a satellite campus marks the university as belonging to a B-series, at an informal perceived level; we could interpret the decision of opening a satellite campus as the result of an imitative process which has the aim of legitimizing the previous satellite campus among big and traditional universities. As said before, the opening of satellite campuses might be seen as a signal of power, prosperity and attractiveness of an university, a sort of “trend” launched by the leaders in which nobody wants to be left behind. The imitative processes implemented by former satellite campuses might be driven by the search of legitimacy among the leaders, or at least as an attempt to show themselves as able to keep the pace with the “innovations” of the other universities, trying to overcome the potential handicap coming from their lower status of origin.

In addition, another interesting theoretical consideration can be made on the fact that the imitative process also works *within* the same organization: former satellite universities, once become “adult” tend to perpetuate the same scheme that gave them birth, a tendency to propose once again the same organizational model that they “learnt” from the mother university. It could be identified as a sort of intergenerational imitative process, a mother-son imitative process, that could be traced back -although in a variant version- to the case of mimetic isomorphism as described in the famous tripartite scheme by DiMaggio and Powell (1991).

With respect to the second transition, we observed that it occurs few years after the first event, and that the trends we observed for the first transition are still relevant but from different perspectives. Among individual characteristics of universities age and source of funds still matter, but the past history (being a satellite campus) turns to be not significant and shows a much lower intensity. With respect to size,



it seems that that the second transition mainly involves small universities, whose predicted probability of experiencing a second (or more) event is higher than the other categories, and partly by huge ones, that experience a little reduction in their predicted probability. The hypothesis of the demand-push can be considered still supported, but now entirely driven by the variable distance. It shows an increase in the relative risk of opening the second (or more) satellite campus if highly isolated from other universities: the further the next university, the higher the odds of making the second event. Similarly, density processes that supported the hypothesis of imitative process turn to be not significant and reduce substantially their strength. These variations might suggest that, consistently with new-institutional and organizational literature, once the environment becomes crowded, or better, that the desire for status (as seen before, interpreted as the desire of having a satellite campus as the peers) is satisfied, the imitative process slows down.

Finally, we conclude with some considerations about the policy implications that can be drawn from our work and with some hints for future directions of research. With respect to policy implications, we believe that the analysis developed here about satellite campuses might contribute to the debate on the national higher education system in particular for what concerns the topic of differentiation. As we have read, the rhetoric around satellite campuses is all about the need of research and innovation for local economies, but a general post-secondary training is not considered enough: everybody claims for a “piece” of university that has to be special, to be excellent, super specialized on the issues of interest for local economies. But it is a never-ending race toward specialization and uniqueness that seldom is what territories need. There is a sort of detachment between the political ambitions and aspirations of prestige by local governments and what territories actually need. Economies of the Italian provinces (and we would extend the consideration to the national economy in general) would be hardly able to receive and exploit innovative scientific research by its own: the economic structure is based on small firms, often family-run, based on traditional productive sectors with low levels of specialization and innovation. Without the help of intermediary

agencies, of encompassing and organic public policies for innovation, the dialogue between research and local economies is hard to be successful. Rather, as far as we are concerned, the presence of satellite universities on those territories would be more fruitful if interpreted in the framework of a differentiation of the higher education system. Despite the persistence of a unitary model, demand for education in the mass system is not the same for all: not everybody aims at receiving the same kind of education. There could be a portion of demand that is more oriented to vocational training or has specific needs (for example adults or working-students) that could be better answered by a local campus. Further, local firms could better benefit from graduates trained in vocational, professionally oriented degree programs tailored on the needs expressed by firms, rather than having a counterpart that produces general training and research that they do not know how to use and cannot exploit. As the empirical models suggest, satellite campuses have been created mainly for meeting the local demand, but probably the demand was not homogeneous: children of families with higher social (and economic) background or students with an academic orientation have more often attended the headquarter, and likely they will continue to do that. Thus, a new organizational form as the satellite campuses are, could have better played its role (and would be better exploited) if assigned to a different task, compared to its parent. If all the institutional actors will be able to work together for overcoming resistances against vocational higher education and for enhance the involvement of all the economic categories, associations of employers above all, satellite campuses might turn to be a resource instead of a problem.

As last point, some final hints for future directions of research. The work developed in this dissertation cannot be considered exhaustive, rather, the more it advanced the more new questions and challenging perspectives arose. As far as we are concerned, three are the main directions that, on a methodological point of view, future research should follow to improve the study of the evolution of universities and satellite campuses in Italy.

The first one is the integration between qualitative and quantitative methods. The topic under study has a great complexity in its own, that involves several actors at

macro and micro level of analysis. An approach that mixes both methods, quantitative and qualitative, is desirable and can only be helpful in disentangling a multi-dimensional issue, rather than a strict preference for one method and the exclusion of the other, at the expenses of the quality of the research. Quantitative indicators can contribute to the explanation of the phenomenon up to a certain extent: the dynamics behind the process and the mechanisms among actors in the game can only be grasped by qualitative analyses. A deeper investigation of the case studies here presented, the extension to new cases and some expert interviews might shed new light on the topic.

The second suggestion regards the quantitative approach: a refinement at the stage of selection and collection of quantitative indicators might be beneficial for the advancement of the empirical models here presented. New explicatory variables at province and university level might be tested, new and more appropriate covariates might be identified and selected, and historical series of data might be integrated in order to cope with missing data.

Finally, an interesting field of research that might be developed as a second step of the dissertation deals with the effect of the presence of the university on the territory. After having analysed the determinant of the expansion of universities and the elements that allocate them among territories, it would be interesting to study the consequences of having a university on the territory. Future research might try to investigating whether and how the university generated some effects on the area where it is placed, not only in terms of economic development but also whether it contributed on in terms of social and cultural progress. The research would have important policy implications but would also contribute on theoretical level to the debate on how higher education should be conceived, whether a tool with instrumental ends only or rather as a public good contributing to the general advancement of the society.

# Appendix

Fig A.1 Predicted probabilities for the opening of a new university (chapter 4)

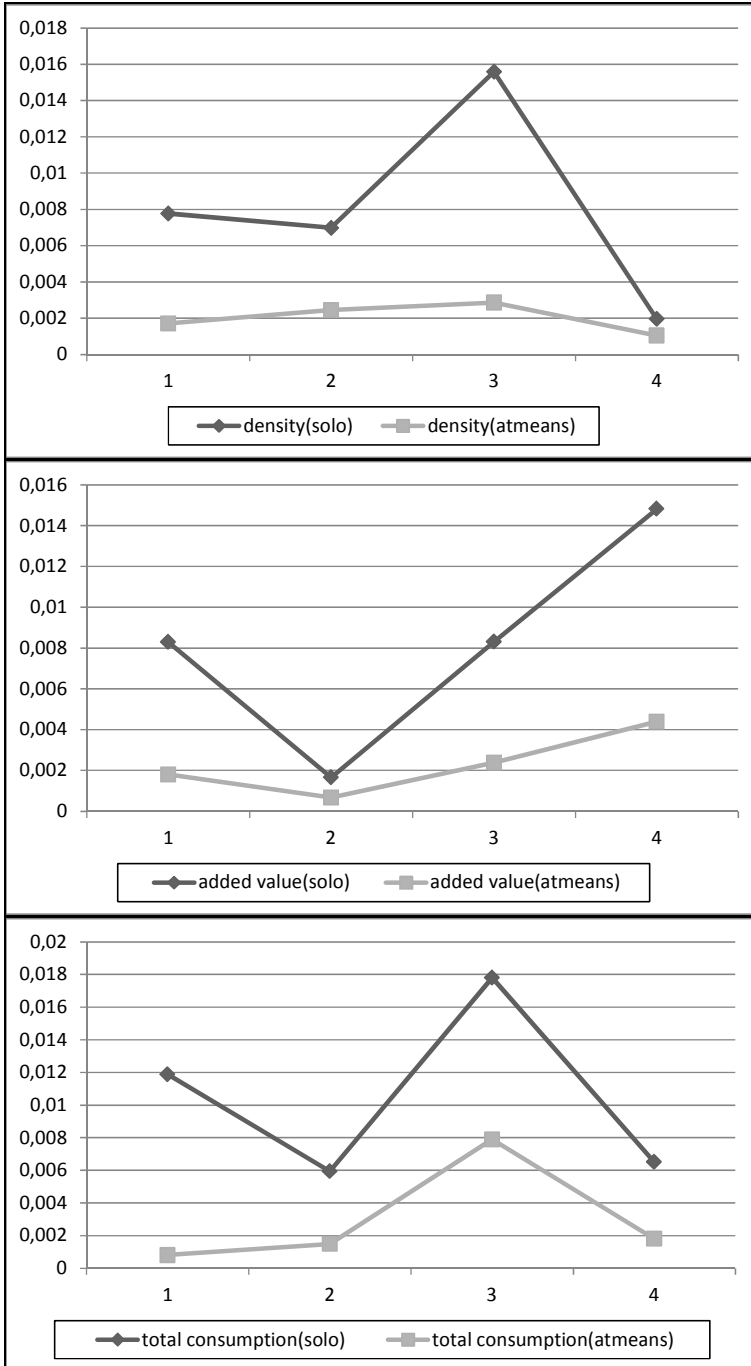
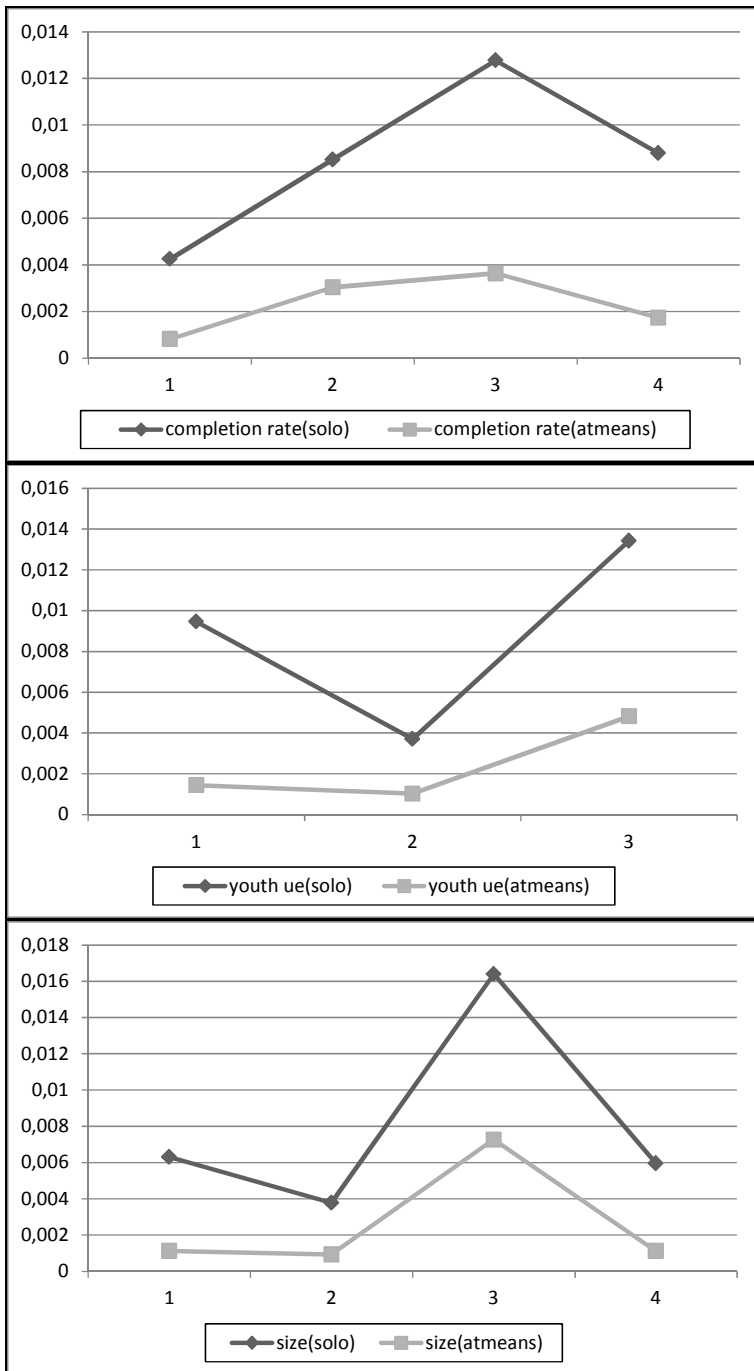
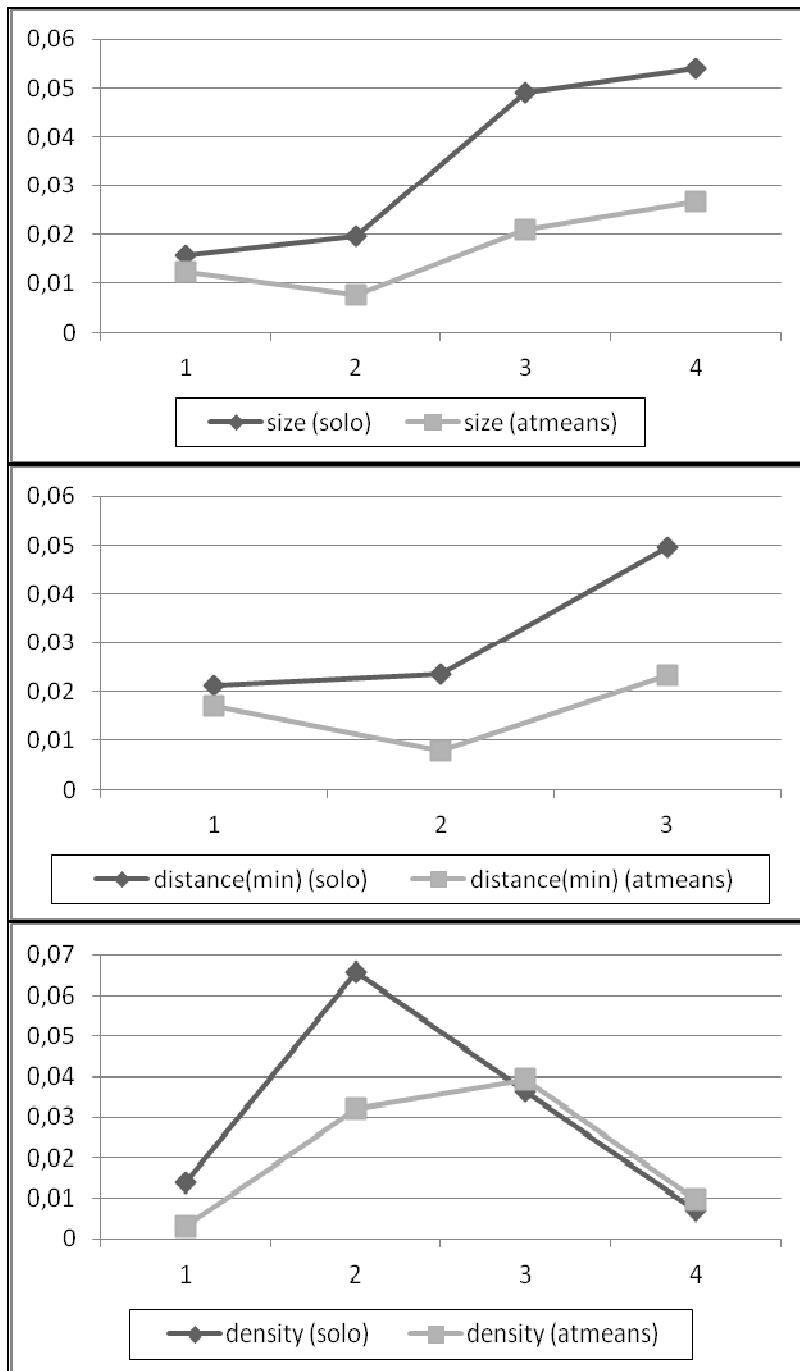


Fig A.1 (continues)

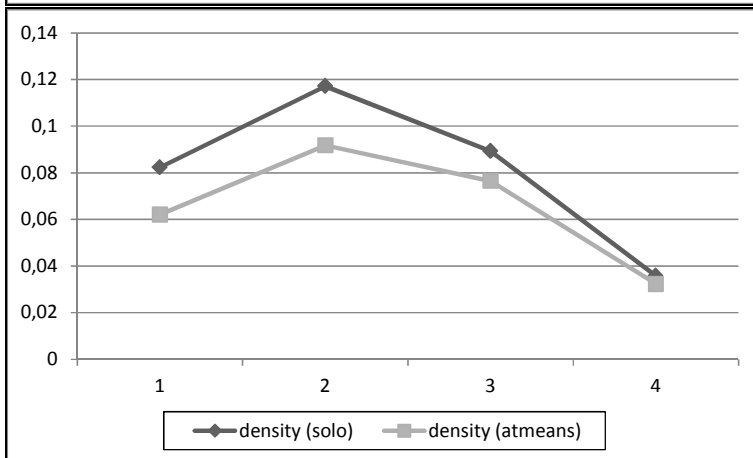
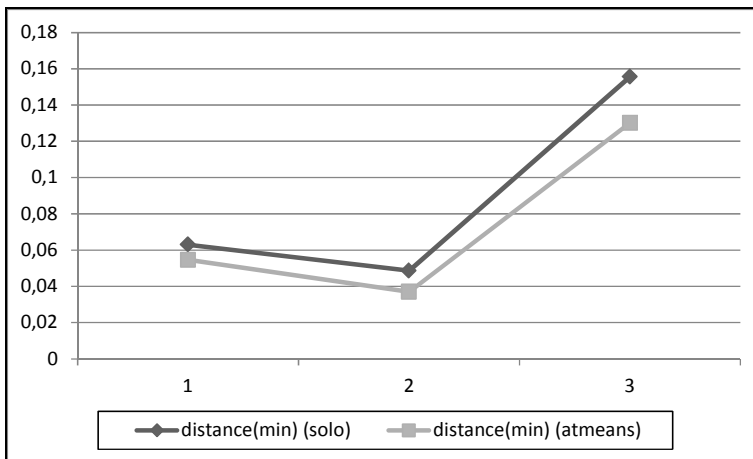
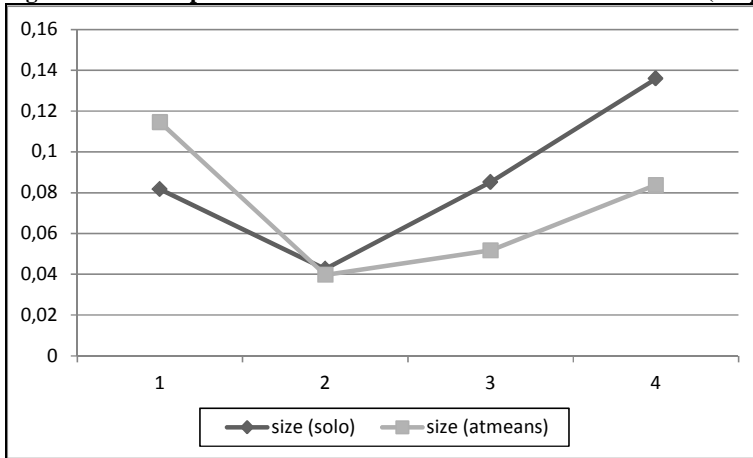


Note: the fourth category for youth unemployment (missing data) is omitted due to problems of collinearity

Fig A.2 Predicted probabilities for the first transition to the event (chapter 6)



**Fig A.3 Predicted probabilities for the second transition to the event (chapter 6)**



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