Evaluating public infrastructure services from the citizen perspective: are disadvantaged citizens being left behind?

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Abstract

Regulation of public infrastructure services are a major topic for policies addressed at promoting social inclusion in the European context. This paper explores the socio-economic dimensions of the European changing policies on public infrastructure services through its implementation of surveys on satisfaction from the 1990s. First, it explores the changing ways in which the European Commission (EC) implemented surveys to assess levels of citizen satisfaction with public infrastructure services. Using this concept, it explains why the EC abandoned the policy of surveying all citizens in the 1990s, surveying instead only consumers from 2006 onwards. Then, it tests the consequences of this change for the most potentially vulnerable in socio-economic terms. To do so, the paper comparatively analyses responses to two questions across two key surveys, conducted in 2006 and 2011. Clear evidence is found, first, that citizens from specific socio-economic backgrounds - the elderly, those not employed and those with less education - were less likely to be as satisfied with public infrastructure services as their counterparts. Second, once the EC removed non-consuming citizens from the sample it simultaneously removed some of the most socio-economically vulnerable citizens. As a consequence the EC was able to publish higher levels of citizen satisfaction in its survey analysis though this was thanks to its inadvertent decision to "exclude the excluded" from a socio-economic perspective.

Keywords: EU, public infrastructure services, socio-economic groups, citizens, consumers.

JEL codes: D12, F15, L97, L98.

1. Introduction

From the 1980s onwards, the European Commission (EC) gradually intensified its extension of market-oriented reform - particularly liberalization and competition - across an ever-wider set of public and social services, from telecommunications to health and beyond. As a reaction to concern from social actors and some Member States as regards the potentially damaging effect these reforms could have on service provision - as regards accessibility, quality and affordability, for example - the EC in tandem launched regular European Union (EU) wide surveys from the 1990s onwards. Scholarship on reform of public services has, by and large, focused overwhelmingly on uncovering the dynamics of policy reform top-down, often taking a "bird's-eye" view (Thatcher, 2014; Levi Faur, 1999; Schmidt, 2012; Zohlnhofer *et al*., 2008). Less attention has been paid to analysing the "underbelly" of reform, that is, how reform is perceived on the ground by citizens (some exceptions include Florio, 2013; Clifton, Díaz-Fuentes and Fernández-Gutiérrez, 2014). Citizen perceptions of public service reform can, however, be usefully assessed through the surveys, which constitute an important - perhaps unique - source of information on the socio-economic dimensions of these reforms, containing as they do perceptions of public service reform as seen from citizens across Europe.

This paper uses the theoretical literature on neoliberalism (Amable, 2011) as an organizing framework to analyse the consequences of reform of public service regulation for EU citizens from potentially vulnerable socio-economic groups as analysed through the surveys. We first present a theoretical discussion on neoliberalism and use it to argue that the evolution of the ways in which the surveys themselves were implemented reflect a gradual deepening of neoliberal ideas inside the EC in the third section. Over time, EC surveys on liberalized markets changed as regards its target respondent profile, the questions asked, the services included and the methodology. Not only do these changes reflect the shift to neoliberal governance, it also has important consequences for disadvantaged socio-economic groups. The turn to neoliberalism occurred in three main phases. Initially, the surveys implemented during the late 1990s posed questions to individual citizen respondents, who were invited to state their opinions about how they perceived ongoing reform of different public services. In a second stage, from the beginning of the first decade of the 2000s, the EC reconceptualized the citizen as dual in that they might be a citizen-consumer or a citizen who did not consume, or a citizen non-consumer. Recognising that respondents were heterogeneous, the EC disaggregated respondents' socio-economic background, and included this information in the survey. The 2006 survey represents the "turning point" in the evolution of EC practice, since, whether it categorises citizens as consumers or non-consumers, it collected and analysed data on both categories of citizens. Significantly, in a third phase, from 2006 onwards, the EC divided citizens into consumers and non-consumers and only collected and analysed data on opinions of those citizen-consumers. The opinions of non-consumers was omitted from the surveys from then on, which had important consequences for potentially vulnerable citizens, as we show. This approach was consolidated from 2010 when the EC packaged the presentation of the survey results in the form of the Annual, glossy "Consumer Market Scoreboard" (EC 2010, 2011, 2012, 2013, 2014). In all of the scoreboards, non-consumer opinions were excluded from the analysis of results.

So, over twenty years of survey implementation, the EC shifted from surveying citizens on their opinions about the effects of public service reform to a new approach

where only the opinions of consumers were taken into account on the satisfaction with their experience using public services. This shift exemplifies the consolidation of neoliberalism in EU governance of public services whereby policy is guided by the "moral imperative linked to competition" (Amable, 2011). Citizens are no longer conceptualised as citizens, with collective rights and social protection, but as consumers that require protection against enterprise and also government. Smacking of social Darwinism, previous collective rights to social protection and redistribution are substituted for a reciprocity contract between the individual and the society and which positions competitiveness at the centre of social life. The citizen is recast as a consumer, an individual with the rights to take better or worse choices inside a market constructed and regulated by the EC itself.

Why does this matter? The ways in which neoliberalism was implemented by the EC had important consequences for the EU's most vulnerable socio-economic groups. Effectively, opinions of citizens who did not consume public services - whether due to access, affordability problems, lack of knowledge, interest, embarrassment or otherwise - were removed from the EC radar. This state of affairs is far away from the Horizon2020 objective of making sure public services are efficient and inclusive.[i]

We demonstrate empirically the consequences of this neoliberal term for specific socio-economic groups through the comparative analysis of two key surveys, in 2006 and 2011. Because the questions posed to respondents are modified regularly, we selected two important questions on consumer satisfaction associated with perceptions about consumer protection and ease of comparing offers in both surveys. Results from the 2006 survey on citizens - divided into consumers and non-consumers - showed that citizens with specific socio-economic backgrounds were more likely to express lower satisfaction with a range of services. However, once we eliminated non-consumers from the analysis, we found that most satisfaction gaps previously identified were either considerably improved or even disappeared. Analysis of the 2011 survey - this time of only consumers - exhibited similar results to that of the 2006 when applied only to consumers.

The upshot of this is that the extent to which socio-economic differences impact on satisfaction has been significantly underestimated by the EC as seen in its publications on the data from surveys due to the changing ways in which it has implemented and interpreted its surveys. The EC's published results of greater satisfaction are at least in part thanks to its policy of not using survey data on citizens who do not consumer, or, by excluding the excluded.

The rest of the paper is organized into five sections. In the second section we present the theoretical framework on neoliberalism and mobilize the framework to argue the changing ways the EC has evaluated public service reform is a good example of how neoliberalism has become entrenched. The third and fourth sections demonstrate the consequences of this shift for the most vulnerable socio-economic groups. Section three presents the sources of information analysed and the empirical approach adopted. Section four describes the main empirical results obtained; conclusions follow.

2. Data and methodology

Why does the EC's changing approach to public service evaluation matter? We analyse the EC's approach to public service evaluation and the consequences for the

most potentially vulnerable socio-economic categories of citizens using data derived from citizens' stated preferences (SP), which consists of information on citizens' subjective self-evaluation as reflected in satisfaction indicators. Fiorio and Florio (2008) argue SP is a useful source of information to assess public service governance: SP has been used by scholars including Bacchiocchi et al. (2011), Fiorio and Florio (2011) and Clifton et al. (2011 and 2014) to assess public services from the citizens' perspective.

This paper uses two different sources of data on SP. First, it uses the microdata of the Special Eurobarometer Nº 260 on Services of General Interest (EC, 2007), with data corresponding to 2006 (from here, EB-2006). This survey was carried out at request of the EC as part of wave 65.3 of the Eurobarometer (EB). EBs are regular surveys implemented by the EC in order to monitor EU citizens' opinions across a range of topics. EB-2006 provides information on citizens' views and satisfaction on a range of issues, including use, accessibility, affordability, importance, switching, complaining and consumer protection for 10 different public services, including those under analysis in this paper. This survey also provides broad information on citizens' socio-economic characteristics. Critically, for this paper, the EB-2006 sample includes *all* citizens' of the EU-25 countries - that is, it includes citizens who use and do not use a given public service. Sample design, based on multi-stage random probability, permits obtaining results representative at the population level. EB-2006 provides a sample of around 1,000 respondents per each country (with some exceptions), yielding a total sample of 24,815 citizens at the EU-25 level. EB-2006 includes a question on whether each respondent uses or not each service ("*Could you tell me which of the following services do you use?*"). This permits also disposing of sub-samples of users of each service, which (as later described) is key for the purposes of this paper.

The second source of information used in this paper is the microdata from the European Consumer Markets Monitoring Survey (MMS) corresponding to 2011 (EC, 2011) (from here, MMS-2011). This survey was carried out for the EC as part of the Consumer Markets Scoreboard. The Scoreboard aims to analyse the functioning of EU markets from the consumer perspective. This survey constitutes a key tool used by the EC as a source of information for consumer regulation. It uses the Scoreboard to assess the evolution of consumer satisfaction and consumer empowerment. The MMS is an annual survey, and provides comparable information on consumer experiences and perceived conditions for EU-27 Member States and for 51 different markets, including those services under analysis in this paper. MMS-2011 provides information on consumers' satisfaction with consumer protection, ease of comparing offers, amount of choice available and accomplishment of their expectations, as well as on consumers' experience of problems, complaints and switching. It also includes information on some key socio-economic characteristics of the respondents. In contrast to EB-2006, the sample of MMS-2011 does not include all citizens, rather, it only includes those consumers with recent purchasing experience in each market (from here, the "consumers" of each service). The fact the EC has shifted from surveying all citizens to only recent consumers, as well as the changing nature of the questions posed in the surveys, reflects the change in EC regulatory priorities to a more market-oriented and consumer oriented approach. MMS-2011 provides a sample of around 500 consumers of each service for each country (around 250 for Cyprus, Luxembourg and Malta), yielding a sample size of around 12,800 respondents for each service at the EU-27 level.

Regarding dependent variables, this paper focuses on two issues which are comparable between EB-2006 and MMS-2011, as they are included in both surveys: satisfaction as regards consumer protection and satisfaction with ease of comparing offers.

On satisfaction with consumer protection, EB-2006 asks citizen respondents "*In general, how well do you think consumers' interests are protected in respect of the following services?*". Answers include four options: very well, fairly well, fairly badly and very badly. As typical for these cases, we aggregate answers on the two first options, on the one hand, and answers on the two last, on the other. Thus, we obtain a binary dependent variable, which is 1 when the respondent says consumers' interest are protected "very" or "fairly" well (meaning that the individual is "satisfied"), and 0 otherwise. The MMS-2011 survey asks consumers "*to what extent do you trust <suppliers/retailers> to respect the rules and regulations protecting consumers?*". Note that there is a difference in the wording of the question: whilst in EB-2006 consumer protection is referred to an abstract entity (using the passive voice), in MMS-2011, the survey refers directly to those enterprises providing the services, reflecting the shift towards a more market-oriented approach. Answers to this question in MMS-2011 are provided on a scale ranging from 0 ("very poor") to 10 ("very well"). Following Van Beuningen *et al.* (2014), we transform this satisfaction score 0-10 into a binary variable, being 1 when that score is valued between 7 to 10 (meaning that the individual is "satisfied"), and 0 otherwise.

As regards satisfaction with ease for comparing offers, we proceed in an analogous way. Here, EB-2006 asks citizens "*In general, how easy do you find it to compare offers from different [...] providers?*". Answers include four options: vary easy, fairly easy, fairly difficult and very difficult. Aggregating categories as for the previous variable, we obtain a binary dependent variable, being 1 when the respondent says comparing offers is "very" or "fairly" easy (meaning that the individual is "satisfied"), and 0 otherwise. As regards MMS-2011, the survey asks the respondents "*how difficult or easy was it to compare <the services/products> sold by different <suppliers/retailers>?*", ranging from 0 ("very difficult") to 10 ("very easy"). We transform this satisfaction score into a binary variable being 1 when that score is valued between 7 and 10 (meaning that the individual is "satisfied"), and 0 otherwise. Information on ease of comparing offers available in EB-2006 is limited to telecommunications services (fixed telephony, mobile telephony and internet), and excludes energy services (electricity and gas). For this reason, econometric estimations on this question are limited to telecommunications services.

Table 1 summarizes the main data on these two dependent variables as regards the services under analysis. We compare information from EB-2006 (first, for all the citizens and, second, only for consumers of each service) and MMS-2011 (only for the consumers of each service). Regarding satisfaction with consumer protection, in EB-2006, the percentage of satisfied respondents is slightly higher among users of each service than for the whole sample of citizens. The differences in satisfaction are higher in those services whose use is relatively low, such as the internet, than in those services with more widespread use, such as electricity. Comparing data on consumers available in EB-2006 and MMS-2011, the percentages of satisfied respondents are quite similar, albeit in general slightly lower in the second survey. These small differences may be caused by changes in the wording of the question. As regards satisfaction with ease of comparing offers, the main patterns are basically the same. First, in EB-2006, the percentage of satisfied respondents is higher among

the consumers of each service than among the sample of all citizens, especially in those services whose use is less-extended (the internet). Second, the percentage of satisfied respondents among users is quite similar in EB-2006 and MMS-2011. As shown, the dependent variables obtained offer comparable information between EB-2006 and MMS-2011.

Table 1. Summary of the dependent variables used in the surveys and services under analysis (EU-25)

Satisfaction (% of satisfied respondents)		Consumer protection					Ease of comparing offers				
		Fixed teleph.	Mobile teleph.	Internet	Electricity	Gas	Fixed teleph.	Mobile teleph.	Internet	Electricity	Gas
EB-2006	All citizens	55.9	50.3	40.5	61.9	51.3	52.5	49.8	42.9	-	-
	Users	60.3	56.2	58.1	62.5	62.6	54.5	56.4	61.1	-	-
MMS-2011	Users	55.0	49.5	52.5	50.9	56.6	59.6	60.9	60.1	50.0	55.2

Source: Computed by authors based on EC (2007 and 2011).

As regards the independent variables, the main point of interest for this paper is those socio-economic dimensions representative of citizens' potential vulnerability as consumers. Following descriptions by OFT (1998), OECD (2008) and George et al. (2011), we focus on three dimensions representative of potential vulnerability which are also commonly available in EB-2006 and MMS-2011: age, education and employment. As regards the age, we differentiate four categories: those below 35, those between 35 and 49 (being the category of reference in the estimations), those between 50 and 64 and those over 64 (considered as potentially vulnerable). For employment, we compare those not-employed (considered as potentially vulnerable) versus those employed (the category of reference). For the educational attainment, we differentiate three categories derived from information on the age at the time of abandoning full-time education provided by the surveys: those with a basic level of studies or a lower educational attainment (considered as potentially vulnerable), those with secondary education and those with higher education (the category of reference). Additionally, we include as control variables the gender and the country of the respondent. Finally, all the estimations include sampling weights provided by the surveys, permitting the extraction of representative results at the EU-25 level. All the results are for the EU-25, not the EU-27, since EB-2006 does not include valid information on the newest Member States.

In our econometric analysis, we estimate, for each service, the effect of the independent variables associated with citizens' potential vulnerability on the two dependent variables of satisfaction. We perform these estimations first on EB-2006 sample of all citizens, second on EB-2006 sub-samples of service consumers, and third, on the MMS-2011 sample of service consumers.

These estimations lead us to contrast, for each of the services and socio-economic dimensions under analysis, the following hypotheses of the paper:

H1a. Using EB-2006 data, citizens with socio-economic characteristics associated with vulnerability are less satisfied with consumer protection as regards the services than their counterparts.

H1b. Using EB-2006 data, citizens with socio-economic characteristics associated to vulnerability are less satisfied with ease of comparing offers of the services than their counterparts.

H2a. Using EB-2006 data limited to consumers, the effects estimated for satisfaction with consumer protection are lower than those obtained in *H1a*.

H2b. Using EB-2006 data limited to consumers, the effects estimated on satisfaction with ease for comparing offers are lower than those obtained in *H1b*.

H3a. Using MMS-2011 data (limited to consumers), the effects estimated for satisfaction with consumer protection are lower than those obtained in *H1a*, and more similar to those obtained in *2a*.

H3b. Using MMS-2011 data (limited to consumers), the effects estimated on satisfaction with ease for comparing offers are lower than those obtained in *H1b*, and more similar to those obtained in *2b*.

As regards the econometric estimations performed in the next section, each dependent variable of satisfaction is analysed for each service as a binary variable *y*, defined as:

y_i= 1, if the individual *i* is satisfied with the issue and service.

y_i = 0, otherwise.

From this, assuming that the error term is distributed as an standard normal, we estimate Pr(y_i) from the following binary probit model:

$$\Pr(y_i = 1) = \Phi(x_i'\beta)$$

Where:

x_i is a vector of independent variables for the individual *i*.

From this model, we obtain the marginal effects of changes in each independent variable x_j on individuals' probability of being satisfied with the issue and service under analysis, from the following equation:

$$\frac{\partial \Pr(y_i = 1)}{\partial x_{ij}} = \Phi(x_i'\beta)\beta_j$$

And thus comparing the marginal effects of the key socio-economic variables representative of potential vulnerability on the dependent variables obtained using the different samples, we contrast the hypotheses of the paper.

3. Results

Table 2 summarizes the distribution of the samples used (EB-2006 for all citizens, EB-2006 for the service consumers and MMS-2011 for service consumers) according to the socio-economic dimensions of interest for this paper. In the presentation of these results, we focus on those socio-economic categories representative of citizens' potential vulnerability as consumers: those over 64, those not employed and those with low educational attainment.

Those over 64 constitute 19.7% of the sample in the EB-2006 data for all citizens. This can be considered as the reference of the weight of this group in the EU-25 population. Considering the sample of EB-2006 for service consumers, those

over 64 are significantly underrepresented in the cases of the newest telecommunications services (mobile telephony and the internet), as the percentage of consumers is lower among this group. A similar observation can be made about the sample of MMS-2011: the group of those over 64 is clearly underrepresented for mobile telephony and the internet, whilst they are overrepresented for fixed telephony.

The non-employed constitute just over a half (50.5%) of EB-2006 sample of all citizens, thus this is the approximate weight of this group in the EU-25 population. Considering EB-2006 samples only for service consumers, this group is, again, underrepresented in the cases of the newest telecommunications services (mobile telephony and the internet). Regarding the sample of MMS-2011, those non-employed are also underrepresented for these services, as well as for energy services (electricity and gas).

Finally, the less-educated constitute 43.8% of the EB-2006 sample of all citizens, the reference of the weight of this group in the EU-25 population. Considering EB-2006 for service consumers, again, this group is underrepresented for the newest telecommunications services (mobile telephony and, especially, the internet). Considering the sample of MMS-2011, the less-educated are even more significantly underrepresented, especially for the internet.

In sum, the socio-economic groups of those potentially vulnerable are, in general, clearly underrepresented in the MMS-2011 sample, compared with the EB-2006 sample for all citizens. The socio-economic composition of the EU-25 population has changed between 2006 and 2011, but changes in the composition of the samples go further. By limiting the sampling to service consumers, the EC has, inadvertently, squeezed out partially the opinions of vulnerable groups. In MMS-2011, vulnerable groups are underrepresented in those services that they use less, such as the newest telecommunications services. Other changes in the survey design and the data collection from EB-2006 to MMS-2011 have exacerbated the underrepresentation of vulnerable groups, as reflected in the categories of the non-employed and, particularly, for the less-educated.

Table 2. Distribution of the samples of the surveys according to socio-economic characteristics (EU-25)

	SURVEY:	EB-2006 (all citizens)	EB-2006 (users)					MMS-2011 (users)				
	SERVICE:	All services	Fixed teleph.	Mobile teleph.	Internet	Electricity	Gas	Fixed teleph.	Mobile teleph.	Internet	Electricity	Gas
Age	Age < 35	32.0	28.1	38.1	41.2	31.5	31.9	14.3	24.7	27.3	19.2	18.9
	Age 35-49	26.9	27.5	30.4	33.6	27.3	27.3	25.5	32.9	34.7	32.4	30.7
	Age 50-64	21.4	23.0	20.6	19.4	21.6	22.0	34.9	29.8	29.5	31.3	32.0
	Age > 64	19.7	21.5	10.8	5.8	19.6	18.8	25.2	12.6	8.5	17.1	18.5
Employment	Employed	49.5	49.9	56.9	62.5	50.0	51.3	46.6	58.6	61.3	57.8	54.3
	Not employed	50.5	50.1	43.1	37.5	50.0	48.7	53.4	41.4	38.7	42.2	45.7
Education	Basic educ.	43.8	43.0	38.4	30.5	43.3	42.7	29.0	24.2	19.4	24.9	25.2
	Second. educ.	32.6	31.4	35.1	35.0	32.7	33.7	31.1	32.6	34.8	31.5	30.9
	Higher educ.	23.6	25.6	26.5	34.6	24.1	23.6	39.9	43.1	45.8	43.5	44.0

Source: Computed by authors based on EC (2007 and 2011).

Full results of the econometric estimations are included in tables 5 to 9, one for each of the services under analysis: fixed telephony, mobile telephony, internet, electricity and gas. Tables 3 (for satisfaction with consumer protection) and 4 (for satisfaction with ease of comparing offers) summarize the main results estimated as regards the socio-economic categories representative of vulnerability of interest for this paper.

As observed in table 3, using data from EB-2006 on all citizens, effects representing less satisfaction with consumer protection for those potentially vulnerable with respect to their counterparts are concentrated in some of the services and socio-economic dimensions. In particular, those over 64 are less satisfied with consumer protection than the category of reference (those below 35) in the cases of mobile telephony (-24.8% of probability of satisfaction for this group) and the internet (-28.1%), and to a minor extent for gas (-5.5%). This effect does not exist for fixed telephony and electricity. As regards the less-educated, an analogous significant negative effect is observed for the internet (-5.4%). As regards the non-employed, the effects estimated are non-significant.

All these effects are reduced, or their statistical significance even disappears, when we repeat the estimations using data from the same survey (EB-2006) but limit the sample to only service consumers. As for those over 64, the effects previously estimated diminish to -10.2% for mobile telephony and to -4.1% for gas, whilst the effect becomes non-significant for the internet. Also, the effect estimated for the less-educated in the case of the internet changes, and becomes positive (+6% of probability of satisfaction).

Finally, repeating the estimations using data from MMS-2011, the effects are much more similar to those derived from EB-2006 limited to service consumers than to those from EB-2006 for all citizens. For those over 64, the effects estimated are much lower than from EB-2006 data on citizens in the cases of mobile telephony (-6.9% of probability of satisfaction using data from MMS-2011) and internet (-10.4%). In the case of gas, the effect becomes non-significant. Also for the less-educated and the internet, the effect becomes non-significant using MMS-2011 data.

Table 3. Summary of the results estimated on satisfaction with consumer protection (marginal effects after probit)

	EB-2006 (all citizens)	EB-2006 (users)	MMS-2011 (users)
FIXED TELEPHONY			
Age >64	n.s.	n.s.	n.s.
Non-employed	n.s.	+2.9	n.s.
Basic education	+2.5	+4.2	n.s.
MOBILE TELEPHONY			
Age >64	**-24.8**	**-10.2**	**-6.9**
Non-employed	n.s.	+2.5	n.s.
Basic education	+4.1	+7.8	n.s.
INTERNET			
Age >64	**-28.1**	n.s.	**-10.4**
Non-employed	n.s.	n.s.	n.s.
Basic education	**-5.4**	+6.0	n.s.
ELECTRICITY			
Age >64	n.s.	**-2.9**	n.s.
Non-employed	n.s.	n.s.	n.s.
Basic education	+2.3	+3.3	n.s.
GAS			
Age >64	**-5.5**	**-4.1**	n.s.
Non-employed	n.s.	n.s.	+3.8
Basic education	n.s.	n.s.	n.s.

n.s.: non-significant at 10%.

Source: Computed by authors based on EC (2007 and 2011).

As regards satisfaction with ease of comparing offers (table 4), using data from EB-2006 on all the citizens, effects representing less satisfaction are particularly observed for those over 64. For this group, satisfaction with ease of comparing offers is lower for all three of the telecommunications services, although the effect is higher for mobile telephony (-37.2% of probability of satisfaction for this group) and internet

(-39.3%) than for fixed telephony (-15.3%). In addition, for the less-educated, an analogous effect appears in the case of the internet (-8.5%). Again, the effects estimated for those non-employed are non-significant.

Repeating the estimations using data from EB-2006 on service consumers, most of these effects diminish. For the elderly, the effects decrease to -26% in the case of mobile telephony, and to -22% in the case of the internet, whilst this only increases to -17% in the case of fixed telephony. For the less-educated and the internet, the effect actually becomes positive (+3.7%).

Finally, repeating the estimations using data from MMS-2011, the effects estimated are closer to those obtained from EB-2006 data limited to consumers. In comparison with results from EB-2006 data on all the citizens, all the effects previously described diminish. For the elderly, the effects decrease to -11.4% in the case of fixed telephony, -18.5% for mobile telephony and -13.8% for the internet. For the less-educated in the case of the internet, the effect diminishes to -3.5%.

Table 4. Summary of the results estimated on satisfaction with ease of comparing offers   (marginal effects after probit)

	EB-2006 (all citizens)	EB-2006 (users)	MMS-2011 (users)
	FIXED PHONE		
Age >64	**-15.3**	**-17.0**	**-11.4**
Non-employed	n.s.	+2.3	n.s.
Basic education	n.s.	n.s.	n.s.
	MOBILE PHONE		
Age >64	**-37.2**	**-26.0**	**-18.5**
Non-employed	n.s.	n.s.	n.s.
Basic education	n.s.	+3.4	n.s.
	INTERNET		
Age >64	**-39.3**	**-22.0**	**-13.8**
Non-employed	n.s.	n.s.	n.s.
Basic education	**-8.5**	+3.7	**-3.5**

n.s.: non-significant at 10%.

Source: Computed by authors based on EC (2007 and 2011).

To sum up, estimations from EB-2006 data on all citizens reflect significant gaps in both indicators of satisfaction affecting socio-economic groups of potentially vulnerable citizens. These gaps particularly affect elderly citizens in most of the services under analysis, with higher intensity in the cases of mobile telephony and the internet, and the less-educated citizens in the case of the internet. The gaps negatively affecting vulnerable groups particularly appear in the cases of the newest services, especially where their use is still far from being universal. Repeating the

estimations using data limited to service consumers, both from EB-2006 and from MMS-2011, nearly all of these effects significantly diminish or even lose their statistical significance. *The major point here is that the shift from using samples of citizens to samples only of consumers has led to seriously underestimating the negative gaps in satisfaction affecting groups of potentially vulnerable citizens in the services under analysis*.

Table 5. Full estimates obtained on fixed telephony (Marginal effects after probit)

	Dependent variable:	Satisfaction with consumer protection			Satisfaction with ease of comparing offers		
	Sample:	EB-2006 (all citizens)	EB-2006 (users)	MMS-2011 (users)	EB-2006 (all citizens)	EB-2006 (users)	MMS-2011 (users)
	Variable						
Country	AUSTRIA	0.104***	0.182***	-0.127***	0.061***	0.098***	-0.173***
	BELGIUM	0.133***	0.160***	-0.095***	-0.055**	-0.026	-0.053*
	CYPRUS	0.043	0.058**	-0.011	-0.010	0.011	-0.027
	CZECHR	-0.108***	-0.049**	-0.039	0.046**	0.105***	-0.128***
	DENMARK	0.028	0.058**	-0.091***	-0.158***	-0.127***	-0.282***
	ESTONIA	-0.071***	0.060**	0.131***	0.024	0.123***	0.139***
	GREECE	-0.002	-0.002	-0.016	0.231***	0.215***	0.129***
	SPAIN	-0.251***	-0.262***	0.327***	0.026	0.018	-0.062**
	FINLAND	0.001	0.131***	-0.002	-0.180***	-0.040	-0.012
	FRANCE	-0.007	-0.007	0.031	-0.074***	-0.068***	0.025
	HUNGARY	-0.132***	-0.035	0.035	-0.025	0.054**	-0.093***
	IRELAND	0.052**	0.092***	-0.015	0.073***	0.139***	-0.042
	ITALY	-0.173***	-0.172***	-0.258***	-0.020	0.009	-0.070**
	LITHUANIA	-0.213***	-0.055**	0.066**	-0.133***	-0.019	0.181***
	LUXEMB	0.225***	0.224***	0.117***	0.079***	0.098***	0.054
	LATVIA	-0.149***	-0.030	0.090***	-0.116***	0.024	0.160***
	MALTA	0.147***	0.131***	0.011	0.113***	0.109***	-0.144***
	NETHERL	0.122***	0.110***	-0.069**	-0.105***	-0.109***	0.057*
	POLAND	-0.133***	-0.093***	-0.131***	0.048**	0.098***	-0.017
	PORTUGAL	-0.212***	-0.133***	-0.233***	0.117***	0.169***	0.003
	SWEDEN	0.084***	0.067***	-0.151***	-0.155***	-0.153***	-0.242***
	SLOVENIA	0.022	0.019	0.008	0.007	0.023	0.070**
	SLOVAKIA	0.018	0.104***	0.170***	0.065***	0.126***	0.139***
	UK	0.188***	0.191***	-0.059*	0.106***	0.122***	-0.027
Sex	WOMAN	-0.001	-0.007	0.029**	-0.023**	-0.031***	0.005
Age	35TO49	-0.021	-0.034**	-0.034	-0.023*	-0.037**	-0.049*
	50TO64	-0.023*	-0.049***	-0.076***	-0.089***	-0.109***	-0.104***
	MORE64	-0.002	-0.028	-0.016	-0.153***	-0.170***	-0.114***
Employment	NON-EMPL	0.019	0.029**	0.012	0.009	0.023*	0.023
Education	BASICED	0.025*	0.042***	-0.003	-0.020	0.002	-0.028
	SECONDED	0.019	0.028*	-0.053***	0.012	0.031**	-0.023
N		24,815	18,672	11,838	24,815	18,672	11,838
Wald chi2		1,421.03	921.37	709.19	970.38	806.13	730.00
Prob > chi2		0.000	0.000	0.000	0.000	0.000	0.000

Statistical significance at 1% (***), 5% (**), 10% (*).

Source: Computed by authors based on EC (2007 and 2011).

Table 6. Full estimates obtained on mobile telephony (Marginal effects after probit)

	Dependent variable:	Satisfaction with consumer protection			Satisfaction with ease of comparing offers		
	Sample:	EB-2006 (all citizens)	EB-2006 (users)	MMS-2011 (users)	EB-2006 (all citizens)	EB-2006 (users)	MMS-2011 (users)
	Variable						
Country	AUSTRIA	0.187***	0.243***	-0.316***	0.126***	0.169***	-0.192***
	BELGIUM	0.195***	0.197***	-0.271***	-0.010	0.001	-0.167***
	CYPRUS	0.265***	0.292***	-0.061*	0.215***	0.247***	-0.016
	CZECHR	0.147***	0.163***	-0.136***	0.250***	0.298***	-0.072**
	DENMARK	0.112***	0.124***	-0.301***	-0.104***	-0.092***	-0.382***
	ESTONIA	0.188***	0.215***	0.033	0.239***	0.279**	0.080**
	GREECE	0.054**	0.059**	-0.076**	0.343***	0.414***	0.037
	SPAIN	-0.174***	-0.173***	-0.496***	0.140***	0.163***	-0.169***
	FINLAND	0.265***	0.273***	-0.187***	0.054***	0.064***	-0.185***
	FRANCE	-0.065***	-0.071***	-0.069**	-0.070***	-0.058**	-0.028
	HUNGARY	0.091***	0.153***	-0.064**	0.132***	0.187***	-0.148***
	IRELAND	0.163***	0.196***	-0.194***	0.241***	0.283***	-0.117***
	ITALY	0.008	-0.002	-0.290***	0.100***	0.101***	-0.135***
	LITHUANIA	0.035	0.086***	-0.003	0.169***	0.264***	0.137***
	LUXEMB	0.270***	0.265***	-0.117***	0.123***	0.129***	-0.033
	LATVIA	0.097***	0.136***	-0.076**	0.139***	0.191***	0.105***
	MALTA	0.198***	0.212***	0.044	0.310***	0.377***	-0.136***
	NETHERL	0.098***	0.108***	-0.305***	-0.026	-0.012	-0.048
	POLAND	0.073***	0.155***	-0.247***	0.182***	0.290***	0.011
	PORTUGAL	0.058***	0.096***	-0.266***	0.297***	0.364***	-0.017
	SWEDEN	0.091***	0.091***	-0.296***	-0.141***	-0.140***	-0.359***
	SLOVENIA	0.195***	0.210***	-0.103***	0.277***	0.310***	-0.028
	SLOVAKIA	0.215***	0.281***	-0.073**	0.273***	0.372***	0.026
	UK	0.134***	0.158***	-0.163***	0.135***	0.166***	-0.077**
Sex	WOMAN	-0.017*	0.002	0.027*	-0.041***	-0.028**	-0.008
Age	35TO49	-0.084***	-0.066***	-0.010	-0.123***	-0.107***	-0.058***
	50TO64	-0.144***	-0.096***	-0.059***	-0.220***	-0.184***	-0.130***
	MORE64	-0.248***	-0.102***	-0.069***	-0.372***	-0.260***	-0.185***
Employment	NON-EMPL	0.012	0.025*	0.021	-0.006	0.016	-0.009
Education	BASICED	0.041***	0.078***	0.009	-0.000	0.034**	0.012
	SECONDED	0.034**	0.046***	-0.016	0.027**	0.034**	-0.011
N		24,815	19,917	11,839	24,815	19,917	11,839
Wald chi2		1,196.97	925.05	841.99	2,306.18	2,225.79	859.14
Prob > chi2		0.000	0.000	0.000	0.000	0.000	0.000

Statistical significance at 1% (***), 5% (**), 10% (*).

Source: Computed by authors based on EC (2007 and 2011).

Table 7. Full estimates obtained on internet (Marginal effects after probit)

	Dependent variable:	Satisfaction with consumer protection			Satisfaction with ease of comparing offers		
	Sample:	EB-2006 (all citizens)	EB-2006 (users)	MMS-2011 (users)	EB-2006 (all citizens)	EB-2006 (users)	MMS-2011 (users)
	Variable						
Country	AUSTRIA	0.109***	0.217***	-0.197***	0.020	0.093***	-0.096***
	BELGIUM	0.147***	0.201***	-0.137***	-0.001	0.034	-0.081***
	CYPRUS	-0.017	0.216***	-0.065*	-0.048*	0.123***	0.015
	CZECHR	0.041**	0.191***	-0.112***	0.084***	0.298***	-0.082***
	DENMARK	0.089***	0.138***	-0.170***	-0.096***	-0.081***	-0.265***
	ESTONIA	0.047**	0.186***	0.004	0.109***	0.262***	0.050
	GREECE	-0.016	0.095**	-0.026	0.078***	0.297***	0.078**
	SPAIN	-0.128***	-0.093***	-0.423***	0.077***	0.132***	-0.167***
	FINLAND	0.192***	0.296***	-0.061**	0.059***	0.113***	-0.074**
	FRANCE	-0.056***	0.010	-0.004	-0.059***	0.018	-0.005
	HUNGARY	-0.068***	0.142***	-0.126***	-0.066***	0.173***	-0.115***
	IRELAND	0.020	0.156***	-0.149***	0.009	0.130***	-0.121***
	ITALY	-0.039*	0.002	-0.250***	0.024	0.065**	-0.057*
	LITHUANIA	-0.051**	0.093***	0.066**	-0.007	0.197***	0.122***
	LUXEMB	0.113***	0.173***	-0.118***	0.061**	0.112***	-0.097***
	LATVIA	-0.070***	0.103***	-0.068**	-0.047**	0.188***	0.051
	MALTA	0.087***	0.254***	-0.026	0.072**	0.307***	-0.065*
	NETHERL	0.131***	0.141***	-0.177***	0.007	0.011	-0.005
	POLAND	-0.032	'.136***	-0.131***	0.006	0.220***	-0.053*
	PORTUGAL	-0.144***	0.005	-0.320***	0.050**	0.301***	-0.021
	SWEDEN	0.042*	0.052*	-0.191***	-0.066***	-0.058**	-0.168***
	SLOVENIA	0.118***	0.186***	-0.089***	0.145***	0.247***	0.025
	SLOVAKIA	-0.029	0.201***	-0.047	-0.059***	0.213***	-0.004
	UK	0.135***	0.266***	-0.147***	0.145***	0.261***	-0.094***
Sex	WOMAN	-0.020**	0.008	0.001	-0.061***	-0.049***	-0.017
Age	35TO49	-0.082***	-0.067***	-0.003	-0.100***	-0.090***	-0.023
	50TO64	-0.143***	-0.059***	-0.089***	-0.215***	-0.134***	-0.114***
	MORE64	-0.281***	-0.038	-0.104***	-0.393***	-0.220***	-0.138***
Employment	NON-EMPL	-0.007	-0.005	0.015	-0.002	0.005	0.016
Education	BASICED	-0.054***	0.060***	-0.015	-0.085***	0.037*	-0.035*
	SECONDED	-0.044***	0.008	-0.025	-0.034***	0.042**	-0.012
N		24,815	11,205	11,860	24,815	11,205	11,860
Wald chi2		1,140.66	399.63	601.87	1,186.00	837.58	459.07
Prob > chi2		0.000	0.000	0.000	0.000	0.000	0.000

Statistical significance at 1% (***), 5% (**), 10% (*).

Source: Computed by authors based on EC (2007 and 2011).

Table 8. Full estimates obtained on electricity (Marginal effects after probit)

	Dependent variable:	Satisfaction consumer protection		with
	Sample:	EB-2006 (all citizens)	EB-2006 (users)	MMS-2011 (users)
	Variable			
Country	AUSTRIA	0.316***	0.314***	-0.172***
	BELGIUM	0.294***	0.290***	-0.259***
	CYPRUS	0.156***	0.154***	-0.217***
	CZECHR	0.161***	0.162***	-0.203***
	DENMARK	0.283***	0.286***	-0.063**
	ESTONIA	0.167***	0.172***	-0.169***
	GREECE	0.178***	0.175***	-0.240***
	SPAIN	-0.008	-0.004	-0.450***
	FINLAND	0.230***	0.231***	-0.074**
	FRANCE	0.233***	0.239***	-0.011
	HUNGARY	0.097***	0.106***	-0.143***
	IRELAND	0.209***	0.216***	-0.018
	ITALY	0.010	-0.000	-0.297***
	LITHUANIA	0.129***	0.134***	-0.239***
	LUXEMB	0.284***	0.285***	-0.092**
	LATVIA	0.182***	0.181***	-0.287***
	MALTA	0.038	0.033	-0.292***
	NETHERL	0.203***	0.208***	-0.177***
	POLAND	0.177***	0.183***	-0.272***
	PORTUGAL	-0.001	-0.002	-0.357***
	SWEDEN	0.007	0.009	-0.351***
	SLOVENIA	0.230***	0.228***	-0.178***
	SLOVAKIA	0.211***	0.228***	-0.037
	UK	0.290***	0.287***	-0.183***
Sex	WOMAN	-0.006	-0.005	0.042***
Age	35TO49	-0.042***	-0.046***	-0.010
	50TO64	-0.041***	-0.050***	-0.059***
	MORE64	-0.016	-0.029*	0.004
Employment	NON-EMPL	-0.018	-0.017	0.021
Education	BASICED	0.023*	0.033**	0.013
	SECONDED	0.023*	0.024*	-0.007
N		24,815	23,931	11,807
Wald chi2		1,015.90	983.75	708.41
Prob > chi2		0.000	0.000	0.000

Statistical significance at 1% (***), 5% (**), 10% (*).

Source: Computed by authors based on EC (2007 and 2011).

Table 9. Full estimates obtained on gas (Marginal effects after probit)

	Dependent variable:	Satisfaction consumer protection		with
	Sample:	EB-2006 (all citizens)	EB-2006 (users)	MMS-2011 (users)
	Variable			
Country	*AUSTRIA*	0.234***	0.268***	-0.168***
	BELGIUM	0.224***	0.310***	-0.214***
	CYPRUS			
	CZECHR	0.200***	0.212***	-0.120***
	DENMARK	-0.036*	0.285***	0.063*
	ESTONIA	-0.035	0.273***	-0.025
	GREECE	0.157***	0.427***	0.015
	SPAIN	-0.031	-0.037	-0.204***
	FINLAND	-0.218***	0.163*	
	FRANCE	0.191***	0.263***	0.037
	HUNGARY	0.136***	0.113***	-0.192***
	IRELAND	-0.003	0.208***	0.078**
	ITALY	0.081***	0.032	-0.185***
	LITHUANIA	0.087***	0.168***	-0.062**
	LUXEMB	0.125***	0.330***	0.059
	LATVIA	0.036*	0.202***	-0.048
	MALTA			
	NETHERL	0.293***	0.253***	-0.120***
	POLAND	0.123***	0.220***	-0.139***
	PORTUGAL	-0.109***	0.055	-0.145***
	SWEDEN	-0.460***	0.292***	
	SLOVENIA	0.188***	0.232***	-0.018
	SLOVAKIA	0.260***	0.237***	0.026
	UK	0.291***	0.284***	-0.115***
Sex	*WOMAN*	-0.005	-0.002	0.034**
Age	*35TO49*	-0.046***	-0.047***	-0.007
	50TO64	-0.059***	-0.055***	-0.017
	MORE64	-0.055***	-0.041**	0.018
Employment	*NON-EMPL*	-0.011	-0.007	0.038**
Education	*BASICED*	0.005	0.022	0.023
	SECONDED	0.007	-0.003	-0.019
N		23,810	11,674	10,306
Wald chi2		1,953.00	523.43	366.10
Prob > chi2		0.000	0.000	0.000

Statistical significance at 1% (***), 5% (**), 10% (*).

Source: Computed by authors based on EC (2007 and 2011).

4. Conclusions

A fundamental shift in EC governance of public services commenced from the 1980s onwards, as it turned to introduce policies of liberalization and competition across services from telecommunications to health and beyond. Responding to pressure from social partners and some Member States, the EC commenced regular surveys of citizens to determine their levels of satisfaction with ongoing reformed public services. Most scholarly attention has been paid to top-down analysis of these processes; much less attention has been paid to analysing what the data from these surveys might tell us.

In this paper, we mobilized the literature on neoliberalism to analyse what consequences the EU changing approach to implementing surveys may have from a socio-economic perspective. First, in our descriptive analysis, we found that the EC changing approach could be analysed in three phases. In the first phase, the EC surveyed all citizens, regardless of whether or not they consumed the public services in question, and included all responses in their results. In the 2006 survey, the EC surveyed all citizens, dividing them into consumers and non-consumers of given public services. Our analysis showed clearly that citizens associated with more vulnerable socio-economic backgrounds - the elderly, those who were not employed and those with lower educational levels - were more likely to be less satisfied with a number of public services. However, when we removed non-consumers from the survey - as the EC was to do from 2006 - we found these satisfaction gaps closed up considerably, often, disappearing. This explains then why in the EC surveys after 2006, once the EC stopped including in the survey results the non-consumers, why yawning gaps among citizens of different socio-economic backgrounds were largely smoothed out. We showed how the 2011 survey results were very similar to those of the 2006 survey when only consumers' opinions were included. Three major conclusions can be drawn. Firstly, we can therefore conclude with significant confidence that the EC is systematically underestimating the important satisfaction gaps that exist between Europe´s most vulnerable citizens as seen through its scoreboards and survey analysis. Secondly, the neoliberal concept explains very well the logic of the EC's changing approach to public service reform as seen through its implementation of surveys from the 1990s to 2011. Mostly, these changes were performed inadvertently, with little conscious awareness of the fact the EC was "excluding" the opinions of those who were potentially "excluded" from public service consumption. Thirdly, the consequences of excluding the "voice" of those who do not consume given public services is to potentially forge a vicious circle of public service governance to serve only the more privileged citizens as regards socio-economics. By excluding the excluded, the EC has no information on why citizens are not using a given public service - whether this be because it is inaccessible, unaffordable, of low quality, or due to a lack of knowledge, confidence or interest on the part of the citizen. The EC forges the market in which capable and knowledge-rich individuals can - unevenly - reap the potential benefits of competition. Those who cannot, or do not are unattended - fall out of the EC radar - as their circumstances are no included or comprehended in the consumer-only citizen surveys.

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[i] http://ec.europa.eu/programmes/horizon2020/en/h2020-section/societal-challenges