Yourtopia Italy

Measuring Social Progress with an open data experiment

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Democracy is an institutional framework for the aggregation of citizen preferences, where the correspondence between acts of governance and equally weighted preferences of those who are governed is of the utmost value. Democratic governance seeks to incorporate citizen preferences in policy making, but even an ideal decision maker may have trouble understanding what those preferences actually are and how citizens trade-off the relative importance of their various demands. As such, the amount of information freely available in the political system (open knowledge), and the responsiveness of political institutions and actors is a key variable of a well-functioning democratic system.

The current paper will propose an experimental method to create a two-directional flow of information between government and citizens for the measurement of social progress, made possible through open knowledge instruments. Indeed, developments in information and communication technologies (ICTs) in the last years have substantially increased the amount of data on revealed and stated preferences of citizens, as well as information about institutions, public policies and macro trends. In the information society, it is easier to build and use more accurate and encompassing indicators to inform a fact-based policy decision.

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The increased data availability enables new methodologies for addressing an old problem: the quantification of social progress. Building on a project of the Open Economics Working Group of the Open Knowledge Foundation, Yourtopia Italy, the paper describes an experimental design that uses ICTs and internet collective intelligence to solve the problem of defining social progress according to citizens' preferences. Section I will analyze how open data can affect the policy cycle, and what policies can be implemented to foster a fertile open policy ecosystem. Section II will introduce the issue of social progress measurement, with its core methodological and policy issues. Section III will describe a background experiment for social progress measurement, that lead the way for Italia.Yourtopia.net. The latter's functioning and methodology will be described, respectively, in Sections IV and V. Last session wrap up Yourtopia contribution to the problem of social progress measurement and its relevance in the open policy ecosystem.

I. Open data, open government and the open policy ecosystem

Since the industrial revolution, the collection and elaboration of data has been an increasing important activity carried out by government in order to address problems in a complex society. In order to draft policies, an increasing high amount of information is required, both factual information about the problems addressed and information about preferences of citizens[1]. As for the first, modern bureaucracies have organized public statistical offices to collect and process data. As for the second, democratic process is traditionally considered a way to reveal and incorporate citizens preference in the decision binding the collectivity[2] directly through elections and through the demand aggregation function of gate-keeping institutions[3].

Developments in information and communication technologies (ICTs), however, have substantially changed the informational landscape of the policy system. First of all, much

1 Beninger, James R. "The control revolution. Technological and economic origins of information society". Cambridge, 1986

2 See Dahl, Robert, Poliarchy, Yale University Press (1971), May, John. D.,"Defining Democracy: A Bid for Coherence and Consensus"." Political Studies 26.1: 1-14, 1978

3 Easton, David. "A re-assessment of the concept of political support." *British journal of political science* 1975, 5.4: 435-457.

more data can be collected, stored and elaborated by governments and their bureaucracies. On the other hand, ICTs innovation also allowed an unprecedented diffusion of tools for elaborating data among non governmental actors. The process of data analysis, which transforms data into information, is not anymore a monopoly of highly equipped governmental offices but can be easily performed by other players, economic actors and non profit such as researcher or civil society groups. We are thus facing an important process of enlargement of the Public Information Sector, that can be accessed by larger shares of society, giving rise to an ongoing process of substantial democratization of the decision process. We can ascribe this enlargement to two causes: one is of course technological innovation, mainly the availability of data-reading machines and the Internet. The other is an unprecedented change in governmental culture toward increased openness and transparency through open-data policies.

Since the mid-2000s governments, multilateral organizations and private entities increasingly widened access to long-curtailed databases, allowing third parties to view, and employ their data, enabling data-driven policy critiques, public outreach (often based on third-party data visualization providers) and new commercial services.

But what is open data? Traditionally, we can distinguish between data (which are factual observations about reality), information (which includes a first level of interpretation), and knowledge (interpretation of information according to beliefs and judgments)[4].
The open data movement has demanded increased access to data retrieved by the public sector[5], in order to let the civil society analyze and transform them in information. According to the Open Knowledge Definition, data can be considered open if the following conditions are fulfilled:

a) **Availability and Access**: open data is available as a whole (as opposed to just a subset of information) and at no more than a reasonable reproduction cost, usually

4 Henry, Nicholas L. ,"Knowledge Management: A New Concern for Public Administration". Public Administration Review 34 May/June 1974 (3): 189

5 Also the corporate world and NGOs have been increasingly subject to requests to release their information in a open data format, but we will mostly focus in this paper on Public Sector Information.

by downloading via the Internet without charge. Openness requires also that the work must be available in a convenient and modifiable (e.g. machine-readable) form, to empower analysis by persons beyond the information dissemination.

b) **Reuse and Redistribution**: data that are covered by a license that does not restrict any party from elaborating the data in new services and products, and from selling or giving away the results;

c) **Universal participation**: everybody shall be able to use the data, without discriminating against any person or group of persons, and without restriction concerning the field of application or the purpose - which can also be for profit[6].

The more the information is provided in an open data format, the greater is the possibility, for governments and the civil society to generate new information. This cycle is expected to increase the responsiveness of the political process of decision making.

Political bodies have been quite receptive to this demands, and in the last decade, governments have increasingly opened up their statistical database, making information more available to the public. In 2009, US president Obama launched, on his first day in office, the Open Government Initiative[7], creating an open data portal[8] and requiring all federal agencies to post at least three high-value data sets online and register them on data.gov within 45 days. In 2010 United Kingdom launched its open data portal[9] too, and the Australian government published a Declaration of Open Government[10]. Following the Anglo-Saxon lead, numerous countries launched similar initiatives, and also the European Union set open data as a policy goal in the Malmö Ministerial Declaration on eGovernment and in the European Digital Agenda, and then created a European portal to monitor the developments of open data among the Member States[11]. According to the last EU survey[12], nine MS implemented some sort of open data strategies. Also Italy, in 2011,

6 Syntheses from: OKFN, Defining the Open in Open Data, Open Content and Open Services, http://opendefinition.org/okd/

7 Obama, Barak, Memo from President Obama on Transparency and Open Government, 2009, http://www.whitehouse.gov/open/documents/open-government-directive

8 data.gov

9 data.gov.uk

10 http://agimo.govspace.gov.au/2010/07/16/declaration-of-open-government/

11 EPSI Platform, www.epsiplus.net/

12 Schellong, Alexander and Ekaterina Stepanets, UNCHARTERED WATERS - The State of Open

launched its own open data portal[13].

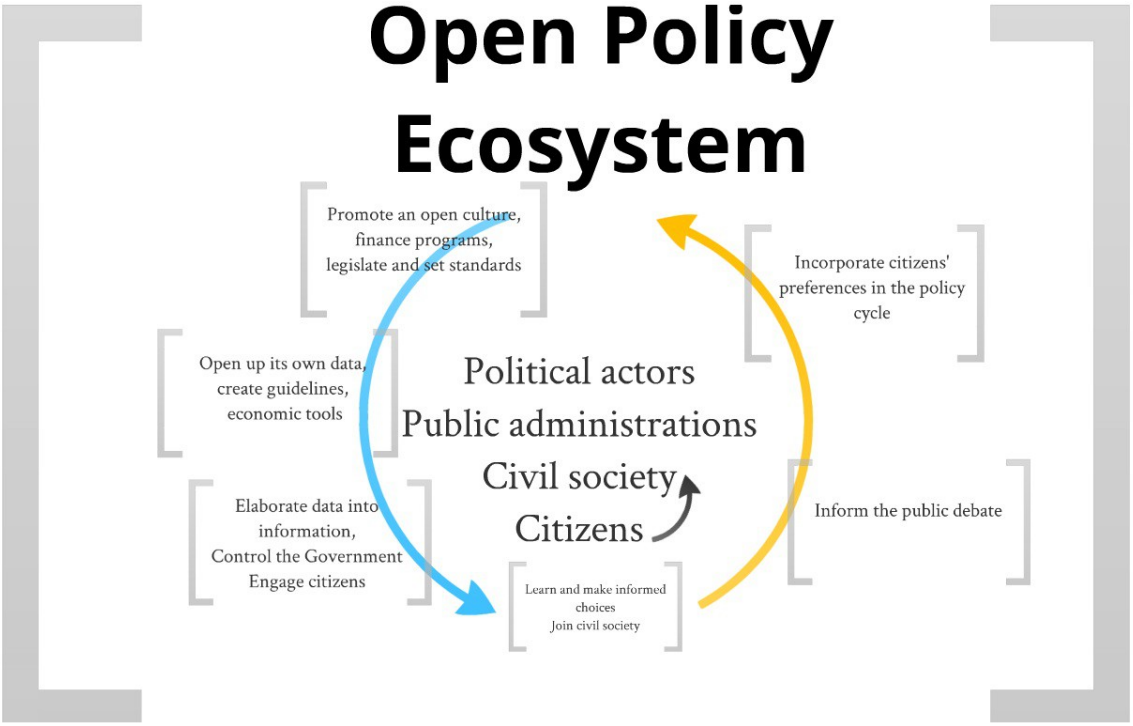
But while the government has an important role in opening up its database, the open government culture is developed in a broader ecosystem, in which the civil society, meaning economic actors, research centers and intellectual entrepreneurs play a vital role in elaborating data into information and making them meaningful and useful for the rest of the society. Third-party elaboration has indeed an intrinsic value, because civil society can contribute to a better public debate with an independent creation of information and knowledge. But it also allows for a faster elaboration of data into information, since non governmental actors have more flexibility in updating their technologies and better display information[14]. Finally, citizens have larger opportunities to engage in the public debate with fact-based opinions.

The open policy ecosystem can be described with two directional channels for the information to run: top-down, from the government to the citizens, or conversely bottom-up.

Data in Europe, Epractice.eu, 2011

13 Dati.gov.it

14 Robinson, D. et al., 2008. Government data and the invisible hand. Yale Journal of Law and Technology, 11, 160.



The first transmission channel supports classic demands for institutional transparency through sharing insights on the social-economic conditions faced by government and the outcomes of government initiatives. As a result, citizens can know more about institutions and make more informed choices about their political preference. This has been insofar the main focus both of the open government movement, and of government initiatives.

The other directional transmission flow is possible because open data and internet technologies allow new channels for aggregation and transmission of citizens' preferences in the policy cycle. Thanks to new applications, we can have more diffusely democratic, bottom-up forms of government-citizens interaction. The added value of open data interaction compared to more traditional channels of information retrieval from the political system like surveys, is the creation of a more fact-based political preference. The civil society can implement interactive instrument that can inform the citizen about facts and help them form their choices. In order to create a fertile, two-directional open policy ecosystem, governments need to implement a specific subset of open access policies. They should refrain from direct the elaboration of data, but rather focus on empowering the engagement of citizens by the civil society.

In this contest, a survey for the Dutch Ministry of the Interior and Kingdom Relations, TNO (the Netherlands Organisation for Applied Scientific Research) highlighted four categories of policies that can be implemented in order to foster open government strategies:

a) **Legislation and control**, with the implementation of Public sector information law and Freedom of Information act, as well as the legislation of Technical standards for data publication and the institution of a Monitoring agency for the development of open data initiatives;
b) **Voluntary approaches**, such as declaration of Overall strategies and programs, publishing of General recommendations and commitment to Public voluntary schemes;
c) **Education and training**, directed to both public administrations and the civil society, with the creation of Knowledge exchange platforms, publishing of Guidelines, and organization of Conferences, sessions, workshops;
d) **Economic instruments**, such as the direct Financing of open data portals or of Competitions, app contests and camps[15].

A mix of all this instruments is required in order to create an effective open policy ecosystem, in which all actors can play their role, all policy instruments are important. Voluntary approaches might have an important role for increasing awareness about an open government agenda, but legislation and control policies are a fundamental step in breaking up the monopoly of PSI and allowing for non governmental actors to re-use

15 Elaboration from Huijboom, Noor and Tijs Van den Broek, Open data: an international comparison of strategies, European Journal of Epractice, Nº 12 · March/April 2011

open data. Education and training tools are also important in order to take public administrations and bureaucracies on board with the openness culture. Economic tools such as competitions and contests play an important role in engaging civil society and catalyze efforts of intellectual entrepreneurs.

Our paper will describe an experimental setting that tries to climb the bottom-up channel of information developed by the Open Knowledge Foundation. Yourtopia Italy is an internet application that uses open data and information dispersed among internet users in order to measure social progress with synthetic indicators. While doing so, Yourtopia Italy collects important information about the progress divide between Northern and Southern Italy, and release those information in an open format in order to contribute to a public debate particularly important in a recession time. In addition, our experiment solves a methodological and a policy problem concerning the measurement of social progress: thus, before explaining the experiment, we will provide a quick background on social progress measurement initiatives and address the methodological issues involved with it.

II. Old problems and new tools for measuring social progress

In the last years, there has been a growing consensus in the literature[16] and among policy makers[17] on the need of overcoming GDP as a single metric to measure development and progress, since this must take into account non-economic dimensions such as institutional, distributional and sustainability concerns.

Both individual countries and international organizations have tried to elaborate better measurement through either dashboards of indicators or, more often, composite indexes.

16 See, e.g., Giovannini E., Hall J., D'Ercole M.M. (2006), Measuring Well-being and societal progress, Background paper for the conference 'Beyond GDP', 19-20 November 2006, Brussels; J. Stiglitz, A. Sen, J. Fitoussi et al, Report of the commission on the measurement of economic performance et social progress, 2009, available at http://stiglitz-sen-fitoussi.fr/en/index.htm ; M. Spence and O. Hotel, "The Growth Report: Strategies for Sustained Growth and Inclusive Development," Commission on Growth and Development Final Report, Washington, DC (2008).

17 Istanbul Declaration by the European Commission, the Organisation for Economic Cooperation and Development, the Organisation of the Islamic Conference, the United Nations, the United Nations Development Programme and the World Bank, 2007, available at http://www.beyond-gdp.eu/download/oecd_istanbul_declaration.pdf

Examples are abundant: at the international level, the World Bank's World Development Indicators, UN's Millennium Development Goals portal and the following UNDP Human Development Index, the OECD Better Life Index, the Canadian Index of Well-being and the Bhutan Gross National Happiness Index. Also national states showed some activism: in 2007, the former French president Nicholas Sarkozy initiated the Commission on the Measurement of Economic Performance and Social Progress, leaded by Amartya Sen, Joseph Stiglitz and Jean-Paul Fitoussi, who delivered a landmark report on the field of social progress measurement[18]. In 2010, the UK Office for National Statistics initiated the project "Measuring National Well-being". In Italy, the national statistic institute (ISTAT) and the Consiglio Nazionale Economia e Lavoro (Cnel), began a research program aimed ad developing a set of indicators for fair and sustainable well-being (Benessere Equo e Sostenibile – BES).

But while everybody agrees on the importance of measuring social progress, and many actively engage in this activity, there is controversy in the scientific debate about the effectiveness and objectivity of these attempts. First, there are methodological concerns regarding the composite index of social progress[19]: they suffer from arbitrary assumptions on indicator weighting, category and proxy choices. As noted by Ravallion, "Neither the menu of the primary series nor the aggregation function is pre-determined from theory and practice, but are ―moving parts of the index—key decision variables that the analyst is free to choose, largely unconstrained by economic or other theories intended to inform measurement practice. […] Equality of the weights was, of course, an arbitrary judgment"[20]. The choice of indicators and their weighting, even when apparently neutral, still reflects the choice of the organization or government who construct the index, rather than a democratic or scientific consensus[21]. Following our previous distinction, these statistical indexes do not provide data, but rather belong to the realm of information, or even knowledge, since value judgments and beliefs are embedded in the final

18 Stiglitz, Joseph et al., Report by the Commission on the Measurement of Economic Performance and Social Progress, 2009, www.stiglitz-senfitoussi.fr/documents/rapport_anglais.pdf

19 The alternative to composite indexes are dashboards of indicators, who provide larger amount of data but have the drowback of being difficult to undestrand and interpreter. See, e.g., Stiglitz et al, 2009

20 Ravallion, Martin, Mashup Indices of Development (September 1, 2010). World Bank Policy Research Working Paper Series, 5432 2010, p 5, 18.

21 Stiglitz et al, 2009

aggregation.

Despite these decisive blows to composite indexes, however, these have remained to be relevant to policymakers, who try to maximize social progress. And a second major issue concerning indexes of social progress arises when policies are to be implemented based on that. As suggested by Bruno Frey in an application of the Campbell's Law[22] to happiness indexes, whatever indicator is policy relevant, will receive political pressure to be manipulated[23]. As we have seen before, methodological weaknesses make social progress indexes prone to manipulation by the government.

The remaining part of the paper will describe a workaround to these issues, by developing an experimental design that uses open data and internet collective intelligence to solve the problem of defining social progress according to citizens' preferences. We used two websites, Italia.Yourtopia.net, to gather a definition of social progress resulting from economic and social differences across Italian regions.

This experiment builds on a previous elaboration by Open Economics working group Yourtopia.net, whose methodology has been improved in the Yourtopia Italia version. The apps use internet users' collective intelligence to build a composite index of social progress. The citizen approaching the website is asked to choose his own ideal place by describing which dimensions of progress are more important in his view of the world. This interaction determines the indicators and their weightings, generating individualized progress ratings. With the viewer and constructor of the index coinciding, Yourtopia circumvents the traditional issues of composite indices: all assumptions are now open and by construction understandable by the user since he chose those items he recognizes and prefers.

III. Yourtopia.net

In 2011, the Open Economics Working Group[24] launched a website, Yourtopia, building,

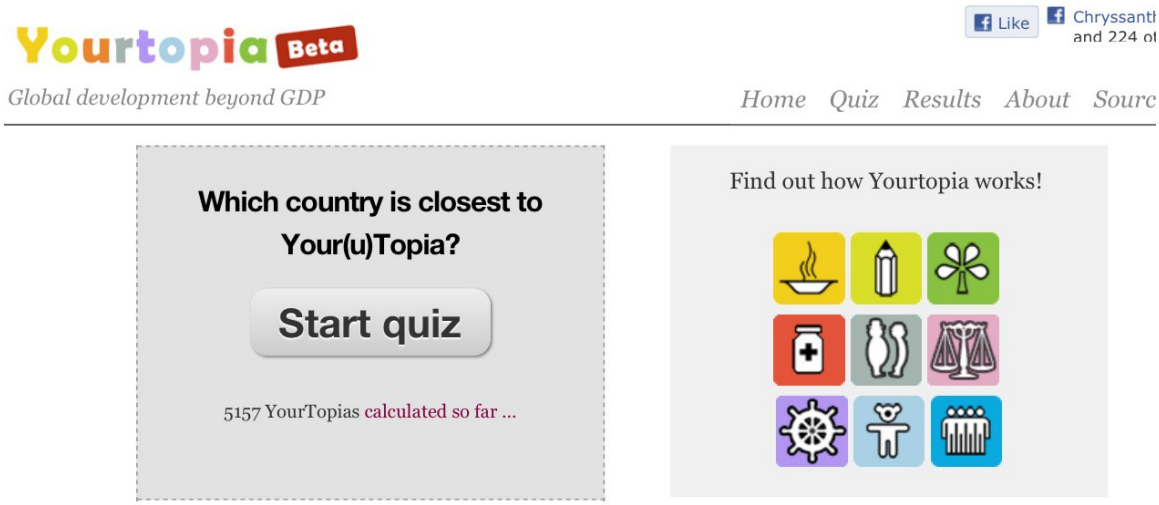
22 Campbell, Donald T., Assessing the Impact of Planned Social Change The Public Affairs Center, Dartmouth College, Hanover New Hampshire, USA. December, 1976., p. 50

23 Frey, Bruno S., Tullock Challenges: Happiness, Revolutions and Democracy (April 2011). University of Zurich Economics Working Paper No. 15

24 The Open Economics Working Group is a network of researcher run by the Open Knowledge Foundation in association with the Centre for Intellectual and Property Law (CIPIL) at the University of

together with the user, a composite index tracking progress on the Millennium Development Goals. Yourtopia used the categories of development suggested by UNDP's Human Development Index (HDI) and suggests users as default to use the official weightings and proxies. The user determines the indicators and their weightings in a playful quiz, generating individualized country-results. The extent to which users' choices diverge from these defaults is interesting in identifying how strong the assumptions underlying HDI are reflected in public understanding of development.

This interactive experiment generates anonymous high-frequency data depicting variation in the public's understanding of development and their preferred indicators, with potential policy messages. More than 4000 users registered their own definition of progress in the first year – a quite large and informative sample[25].



Yourtopia landing page, screen-shot

The Yourtopia experiment is a good example of how the elaboration and visualization of open data can create a sophisticated tools to refine economic concepts such as “progress” and “development” according to users preferences. The user is not just a dump for

Cambridge.

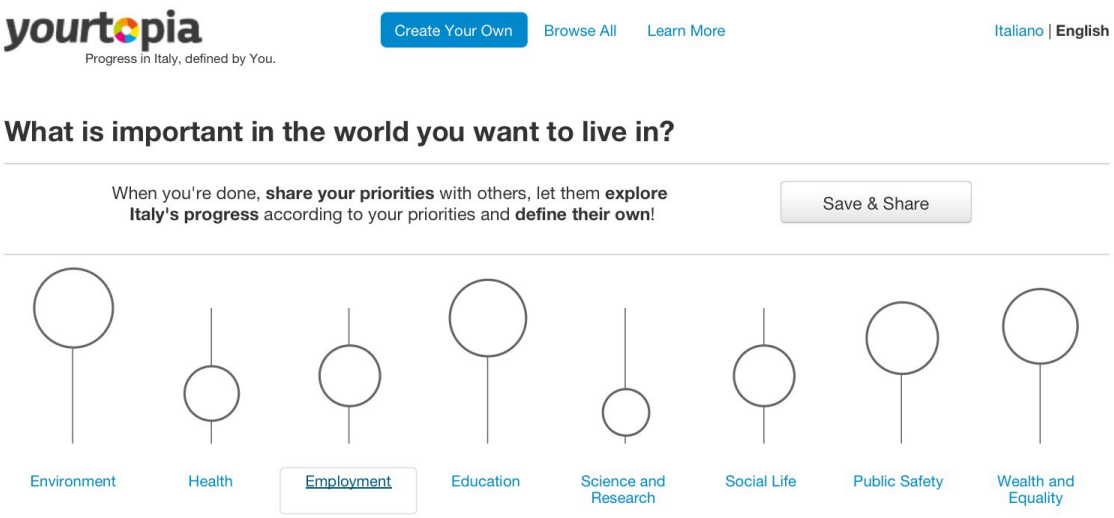
25 For a discussion of Youtropia results, see D. Heine and G. Xu, *Analyzing the Yourtopia Dataset*, February 2012, Open Economics Blog http://openeconomics.net/2012/02/07/analyzing-the-yourtopia-dataset/

information anymore, but two-way communication becomes possible. Citizen can easily participate in a research-project that circumvented the traditional issues of composite indexes. With the viewer is of the index is at the same time its constructor, so assumptions become open and understandable by the user since he chose those items he recognizes and prefers.

IV. Italia.Yourtopia.net

Building and improving on Yourtopia methodology, the Open Economic Working group launched in April 2012 a more elaborate initiative to measure social progress, choosing Italy as a case study.

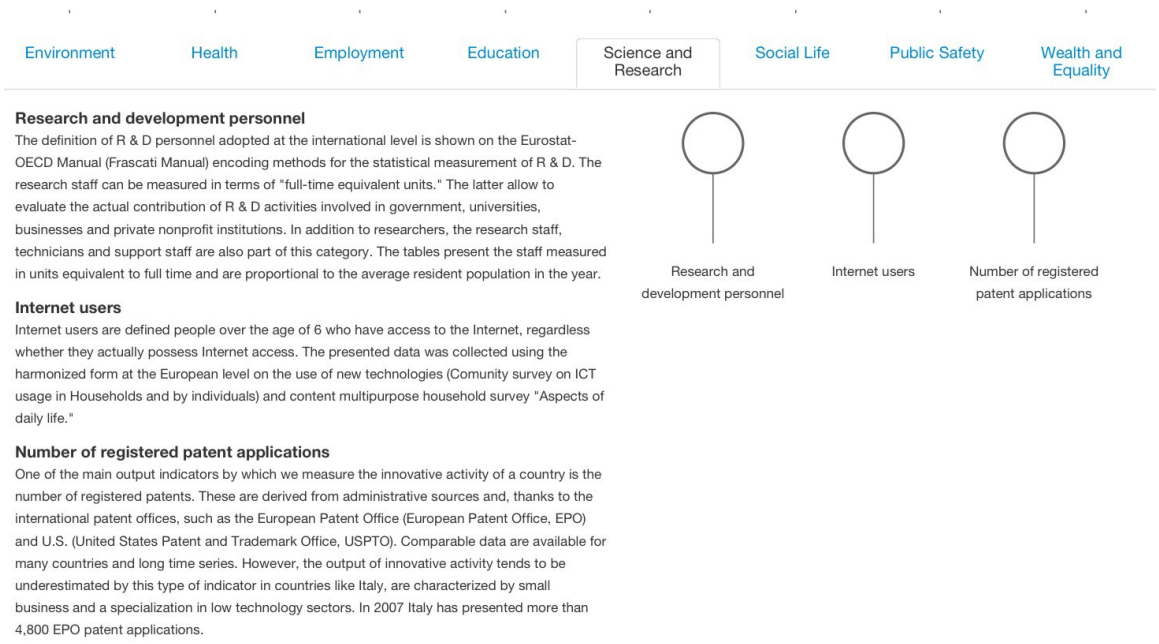
Yourtopia Italy ranks the regions of Italy by a broad mix of social indicators[26]. Through a simple interface – moving up and down the sliders – citizens visiting the website can express their own definition of progress by choosing and weighting different indicators. Users can also rule out completely those dimensions of development that they, contrary to the assumptions of who built the index, don't consider relevant. Yourtopia tries to recreate an experimental setting, through a playful quiz, in order to simulate trade offs between different dimensions of progress.



Screen-shot of Italia.yourtopia.net. Web Design by Marian Steinbach

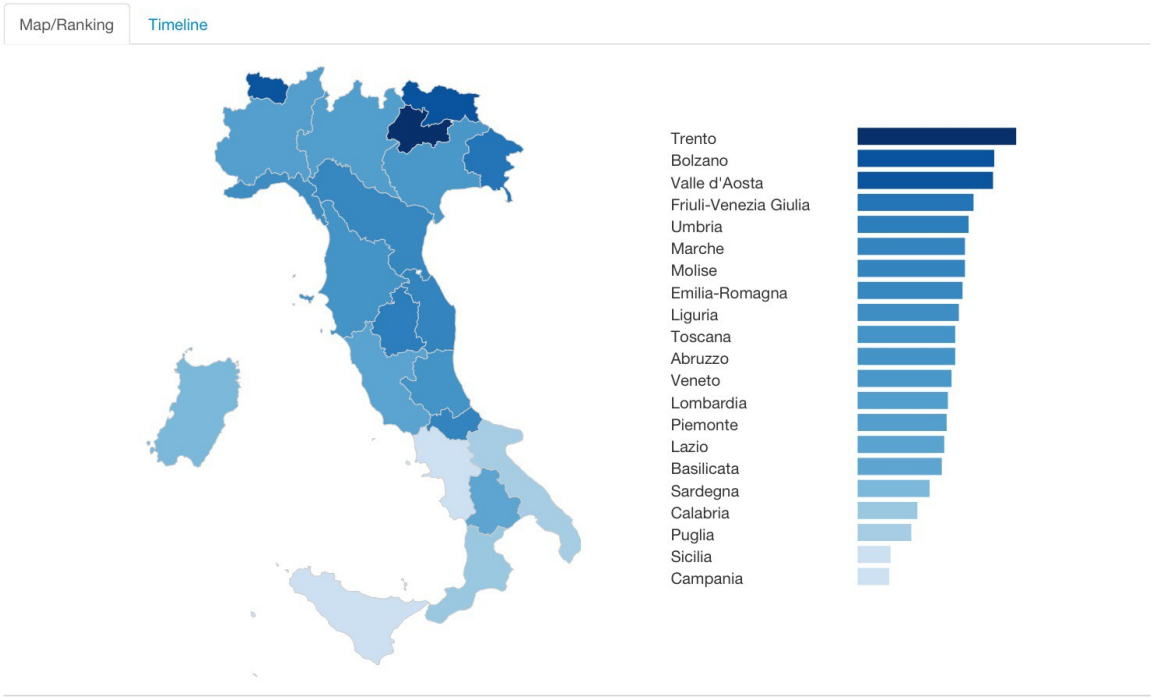
26 The dataset of indicators is described in details in the Annex;

Each indicator aggregates 3 sub-indicators that proxy the value of the indicator. For instance, the "Wealth and distribution" indicator is created by summing up a) Gini Index of distribution inequality, b) Poverty incidence and c) People's satisfaction with their economic situation. In the expert mode of Yourtopia, the user can attach a weight to/rule out the sub-indicators, becoming active in also in the process of selection of proxies. He is also able to choose the better proxy to represent each indicator by opening the sub-folder, as well as learn more about how the dimension is defined.



Screen-shot of Italia.yourtopia.net. Web Design by Marian Steinbach

The result is displayed through a ranking and a map, in order to show the differences across Italian regions. It is also possible to visualize a time-line and learn under which dimension of progress some regions have progressed and what social issues need addressing.



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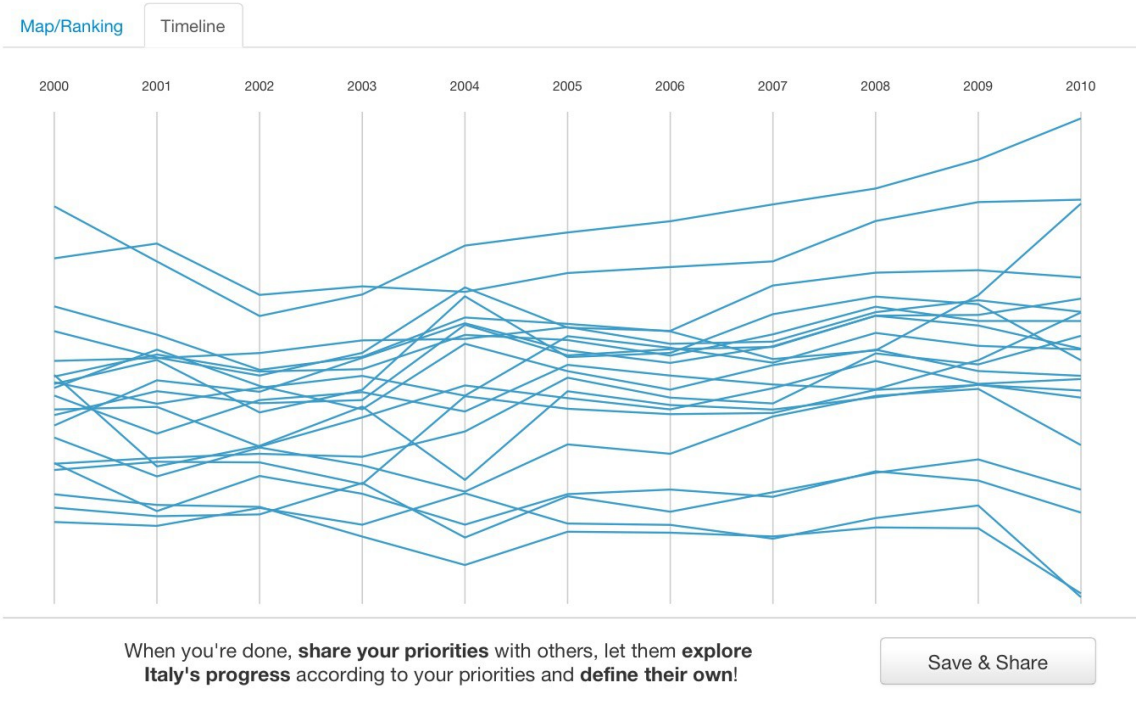

Screen-shot of Italia.yourtopia.net. Web Design by Marian Steinbach

Yourtopia Italy thus uses and elaborate on open data to visualize different ideas of social progress that can be personalized by the users. From the users interaction we will retrieve the world's first user-generate index of regional progress, in which weighting assumptions are not arbitrary but democratically retrieved from citizens' preferences.

V. Yourtopia Italy: Indicators and methodology

Yourtopia presents the user with a selection of indicators meant to encompass all dimension of social progress:

A. Employment
   I. Long-term unemployment
   II. Dependency ratio
   III. Employment rate in the age group 24-60

B. Education
   I. Students in tertiary education
   II. Young people who are not working and not studying (Neets)
   III. Early leavers from education and training

C. Health
   I. Infant mortality rate
   II. Satisfaction with Health
   III. Chronic diseases

D. Environment
   I. Consumption of electricity from renewable resources
   II. Problems with air quality
   III. Waste sorting and recycling

E. Wealth and distribution
   I. Satisfaction with economic situation
   II. Poverty incidence
   III. Gini Index of Income distribution inequality

F. Science and Research
   I. Research and development personnel

II. Internet users

III. Number of registered patent applications

G. Public Safety

I. Neighborhood safety

II. Thefts

III. Homicides and murders

H. Social Life

I. Nuptiality

II. Friends Networks

III. Separations

Each indicator is created by using three proxies, with data series covering the period 2000-2010, all retrieved from open data archives by ISTAT and Eurostat[27].

Values of the indicators have been normalized with the traditional Human Development Index formula[28]:

$$index\_x = (x - min(x)) / (max(x) - min(x))$$

where min(x) and max(x) are the lowest and highest values the variable X can attain, respectively.

In order to make sure that the data we retrieve from user interaction are really meaningful and representative of their preference, the Yourtopia Italy application addresses the following concerns:

- **Repeated vote**: cookies and ip tracking can prevent a single user to express their preference more than once;
- **Random vote**: the website could control for random clicking for example by not counting users who visited the website very quickly (just clicked through) or who did not look at all visualizations (e.g. if users are required to view several series and fail to do so). Such random votes could be filtered out

27 Some of the values are the negatives of the progress' dimension measured, and each region gets an higher score the lower the value.

28 Available at http://en.wikipedia.org/wiki/Human_Development_Index

automatically.

- **Randomized visualization**: psychological literature shows that the attention span of the person entering a game is limited, and while there are mixed results concerning how, we know that spatial arrangements influence the importance people give to information displayed. Every Time you enter or refresh the Yourtopia website, indicators are displayed in a different way.
- **Incentives for rationality**: users will be offered the choice to publish their voting on social networks[29]: People invest in building networks, they do not want to publish that their opinion about social progress is just something.
- **Selection bias**: the Open Economic Working Group did not push for an inside-network data collection by advertising it among friends and members of the researcher's own social network, but rather rely on public events. On a one hand, this makes the spread of the social experiment slower, but less biased in terms of shared values and preferences.
- **Expert Vs. Normal mode**: the possibility of having an expert mode, which includes the weighting option for sub-indicators will allow us to discriminate and make comparisons between normal users and users with high commitment – those who care enough to make a more complex choice. It will also give as an understanding of how much people can be engaged in social progress measurement.

Finally, the user-generated index, i.e. the data retrieved are anonymized and made available under an open data license, in order to flow in the open policy ecosystem.

VI. Italy as an observation lab for the progress divide in Europe

Part of the reason why Italy was chosen as a case study are contingent: there has recently been an acceleration in the open data movement, with the Ministry for Innovation and Public administration launching an overreaching campaign for open data, and several institutions, including the Parliament, several Regions and Cities, and the National

29 Publishing the results on social network will also allow Yourtopia Italy to broaden its reach, and thus increase the number of users participating in the experiment.

Institute for Statistics (Istat) opening their data in open databases[30].

It is indeed a good example of how the open policy ecosystem works: the national institute for statistics, ISTAT, released a large amount of data in an open, machine-readable format. The Ministry for Innovation and Public Administration funded an app contest, Apps4Italy, administered by an independent consortium[31]. Italia.Yourtopia.net was developed by Open Economics, an interdisciplinary and international group of researchers affiliated with the Open Knowledge Foundation: its dataset, and the data retrieved from the interaction with the users, is released in an open data format.

Beyond the open policy ecosystem, Italy is a particularly interesting case study for social progress measurement: this county has indeed a deep divide in economic and social progress between North and South, as well as among different regions, together with a certain level of regional autonomy in deciding policies and expenditures[32]. Monitoring social divides across regions is especially important at a time[33] in which Italy is undergoing substantial reforms and it is following a strict austerity agenda. The differences in social progress among Italian regions reflect on a smaller scale the divides across European Member States: so, the Italian situation can be used as an observation laboratory to analyze how the current crisis and its policy response affect non monetary dimension of progress. Indeed, Optimal Currency Area literature[34] shows the importance as reducing asymmetric shocks in Europe: that means we need to focus less on aggregate

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30 For more information on the Italian open data movement, see Associazione Italiana per l'Open Government, http://www.datagov.it/; and the website that aggregates data from Public administations in Italy, http://www.dati.gov.it/,

31 See http://www.appsforitaly.org/blog/chi-siamo/

32 Regional autonomy was introduced in 2001 with by amending the Chapter V of the Italian Constitution, but for some Regions "a statuto speciale" (Valle D'Aosta, Friuli Venezia-Giulia, Sardinia and Sicily) and even two Provinces "autonome" (Trento and Bolzano) this autonomy has a longer history and a deeper scope.

33 After deep economic crisis in the autumn of 2011, Prime Minister Silvio Berlusconi had to resign and a technical government was formed. Unelected government is therfore pursuing an emergecy austerity plan and structural reforms to cointain the Italian debit crisis.

34 See, e.g., Mundell, Robert, A Theory of Optimum Currency Areas. The American Economic Review, Vol. 51, No. 4., 1961, pp. 657-665.

progress figures like GDP and more an inter-regional differences.

This track-keeping is important for Italians in the North and South to make sure inequalities are not getting out of control while reforming, and it is equally important for other Europeans to follow a wider set of Italian social indicators – not exclusively its budget headlines. But for these very reasons, track-keeping of social progress in a country with a great development divide is a sensitive policy issue, easier to be manipulated.

Italia.Yourtopia.net reduces the space for manipulation by addressing core methodological concerns, and by being administered by an independent civil society body and ultimately decided by internet users. Open data and open processes can contribute to the public debate on social progress and North-South cooperation. Indeed, cooperation in wider economic policies among regions – inside Italy but also inside Europe – will require greater transparency: first of all, transparency creates more information about economic and social problems and more opportunity to find solutions. Then, transparency creates more trust and willingness to cooperate. To build mutual understanding on needs and abilities it will make easier for Italians in the North to understand and trace development in the South, as it is equally important that Northern Europeans can more easily comprehend the situation in which Italy and other less developed European states are in. Yourtopia uses open data and interaction with citizens to establish such trust-building transparency and bridge our double North-South divide.

ANNEX: YOURTOPIA ITALY INDICATORS

Employment	
Employment rate in the age group 24-60	The employment rate of the population between 20 and 64 is one of the indicators in the strategy Europe 2020 for economic development and employment. The indicator is designed to assess the ability to use the available human resources and therefore is a measure of the structural strength of an economic system. The employment rate is calculated by dividing the number of persons aged 20 to 64 in employment by the total population of the same age group. It is based on the EU Labour Force Survey which covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. Employed population consists of those persons who during the reference week did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent. Source: Istat, NOI Italia database
Dependency ratio	The dependency ratio is obtained by dividing the population in active age (0 to 14 years and 65 years and over) population of working age (15 to 64 years). This ratio, which is usually multiplied by one hundred, measures the load on the population of working age population. Values above 50 percent indicates a situation of generational imbalance. Source: Istat, NOI Italia database
Long-term unemployment	International conventions define as long-term unemployed a person seeking employment for at least one year (12 months). The persistence of individuals in the state of unemployment not only constitutes a serious social problem but also signals distorted functioning of the labor market. Source: Istat, NOI Italia
Education	
Students in tertiary education	Students in tertiary education as % of the population aged 20-24 years at regional level. Tertiary education includes both programmes which are largely theoretically based and designed to provide qualifications for entry to advanced research programmes and professions with high skills requirements, as well as programmes which are classified at the same level of competencies but are more occupationally oriented and lead to direct labour market access. Source: Eurostat
Early leavers from education and training	Early leaver from education and training generally refers to a person aged 18 to 24 who has finished no more than a lower secondary education and is not involved in further education or training; their number can be expressed as a percentage of the total population aged 18 to 24. Source: Istat, NOI Italia database
Young people who are not working and not studying (neets)	The indicator identifies the proportion of population aged 15-29 years that is neither working nor in education or training: Neet (Not in Education, Employment or Training). This group of young people who have been out of the labour market or education for prolonged periods of time may find it more difficult to find a job. In 2010, in Italy more than two million young people (22.1 per cent of the population between 15 and 29 years) is out of circuit training and work. The proportion of Neet is higher among women (24.9 percent) than men (19.3 percent). Source: Istat, NOI Italia database

Infant Mortality Rate	The infant mortality rate is the ratio between the number of child deaths in the first year of life in a given calendar year and the number of live births in the same reference year. The deaths in this age group are mainly due to so-called endogenous causes, e.g., related to conditions of pregnancy and birth defects or malformations of the child. The external factors contributing to infant mortality in the post-neonatal period and are generally a result of diseases related to poor sanitation, inadequate medical services and difficult access, inadequate nutrition, injury and poisoning. Source: Istat, NOI Italia database
Satisfaction with Health	The percentage of people over the age of 14, who are either "very much satisfied" or "quite satisfied" with their health conditions, as reported in the Istat Indagine Multiscopo "Aspetti della vita quotidiana" (Multipurpose Survey on Households: Aspects of Daily Life). People's perception of their progress and satisfaction with aspects of life are also important measures of social progress, because they indicate a degree of happiness. Source: Istat, I.stat database
Chronic deseases	This indicator is shows the percentage of persons who declared to be affected by chronic desease to the Istat Indagine Multiscopo "Aspetti della vita quotidiana" (Multipurpose Survey on Households: Aspects of Daily Life). Source: Istat, I.stat database
Environment	
Consumption of electricity from renewable resources	The indicator measures the contribution of renewables to meet the gross domestic consumption of electricity and is calculated as the ratio between the gross production of electricity from renewable sources and the gross domestic consumption of electricity. The gross domestic consumption of electricity is equal to gross production of electricity plus the balance of trade with foreign countries and other regions. Renewable sources are the water from natural, geothermal, photovoltaics, wind power and that caused by biomass. Source: Istat, NOI Italia database
Problems with air quality	The percentage of households declaring the presence of problems related to air pollution and unpleasant odors in the area they inhabit is estimated with the data from the Istat Indagine Multiscopo "Aspetti della vita quotidiana" (Multipurpose Survey on Households: Aspects of Daily Life), which annually collects Italian families' behaviour and opinions about fundamental aspects of daily life. The indicator shows the percentage of families who claim the problems related to air quality to be very much and fairly present. Source: Istat, NOI Italia database
Waste sorting and recycling	This indicator is obtained by relating the amount of municipal waste sorted by type and nature in order to facilitate specific recycling treatments to the total municipal waste. Italian law set goals of waste sorting: 45 percent by the end of 2008, 50 percent by the end of 2009, 60 percent by the end of 2011 and 65 per cent for the following years. Source: Istat, NOI Italia database
Economic Situation	
Gini - Income distribution inequaity	The Gini index is a composite measure of the degree of inequality of income distribution and is calculated on the equivalent household income, that is made comparable by applying an equivalence scale that takes into account the changing composition of households. This index is zero in the case of a perfect

	equality of income distribution, assuming that all families receive the same income, is equal to one in case of total inequality, assuming that the total income is received from one family. Source: Istat, NOI Italia database
Poverty incidence	Poverty incidence is the proportion of families with per capita incomes below the poverty threshold. Poverty is strongly associated with the territory, the family structure (in particular to the number of components and their age), levels of education and professional profiles similarly low, as well as exclusion from the labor market. A poor family in relative terms is defined as a family with consumption expenditure equal to or below the relative poverty line, which is calculated on the basis of survey data on household consumption. Source: Istat, NOI Italia database
Satisfaction with economic situation	The percentage of people over the age of 14, who are either "very much satisfied" or "quite satisfied" with their economic situation, as reported in the Istat Indagine Multiscopo "Aspetti della vita quotidiana" (Multipurpose Survey on Households: Aspects of Daily Life). People's perception of their progress and satisfaction with aspects of life are also important measures of social progress, because they indicate a degree of happiness.Source: Istat, NOI Italia database
Science and Research	
Number of registered patent applications	One of the main output indicators by which we measure the innovative activity of a country is the number of registered patents. These are derived from administrative sources and, thanks to the international patent offices, such as the European Patent Office (European Patent Office, EPO) and U.S. (United States Patent and Trademark Office, USPTO). Comparable data are available for many countries and long time series. However, the output of innovative activity tends to be underestimated by this type of indicator in countries like Italy, are characterized by small business and a specialization in low technology sectors. In 2007 Italy has presented more than 4,800 EPO patent applications.Source: Istat, NOI Italia database
Internet users	Internet users are defined people over the age of 6 who have access to the Internet, regardless whether they actually possess Internet access. The presented data was collected using the harmonized form at the European level on the use of new technologies (Comunity survey on ICT usage in Households and by individuals) and content multipurpose household survey "Aspects of daily life." Source: Istat, NOI Italia database
Research and development personnel	The definition of R & D personnel adopted at the international level is shown on the Eurostat-OECD Manual (Frascati Manual) encoding methods for the statistical measurement of R & D. The research staff can be measured in terms of "full-time equivalent units." The latter allow to evaluate the actual contribution of R & D activities involved in government, universities, businesses and private nonprofit institutions. In addition to researchers, the research staff, technicians and support staff are also part of this category. The tables present the staff measured in units equivalent to full time and are proportional to the average resident population in the year. Source: Istat, NOI Italia database
Public safety	

Homicides and murders	Homicides and murders, including those committed by mafia-type criminal organizations. In the Italian Criminal Code, murder is among the first offense under the Offences against the person (Article 575), shall be punished by imprisonment for not less than 21 years. They are regulated separately in subsequent articles, infanticide, the murder of consenting to the manslaughter and negligent. Over the murders committed in the Mafia, including those committed by Mafia-type associations, that is, made by people who use force to intimidate the associative bond and the condition of subordination and silence that comes to committing crimes and other illegal activities. Source: Istat, NOI Italia database
Thefts	The commitment of theft is defined as (art. 624 cp) "Whoever takes over property of another, depriving its holder in order to make a profit for themselves or others." In 2001 was introduced in the Penal Code art. 624 bis, which governs the burglary dwelling and theft with tear types that were actually already planned before the theft as a generic aggravating. The theft by ripping, or mugging, involves a violent act (pulling off something from the hands of another), however, directed towards the object and not the person (otherwise it would be a robbery). Source: Istat, NOI Italia database
Neighbourhood safety	The percentage of families who claim the presence of crime in the area they inhabit is estimated with data from Istat multipurpose survey "Aspects of daily life" that measures, on an annual basis, the fundamental aspects of daily life and behavior of families in Italy. The indicator shows the percentage of families who claim the risk of crime "very or fairly" present. Source: Istat, NOI Italia database
Social Life	
Friends networks	Frequency of meeting friends in free time of persons aged 6 and over reflects social participation, as reported in the Istat Indagine Multiscopo "Aspetti della vita quotidiana" (Multipurpose Survey on Households: Aspects of Daily Life). It is a measure of personal social networking and active social life. Source: Istat, I.stat database
Nuptiality	The generic marriage rate - nuptiality - is built as the ratio between the number of marriages in the reference and the average amount of the resident population of the same year. In Italy the ratio of marriages in 2009 was 3.8 marriages per thousand population. If one considers the evolution of the phenomenon since 2004 (the year the total amount of marriages was approximately 249 000), with the exception of 2007, there has been a steady decline until you get to about 231 000 marriages in 2009. Continues, however, the upward trend in the proportion of civil marriages: it goes from 31.9 percent in 2004 to 37.2 percent in 2009. Source: Istat, NOI Italia database
Separations	The generic separation rate is constructed as the ratio between the number of separations granted in the reference and the average amount of the resident population of the same year. Source: Istat, NOI Italia database