Exploring the Crisis. Theoretical Perspectives and Empirical Investigations

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Digital Divide in Time of Crisis in Europe: Do the Rich Get Richer, the Poor Get Poorer*?

Roberta Bracciale, Isabella Mingo

1. Introduction

Starting from the adoption of the Lisbon Strategy (European Commission 2000), the European Union emphasized the importance of knowledge as the key to become the most competitive and dynamic economy in the world, giving to ICTs (Information and Communication Technologies) a pivotal role in the process of social and economic development[1].

The onset of the economic crisis in Europe in 2008 reinforced that role, further recognizing ICTs as a key factor for economic growth and social development[2]. However, since the level of ICTs adoption is highly unbalanced both between EU member states and between social groups, the guarantee of creating "an information society for all" soon became a utopia, quickly turning into an urgent need not yet satisfied at national and international level[3]. The closure of digital gaps is one of the seven pillars of the Europe 2020 Strategy[4], which aims to lead to «a smart, sustainable and inclusive growth for European Economy», together with the issues related to the Digital Agenda[5]. This constant commitment on the part of national and international organisms to solve digital imbalances is justified on the basis that the influence of ICTs «must be in addition to existing sources

* In accordance with Italian academic conventions, we specify that Roberta Bracciale wrote sections 1; 2. Isabella Mingo wrote sections 3; 4. Both the authors collaborated in the design of the study, editing the text of the article, and writing the Conclusions.

1 OECD, *The Economic Impact of ICT: Measurement, Evidence and Implications*, Paris, 2004.

2 G.N. Prezerakos and S.E. Polykalas, *Implications of the Financial Crisis to the Digital Divide across European Union* in «International Conference on Information Society (i-Society 2014)», 2014.

3 European Commission, *eEurope – An information society for all*, COM(1999) 687.

4 European Commission, *EUROPE 2020. A strategy for smart, sustainable and inclusive growth*, COM(2010)2020.

5 European Commission, *A Digital Agenda for Europe*, COM(2010)245 final.

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of inequality, such as inherited wealth, social networks and educational and occupational success»[6]. The Internet, in particular, proves to be not only an active reproducer of social inequality, but also a potential accelerator[7] because it activates an empowerment process which mainly benefits those already privileged; that is, those already possessing a higher cultural, social and economic capital[8]. This phenomenon in the digital domain is also referred to as the Matthew effect[9] predicting that people who already possess more resources will be more included in the network society, becoming more able to benefit from Internet usage, and vice versa. The effect takes its name from a verse in the Gospel of Matthew which says: «For whoever has, to him more shall be given, and he will have an abundance; but whoever does not have, even what he has shall be taken away from him» (13:12), and explains the mechanisms of reproduction or widening of inequalities over time[10].

[6] J. De Haan, *A multifaceted dynamic model of the digital divide*, in «It & Society», 1, 7, (2004), p. 80.

[7] J.A.G.M. van Dijk, *The Deepening Divide: Inequality in the Information Society*, Thousand Oaks, SAGE 2005; J.C. Witte and S.E. Mannon, *The Internet and Social Inequalities*, New York-London, Routledge, 2010; N. Zillien and E. Hargittai, *Digital Distinction: Status-Specific Types of Internet Usage* in «Social Science Quarterly», 90, 2, (2009) pp. 274-291; E. Hargittai, "The digital reproduction of inequality" in *Social stratification*. D. Grusky, edited by Boulder, CO, Westview Press, 2008, pp. 936-944.

[8] I.M. Wasserman and M. Richmond-Abbott, *Gender and the Internet: Causes of Variation in Access, Level, and Scope of Use* in «Social Science Quarterly», 86, 1, (2005).

[9] The wording was utilized at first to explain the widespread of celebrity mechanisms within the scientific community. R.K. Merton, *The Matthew Effect in Science*, in «Science», 159, 3810, (1968) pp. 56-63; R.K. Merton, *The Sociology of Science: Theoretical and Empirical Investigation*, Chicago, University of Chicago Press, 1973. The expressions «rich get richer model» (R. Kraut et al., *Internet Paradox Revisited* in «Journal of Social Issues», 58, 1, (2002) pp. 49-74.) and «accumulation of advantage (AOA) hypothesis» (J. De Haan, *A multifaceted dynamic model of the digital divide*, in «It & Society», 1, 7, (2004) pp. 66-88;) identify in the digital domain models similar to the Matthew effect. See also *International handbook of internet research*, edited by J. Hunsinger, L. Klastrup and M. Allen, London-New York, Springer 2010; J.A.G.M van Dijk, *One Europe, digitally divided.* in *Routledge handbook of Internet Politics*, edited by A. Chadwick and P.N. Howard, London-New York, Routledge, 2009, pp. 288-304; N. Zillien and E. Hargittai, *Digital Distinction: Status-Specific Types of Internet Usage* in «Social Science Quarterly», 90, 2, (2009), pp. 274-291; J. De Haan, *A multifaceted dynamic model of the digital divide*, cit.; J. Harambam, S. Aupers and D. Houtman, *The Contentious Gap. From Digital divide to cultural beliefs about online interactions* in «Information, Communication & Society» (2012), pp. 1-22; R. Bracciale, *Donne nella rete. Disuguaglianze digitali di genere*, Milano, FrancoAngeli, 2010; E. Hargittai, *The digital divide and what to do about it*, in *New economy handbook*, edited by D.C. Jones, San Diego, CA, Academic Press, 2003, pp. 821-841; S. Bentivegna, *Disuguaglianze digitali. Le nuove forme di esclusione nella società dell'informazione*, Roma-Bari, Laterza, 2009; D. Rigney, *The Matthew Effect: How Advantage Begets Further Advantage*, New York, Columbia University Press, 2010.

[10] D. Rigney, *The Matthew Effect*, cit.; T.A. DiPrete and G.M. Eirich, *Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments*, in «Annual Review of Sociology», 32, 1 (2006) pp. 271-297.

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In connection with this scenario, the analysis proposed in this essay investigates the Matthew effect in the context of a social context already heavily affected by the financial crisis.

More precisely, we talk about the «absolute Matthew effect»[11] when the rich get richer while the poor get poorer, to the extent that over time the poor are doomed to failure and social exclusion. The «relative Matthew effect»[12], on the other hand, is present when both the rich and the poor are getting richer, but the rich do so at such a higher rate that the gap with the poor keeps widening. One of the possible form of the effect may prevail according to the social context, the historical period, and the geographic area. In the case of ICTs, following the progressive diffusion of technologies, we are witnessing the outcomes of the relative Matthew effect.

The hypothesis guiding this work, therefore, is that are witnessing a widening of the existing gaps, with the "poor" suffering a more pronounced process of exclusion from the network society in spite of the generalized increase in ICTs diffusion. That phenomenon can be analyzed both at a micro level, focusing on the individuals, and at a macro level, focusing on the digital divide between countries. We adopt a diachronic macro perspective, comparing the changes in levels of digital exclusion between the different member states of the European Union (EU) starting from 2007, the year preceding the beginning of the economic crisis, until 2014.

The chapter is organized as follows: in section 2 the relevant research literature is discussed. In section 3 some methodological issues are presented. In section 4 the main results are summarized. Finally, conclusions and new lines of research are proposed.

2. Literature Review

The expression "digital divide" identifies a complex and multidimensional concept that underwent considerable changes over the years. The main issues with this expression are related to the operationalization of a "shifting" concept, whose indicators changed over time with the spreading of Internet access and the rise of new online services and platforms seamlessly transforming the digital scenario. To provide a concrete example of the problems in the definition of the concept, it can be considered how the parameters used to distinguish an Internet user from a non-user changed over time. With the increasing presence of the Internet in everyday life[13], – thanks to the steeply falling prices of devices and connections,

[11] D. Rigney, *The Matthew Effect*, cit.

[12] Ibid.

[13] *The Internet in Everyday Life*, edited by B. Wellman, and C. Haythornthwaite, Malden, Blackwell, 2002; M. Bakardjieva, *Internet Society. The Internet in Everyday Life*, London, Sage,

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the increase in the supply of services, the simplification of online participation platforms and interfaces, and so on – subjects are practically always online, always connected. So, if just a few years ago someone who occasionally engaged in online activities – for example connecting a few times a month – could be considered as connected, today it is more appropriate to consider as connected only those who say to use the Internet every day or almost every day[14].

In its original definition, the label of "digital divide" did not properly account for the multidimensionality and the nuances of the concept, as it denoted a binary, sharp division between information have and information have not; that is, between those that had access to new technologies and those who did not have access[15], be they individuals, social groups, or geographical areas[16]. It was obviously an embryonic definition, focusing on the problem by assigning it outlines adequate to the stage of technological development of the beginning of the century.

Over the years, the analysis on this "first level" of digital divide has undergone gradual improvements, highlighting the differences inside the group of "information have"[17]. In fact, as access to the Internet kept increasing, scholars have shifted their attention to the "second level" of digital divide: «what are people doing, and what are they *able* to do, when they go on-line»[18].

The increased attention to digital inequalities was particularly appropriate, triggering the discussion on the dimensions of Internet uses, access, and skills –

2005; L. Haddon, *Information and communication technologies in everyday life: A concise introduction and research guide*, Oxford, Berg, 2004; N. Selwyn, *Apart from technology: understanding people's non-use of information and communication technologies in everyday life*, in «Technology in Society», 25, 1, (2003) pp. 99-116.

[14] In view of the specificity of socio-cultural and territorial contexts that must take into account in its analyses, Eurostat continues to define the regular use as «at least once a week (i.e. every day or almost every day or at least once a week but not every day) on average within the last 3 months before the survey. Use includes all locations and methods of access and any purpose (private or work/business related)» http://ec.europa.eu/eurostat/web/products-datasets/-/tin00091.

[15] NTIA, *Falling Through the Net: Defining the Digital Divide*, 1999, available at: http://www.ntia.doc.gov/legacy/ntiahome/fttn99/contents.html.

[16] P. Norris, *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*, Cambridge, Cambridge University Press, 2001.

[17] S. Bentivegna, *Disuguaglianze digitali*, cit.; R. Bracciale, *Donne nella rete.*, cit.; P. DiMaggio and E. Hargittai, *From the "digital divide" to "digital inequality": Studying Internet use as penetration increases*, (2001) available at: https://www.princeton.edu/~artspol/workpap/WP15 – DiMaggio+Hargittai.pdf; P. DiMaggio et al., *Digital inequality. From Unequal Access to Differential Use*, in *Social inequality*, edited by K.M. Neckerman, New York, Russell Sage Foundation, 2004, pp. 549-566; E. Hargittai, *Second-level digital divide: Differences in People's Online Skills*, in «First Monday», 7, 4, (2002) pp. 1-17; K. Mossberger et al. *Virtual Inequality*, Georgetown, Georgetown University Press, 2003; J.A.G.M. van Dijk, *The Deepening Divide*, cit.

[18] P. DiMaggio and E. Hargittai, *From the "digital divide" to "digital inequality"*, cit., p. 4.

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dimensions that widen the gap between those that are online; however it should be noted that this perspective ended up monopolizing the attention, relegating the first level of digital divide to a secondary role. The outcomes of this process partly faded the criticalities of this issue, at least in western countries where divide became less evident. To get an idea of the scale of the issue, we may recall that there are 4.3 billion of information have not worldwide, and as much as 90% of them live in the developing world[19].

Today, however, it seems appropriate to bring the attention back on issues related to net access, especially focusing on the group of the disconnected. Indeed, the access to ICTs acts as a life chance multiplier for the privileged and as an inequality multiplier for the less privileged, amplifying the outcomes of social inequalities, creating new social cleavages and exacerbating existing ones[20]. On the basis of those considerations some scholars started recovering the access dimension as a specific object of study to explore the persisting differences between rich countries[21], and between different European countries[22]. Actually, the gaps arising as a consequence of access inequalities produce more pronounced effects at the micro level (between individuals), but have a far more important impact at the macro level (between countries), affecting the opportunities of economic growth[23]. Especially in the context of a period of global crisis, like the present, ICTs are indeed key levers for economic growth because they «act as a vector of social development and transformation by improving access to basic services, enhancing connectivity, and creating employment opportunities»[24] and represent «cross-cutting enablers for achieving the three pillars of sustainable development: economic growth, environmental balance and social inclusion»[25]. Therefore, it is particularly important to bring the attention of scholars and policy makers back to the dimension of Internet access inequalities, because such gaps determine a fragmented, multi-speed Europe from the point of view of the opportunities for citizens to fully participate in the information and knowledge society.

[19] ITU, *Measuring the Information Society Report*, Geneva, 2014.

[20] J. De Haan, *A multifaceted dynamic model of the digital divide*, cit.; S. Sassi, *Cultural differentiation or social segregation? Four approaches to the digital divide*, in «New Media & Society», 7, 5, (2005), pp. 684-700.

[21] C. Campos-Castillo, *Revisiting the First-Level Digital Divide in the United States: Gender and Race/Ethnicity Patterns, 2007-2012*, in «Social Science Computer Review», 33, 4, (2015) pp. 423-439.

[22] M.R. Vicente and A.J. López, *Assessing the regional digital divide across the European Union-27* in «Telecommunications Policy», 35, 3, (2001) pp. 220-237.

[23] ITU, *Measuring the Information Society Report*, cit.

[24] WEF, *The Global Information Technology Report. ICTs for Inclusive Growth*, Geneva, 2015, p. V.

[25] ITU, *Measuring the Information Society Report*, cit., p. 25.

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3. Methodology: Data and Indicators

Taking into account the complexity and relativity of the concept, in this chapter the digital divide is analyzed in terms of digital exclusion (first level of digital divide), operationalizing digital exclusion according to the dichotomy between Internet users and non-users. Obviously, Internet access depends upon many factors that are essential prerequisites to be considered as part of the category of the "information have", including subjective attitudes and motivations, the availability of (preferably personal) devices, and the availability of a good quality broadband connection[26].

Our analysis especially focuses on the share of population aged 16 to 74 that stated they had not used the Internet at all in the last year; and considers the increase or decrease of this share in the period affected by the economic crisis, namely from 2007 to 2014. For the analysis we used Eurostat datasets, whose harmonized statistics at European level allow easy comparisons of the same indicators for different territorial contexts. To preserve the reliability and completeness of the available data we considered the 27 countries that were European member states in 2007[27] (EU27).

In general terms, the analysis of the data shows how the share of people excluded from the Internet decreased over time: the average share of Internet non-users in EU27 goes from 37% in 2007 to 18% in 2014. This data, pointing to a progressive reduction of the digital exclusion of first level in Europe, doesn't actually reflect the marked differences between the various member countries. While for some countries the share of non-users is remarkably lower than the U27 average, in other countries that rate is much higher (fig. 1). There is a clear north-south divide, involving some countries where, furthermore, the weight of the financial crisis has been more noticeable in terms of GDP decrease, unemployment rate increase, and determined the adoption of rigorous cuts in state expenditure or the need for financial bailouts[28].

[26] W. Chen and B. Wellman, *The global digital divide-within and between countries*, in «It & Society», 1, 7, (2004) pp. 39-45; H. Ono and M. Zavodny, *Digital inequality: A five country comparison using microdata*, «Social Science Research», 36, 3, (2007) pp. 1135-1155; N. Selwyn, *Reconsidering Political and Popular Understandings of the Digital Divide*, in «New Media & Society», 6, 3, (2004) pp. 341-362; J.A.G.M. van Dijk, *The Deepening Divide,* cit.; A.J.A.M. van Deursen and J.A.G.M. van Dijk, *The digital divide shifts to differences in usage*, in «New Media & Society», 16, 2014, pp. 507-526; J.E. Katz and R.E. Rice, *Social consequences of Internet use. Access, involvement, and interaction*, Cambridge, MA, MIT Press, 2002; P. DiMaggio et al., *Digital inequality*, cit.

[27] In 2013, with the accession of Croatia, the number of European member states has increased to 28.

[28] P. Bellucci, D. Garzia and M.S. Lewis-Beck, *Issues and leaders as vote determinants: The case of Italy*, in «Party Politics», 21, 2, (2015) pp. 272-283; European Commission, *Alert*

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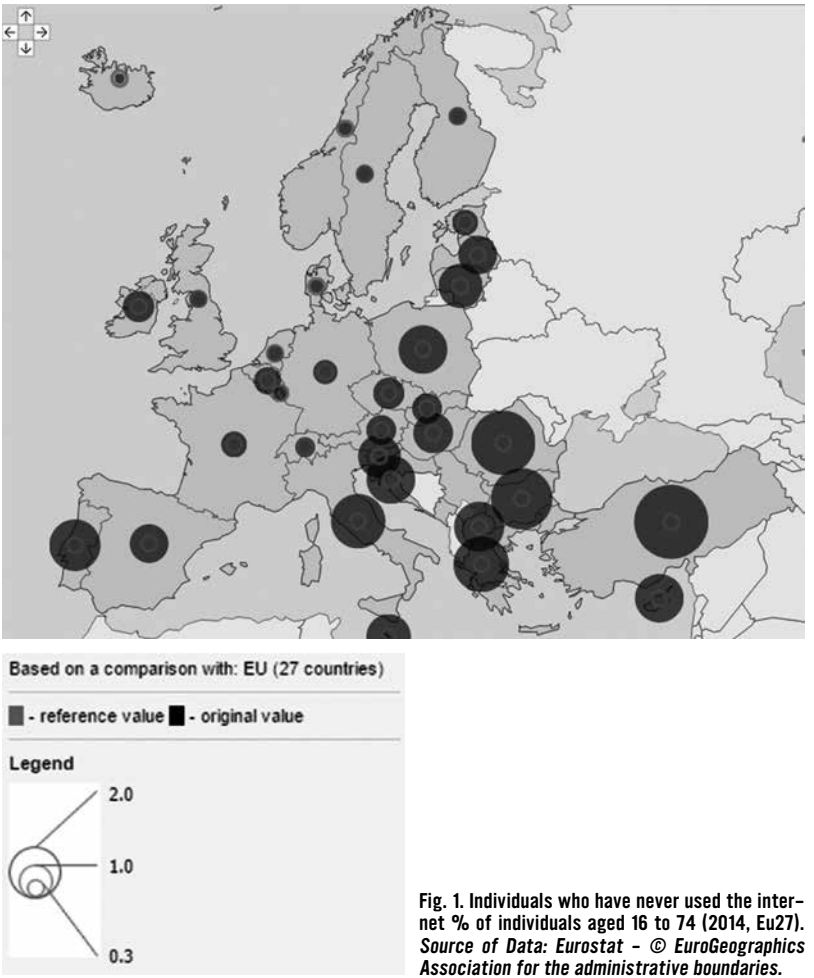

Fig. 1. Individuals who have never used the internet % of individuals aged 16 to 74 (2014, Eu27). *Source of Data: Eurostat – © EuroGeographics Association for the administrative boundaries.*

However, differences in Internet access are not solely attributable to economic variables like national wealth and development levels, but also to several background factors: availability and cost of digital technology; level of literacy and education, English language skills in the population, the level of democracy and freedom of expression, the solidity of policies and the presence of investments to

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promote the information society in general and Internet access in particular, and the presence of a culture that is attracted to technology, computers and computer communication[29].

To account for the differences between the different member countries over the years, while considering at the same time the changes in the levels of digital exclusion vs inclusion in the European context, we needed to develop a specific metric. For this purpose a Digital Exclusion Relative Index (DERI) is proposed: it is calculated for each period taken into account (from 2007 to 2014), and for each country.

This relative index is the ratio between the share of not users in each country and the average EU27 share at t time[30]. It is easy to interpret: when the DERI index is equal to 1, it means that the country has a situation of exclusion quite similar to that of EU27; when its value is greater than 1, it indicates that exclusion is more widespread in that country than it is in the EU27. Conversely, the lower the value is (less than 1, closer to 0) the more that country is included.

4. The Increasing Impoverishment of the Poor?

The trend of relative indexes (fig. 2) shows the presence of the Matthew effect. Not only the exclusion levels of some countries were well above the EU27 average already in 2007 (Romania, Bulgaria, Greece, Cyprus, Portugal have DERI values exceeding 1,5), but over time these levels are increasing. Their trajectories tend to diverge from those of other countries (Denmark, Netherlands, Sweden, Finland) that are characterized by exclusion levels well below the EU27 average (DERI<0,5), and that kept decreasing even during the economic crisis.

The trajectory of Italy, whose relative levels of exclusion went from 1,46 in 2007 to 1,78 in 2014, shows the same phenomenon of gradual digital exclusion. The only exception is the Czech Republic, registering a counter-trend decrease for exclusion levels over the period considered (from 1,24 to 0,89), values still hovering around the WU27 average. This counter-trend in Czech Republic is related to a series of government interventions since the beginning of the new millennium,

[29] J.A.G.M. van Dijk, *One Europe, digitally divided*, cit.; Id., *The Deepening Divide*, cit.; F. Cruz-Jesus, et al. *Digital divide across the European Union*, in «Information Management», 49, 6 (2012) pp. 278-291; M.R. Vicente and A.J. López, *Assessing the regional digital divide*, cit.

[30] DERI can be described as follows: $DERI_{it} = \frac{E_{it}}{E_t}$ with i = 1...q;"E > 0 Where E_{it} is the share of non-users in the country in year t; P_{it} is its population (aged 16-74); Et is the share of non-users in year t in EU27; P_t is the EU population in year t.

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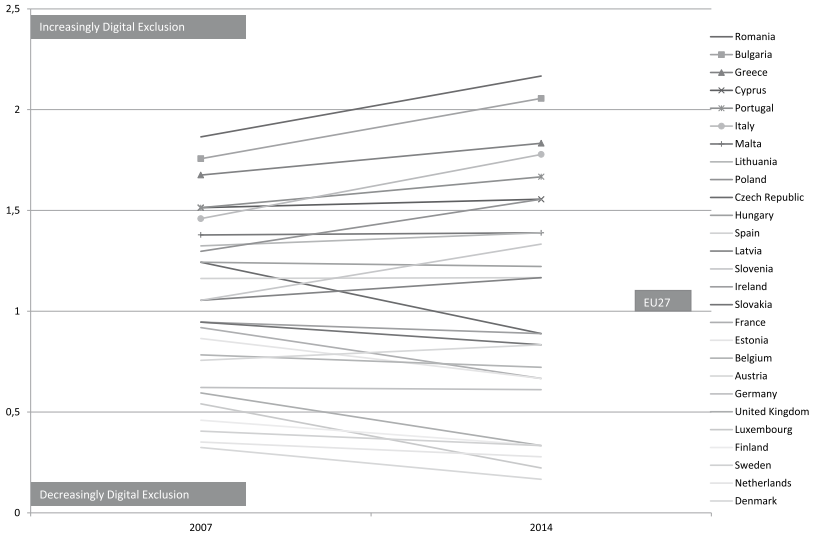

Fig. 2. DERI (Digital Exclusion Relative Index) in EU27 Countries (2007–2014). *Source: Eurostat.*

as improving infrastructure investments for broadband coverage and adopting policies of digital literacy enhancement in schools[31]

The trend of Digital Exclusion Relative Index (DERI) over the years shows quite clearly the existence of a deep digital gap between European countries, drawing similarities and differences that require a clearer and more adequate synthesis. To summarize the results of the relative Matthew effect, while taking into account the transformations of the European spread of Internet access between 2007 and 2014, we chose to use Cluster Analysis[32]. The results of the clusterization allowed to identify a typology of countries diversifying according to the trajectories of digital exclusion vs inclusion in the last eight years. According to these trajectories it is possible to distinguish three types of countries (fig. 3):

1. Increasingly Included Countries (6 Countries), characterized by indexes of relative digital exclusion always smaller than 1 and decreasing over time (from

[31] Ministery of Industry and Trade Czech Republic, *State Policy in Electronic Communications – Digital Czech Republic*, 2014, available at: http://download.mpo.cz/get/43288/48837/575000/priloha001.pdf.

[32] Two clustering models were applied: a hierarchical algorithm (Ward) and not hierarchical algorithm (K-means with moving averages). The two algorithms provide coinciding results.

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0,45 in 2007 to 0,28 in 2014, with a percentage variation of -36%). These are the countries historically characterized by a high level of digital inclusion: Denmark, Luxembourg, Netherlands, Finland, Sweden, United Kingdom.

2. Average Included Countries (12 Countries), characterized by indexes of digital exclusion close to 1 and slightly decreasing over time (from 0,996 in 2007 to 0,92 in 2014, with a percentage variation of -5%). These are the countries that keep exclusion levels close to the EU27 average, and often activated ad hoc policies to reduce digital exclusion: Belgium, Czech Republic, Germany, Estonia, Ireland, Spain, France, Latvia, Hungary, Austria, Slovenia, Slovakia.
3. Increasingly excluded Countries (9 Countries), characterized by indexes of digital exclusion always greater than 1 and increasing over time (from 1,53 in 2007 to 1,71 in 2014, with a percentage variation of 11,4%). These are countries characterized by high levels of social marginality and showing more evident signs of the economic crisis. They are Southern European countries: Italy, Greece, Portugal, Malta, Cyprus, or Eastern European countries: Romania, Bulgaria, Poland, Lithuania.

As expected, in the group of the Increasingly excluded countries there are the poorest countries and the ones that were hit hardest by the crisis; these countries are not merely staying behind, but seem to be tracing trajectories of increasing exclusion compared to the groups of the Average and the Increasingly Included. Considering the two extremes, for example, we find a DERI 2014 of 0,28 for the group of the Increasingly Included, and an outstanding 1,71 for the cluster of the Increasingly excluded. These clusters can be described using the values of the social and economic indicators at the ends of the examined time interval, 2007 and 2014. The economic situation of the Increasingly excluded countries is less positive than the two other clusters, both in terms of GDP (Gross domestic product) per capita in PPS (Purchasing Power Standards) (lower than the EU27 average) and in terms of unemployment rates and social exclusion[33] (which instead are higher than the EU27 average). This empirical evidence supports the conclusion that the poorest countries, where social exclusion is more pronounced, are the ones with increasing levels of digital exclusion.

More specifically, as shown in fig. 4, the relation between GDP_PPS and social exclusion does not seem to have undergone particular changes over time. The cluster of Increasingly Included countries is the one with the highest level

[33] The "risk of poverty and social exclusion" indicator (Europe 2020) takes into account the percentage of people that are at least in one of the following conditions: 1. living in households with very low work intensity; 2. being at risk of poverty after social transfers; 3. living in severely materially deprived families (Eurostat, *Smarter, greener, more inclusive? Indicators to support the Europe 2020 strategy*, 2015. Available at: http://ec.europa.eu/eurostat/documents/3217494/6655013/KS-EZ-14-001-EN-N.pdf/a5452f6e-8190-4f30-8996-41b1306f7367).

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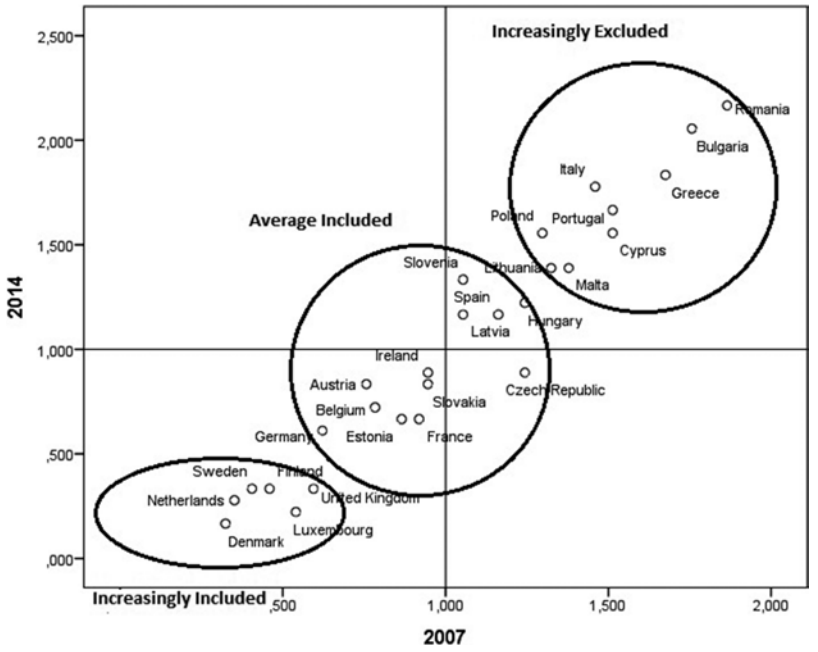

Fig. 3. Cluster Analysis Digital Exclusion Relative Index (DERI): inclusion/exclusion trajectories for type of countries (Eu27, 2007–2014). *Source: Eurostat.*

of GDP_PPS (146), while the countries with poorer economies (72,11) are those Increasingly Excluded from a digital point of view as well.

With regard to the unemployment rate, from 2007 to 2014 the crisis seems to have widened the gap between Increasingly Included and Increasingly Excluded countries. The gap between these two clusters rose from just under 2 percentage points to more than 5 percentage points. In 2007 the Increasingly Excluded countries showed a value for the unemployment rate (6,8%) close to the European average (7,2%), while in 2014 their unemployment rate almost doubles (12,58%) that of the Increasingly Included countries (7,12%).

In the two years taken into account the Social Exclusion index shows a rather stable trend. From fig. 4 it is evident how this index has substantially higher values in Increasingly Excluded countries. Moreover, in the reference years[34] the gap between country clusters remains constant.

[34] Latest available data are for 2013.

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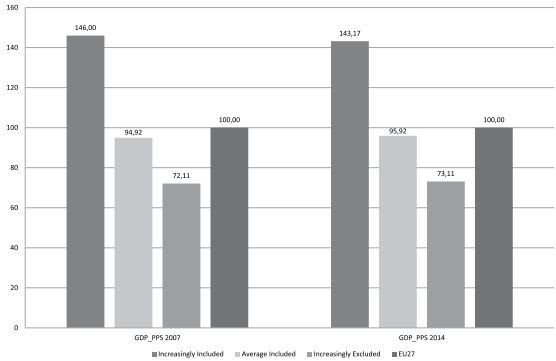
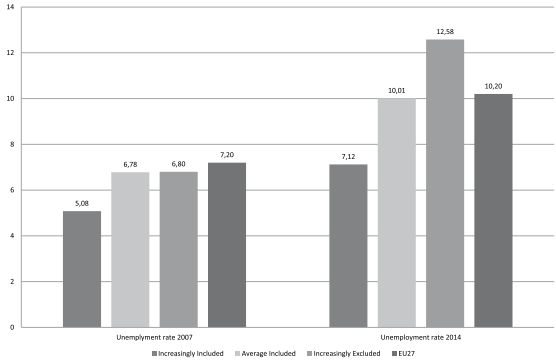
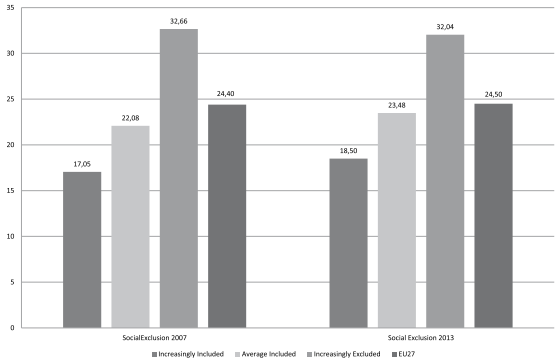


GDP_PPS (2007–2014)



Unemployment rate (2007–2014)



Social Exclusion (2007–2013)

Fig. 4. Digital clusters of European countries and socio-economic indicators (GDP pro capita in PPS, Unemployment rate, Social Exclusion Index, 2007–2014).

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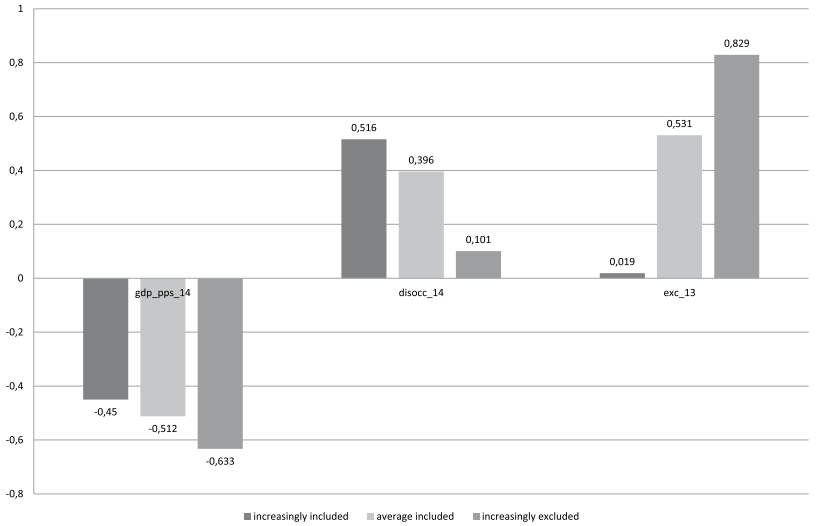

Fig. 5. Correlations between Deri and socio-economic indicators.

Focusing on more recent years, the correlation analysis between DERI indexes and some socio-economic indicators shows positive linear relations with unemployment rate and especially with the risk of poverty and social exclusion, and negative relation with GDP_PPS.

Confronting DERI indexes for the three clusters and the correlation with the socio-economic indicators some interesting insights emerge, and they can be summarized as follows:

- GDP_PPS is strongly (negatively) correlated with DERI indexes. The Increasingly Excluded cluster shows the stronger correlation (-0,613), indicating that contexts with a higher relative digital divide are those with the most visible signs of the economic crisis.
- Unemployment rate, on the contrary, is positively correlated with DERI index. The importance of unemployment as a driver for digital exclusion, however, is less evident in Increasingly Excluded countries (0,101). This may be caused by the effects of a more pronounced unemployment in these countries, affecting also subjects with a higher cultural capital, more likely to use ICTs.
- Social exclusion index, lastly, is strongly positively correlated with DERI indexes, especially for Increasingly excluded countries (0,829). This result reinforces the idea that digital exclusion is an important component of social exclusion, having the effect of an accelerator of social inequalities.

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5. Conclusions

The work presented in these pages is part of the wide debate on digital divide outcomes. In particular, this reflection is focused on inequalities connected to the so-called first level of digital divide[35], that is on the difference between information have and information have nots, verifying the existence of a relative Matthew effect also at the European level[36]. This effect turned out to be stronger in those countries that appear to have suffered more from the economic crisis, thus showing a strong correlation between social and digital marginality.

The use of extensive data from Eurostat, the official statistical office of the European Union, allowed to highlight the dynamic nature of this phenomenon over time, while the development of relative indexes allowed to monitor the persistence of the first level of digital divide from a comparative perspective.

Clearly it was not possible here to investigate the causes of these gaps, also because of the variety of different contexts taken into account, whereas we highlighted the progressive impoverishment of an "already poor" part of the population bringing it to the attention of policy makers, suggesting ad hoc policies aimed at bridging those gaps; policies that in some countries – e.g. the case of Czech Republic – have helped to reduce the digital divide. In particular, recourse to regional policies seems to be having some positive implications for technology adoption[37].

These investments appear to be indispensable in a context where the real threat to economic growth seems to be the digital divide, because the digital economy is growing exponentially faster than the real economy (about 8 percentage points a year) even during the post-financial-crisis recession[38].

Bibliography

Bakardjieva M., *Internet Society. The Internet in Everyday Life*, London, Sage, 2005.

Bellucci P., Garzia D., Lewis-Beck M.S., *Issues and leaders as vote determinants: The case of Italy*, in «Party Politics», 21, 2, (2015) pp. 272-283.

[35] E. Hargittai and Y.P. Hsieh, *Digital Inequality*, in *Oxford Handbook for Internet Research*, edited by William H. Dutton, Oxford, Oxford University Press, 2013, pp. 129-150; NTIA, *Falling Through the Net:*, cit.; P. Norris, *Digital Divide*, cit.

[36] D. Rigney, *The Matthew Effect*, cit.

[37] M.R. Vicente and A.J. López, *Assessing the regional digital divide across the European Union-27*, cit.

[38] R. Foroohar, *The Real Threat to Economic Growth Is the Digital Divide*, in «Time», 2014. Available at: http://business.time.com/2014/01/22/the-real-threat-to-economic-growth-is-the-digital-divide/.

ISBN PRINT 978-88-6741-5144 ; ISBN eBOOK (OA) 978-8-8674-1624-0

Bentivegna S., *Disuguaglianze digitali. Le nuove forme di esclusione nella società dell'informazione*, Roma-Bari, Laterza, 2009.

Bracciale R., *Donne nella rete. Disuguaglianze digitali di genere*, Milano, FrancoAngeli, 2010.

Campos-Castillo C., *Revisiting the First-Level Digital Divide in the United States: Gender and Race/Ethnicity Patterns, 2007-2012*, in «Social Science Computer Review», 33, 4, (2015) pp. 423-439.

Chen W., Wellman B., *The global digital divide-within and between countries*, in «It & Society», 1, 7, (2004) pp. 39-45.

Cruz Jesus F., Oliveira T., Bacao F., *Digital divide across the European Union*, in «Information Management», 49, 6 (2012) pp. 278-291.

De Haan J., *A multifaceted dynamic model of the digital divide* in «It & Society», 1, 7, (2004), pp. 66-88.

Di Maggio P., Hargittai E., *From the "digital divide" to "digital inequality": Studying Internet use as penetration increases*, (2001) Available at: https://www.princeton.edu/~artspol/workpap/WP15 – DiMaggio+Hargittai.pdf [Accessed September 29, 2012].

Di Maggio P. et al., *Digital inequality. From Unequal Access to Differential Use*, in *Social inequality*, edited by K.M. Neckerman. New York, Russell Sage Foundation, 2004, pp. 549-566.

Di Prete T.A., Eirich G.M., *Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments*, in «Annual Review of Sociology», 32, 1 (2006) pp. 271-297.

European Commission, *eEurope – An information society for all*, COM (1999) 687.

European Commission, *Lisbon European Council 23-24.03.2000: Conclusions of the Presidency*, 2000. Available at: http://www.europarl.europa.eu/summits/lis1_en.htm [Accessed November 8, 2014].

European Commission, *A Digital Agenda for Europe*, COM (2010)245 final.

European Commission, *EUROPE 2020. A strategy for smart, sustainable and inclusive growth*, COM(2010)2020.

European Commission, *Alert Mechanism Report 2015*, COM(2014) 904 final.

Eurostat, *Smarter, greener, more inclusive? Indicators to support the Europe 2020 strategy*, 2015. Available at: http://ec.europa.eu/eurostat/documents/3217494/6655013/KS-EZ-14-001-EN-N.pdf/a5452f6e-8190-4f30-8996-41b1306f7367.

Foroohar R., *The Real Threat to Economic Growth Is the Digital Divide*, in «Time», 2014. Available at: http://business.time.com/2014/01/22/the-real-threat-to-economic-growth-is-the-digital-divide/.

Haddon L., *Information and communication technologies in everyday life: A concise introduction and research guide*, Oxford, Berg, 2004.

Harambam J., Aupers S., Houtman D., *The Contentious Gap. From Digital divide to cultural beliefs about online interactions*, in «Information, Communication & Society», 2012, pp. 1-22.

Hargittai E., Hsieh Y.P., *Digital Inequality*, in *Oxford Handbook for Internet Research*, edited by William H. Dutton, Oxford, Oxford University Press, 2013, pp. 129-150.

Hargittai E., *Second-level digital divide: Differences in People's Online Skills*, in «First Monday», 7, 4, (2002) pp. 1-17. Available at: http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/942 [Accessed September 29, 2012].

ISBN PRINT 978-88-6741-5144; ISBN eBOOK (OA) 978-8-8674-1624-0

Hargittai E., *The digital divide and what to do about it*, in *New economy handbook*, edited by Jones D.C., San Diego, CA, Academic Press, 2003, pp. 821-841.

Hargittai E., *The digital reproduction of inequality,* in *Social stratification*, edited by Grusky D., Boulder, CO: Westview Press, 2008, pp. 936-944.

Hunsinger J., Klastrup L., Allen M. (edited by), *International handbook of internet research*, London-New York, Springer, 2010.

ITU, *Measuring the Information Society Report*, Geneva, 2014.

Katz J.E., Rice R.E., *Social consequences of Internet use. Access, involvement, and interaction*, Cambridge, MA, MIT Press, 2002.

Kraut R., Kiesler S., Boneva B., Cummings J., Helgeson V., Crawford A., *Internet Paradox Revisited* in «Journal of Social Issues», 58, 1, (2002) pp. 49-74. doi:10.1111/1540-4560.00248.

Merton R.K., *The Matthew Effect in Science*, in «Science», 159, 3810, (1968) pp. 56-63.

Merton R.K., *The Sociology of Science: Theoretical and Empirical Investigation*, Chicago, University of Chicago Press, 1973.

Ministery of Industry and Trade Czech Republic, *State Policy in Electronic Communications – Digital Czech Republic*, 2014. Available at: http://download.mpo.cz/get/43288/48837/575000/priloha001.pdf.

Mossberger K., Tolbert C., Stansbury M., *Virtual Inequality*, Georgetown, Georgetown University Press, 2003.

Norris P., *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*, Cambridge, Cambridge University Press, 2001.

NTIA (National Telecommunication and Information Administration Us Department of Commerce), *Falling Through the Net: Defining the Digital Divide*, 1999, Available at: http://www.ntia.doc.gov/legacy/ntiahome/fttn99/contents.html.

OECD, *The Economic Impact of ICT: Measurement, Evidence and Implications*, Paris, 2004.

Ono H., Zavodny M., *Digital inequality: A five country comparison using microdata*, in «Social Science Research», 36, 3, (2007) pp. 1135-1155.

Prezerakos G.N., Polykalas S.E., *Implications of the Financial Crisis to the Digital Divide across European Union*, in «International Conference on Information Society (i-Society 2014)», 2014.

Rigney D., *The Matthew Effect: How Advantage Begets Further Advantage*, New York, Columbia University Press, 2010.

Sassi S., *Cultural differentiation or social segregation? Four approaches to the digital divide*, in «New Media & Society», 7, 5, (2005), pp. 684-700.

Selwyn N., *Apart from technology: understanding people's non-use of information and communication technologies in everyday life*, in «Technology in Society», 25, 1, (2003) pp. 99-116.

Selwyn N., *Reconsidering Political and Popular Understandings of the Digital Divide*, in «New Media & Society», 6, 3, (2004) pp. 341-362.

van Deursen A.J.A.M., van Dijk J.A.G.M., *The digital divide shifts to differences in usage*, in «New Media & Society», 16, (2014), pp. 507-526.

ISBN PRINT 978-88-6741-5144 ; ISBN eBOOK (OA) 978-8-8674-1624-0

van Dijk J.A.G.M., *The Deepening Divide: Inequality in the Information Society*, Thousand Oaks, SAGE, 2005.

van Dijk J.A.G.M., *One Europe, digitally divided*, in Routledge handbook of Internet Politics, edited by Chadwick A., Howard P.N., London-New York, Routledge, 2009, pp. 288-304.

Vicente M.R., López A.J., *Assessing the regional digital divide across the European Union-27* in «Telecommunications Policy», 35, 3, (2001) pp. 220-237.

Wasserman I.M., Richmond-Abbott M., *Gender and the Internet: Causes of Variation in Access, Level, and Scope of Use* in *Social Science Quarterly*, 86, 1, (2005), pp. 252-270.

WEF (World Economic Forum), *The Global Information Technology Report. ICTs for Inclusive Growth*, Geneva, 2015.

Wellman B., Haythornthwaite C. (edited by), *The Internet in Everyday Life*, Malden, Blackwell, 2002.

Witte J.C., Mannon S.E., *The Internet and Social Inequalities*, New York-London, Routledge, 2010.

Zillien N., Hargittai E., *Digital Distinction: Status-Specific Types of Internet Usage* in «Social Science Quarterly», 90, 2, (2009) pp. 274-291.

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