Telecommunications Policy 39 (2015) 421–435

Contents lists available at ScienceDirect

Telecommunications Policy

URL: www.elsevier.com/locate/telpol

Universal service obligations and public payphone use: Is regulation still necessary in the era of mobile telephony?

Maude Hasbi

Telecom ParisTech, Department of Economics and Social Sciences, 46 rue Barrault, 75013 Paris, France

ARTICLE INFO

Available online 11 May 2015

Keywords:
Universal service obligations
Public payphones

ABSTRACT

This paper analyses empirically whether universal service obligations for public payphone provision are still relevant in the European electronic communications market. It relies on micro-level data on 106,989 households from 27 EU countries, from 2005 to 2009, to estimate the impact of universal service obligations on public payphone use. A counterfactual scenario predicts the average use of public payphones if no universal service obligations were imposed in the EU countries. The estimation results show that universal service obligations do not have any significant impact on public payphone use. Only coverage obligations, i.e., when the law imposes a minimum number of payphones depending on the density of population, have a positive, though low, impact on payphone use. The counterfactual model predicts that if universal service obligations had been absent, between 2005 and 2009 public payphone use would have been 15% lower.

1. Introduction

Technological developments are generally considered to be welfare-enhancing, notably by replacing old technologies with more elaborated services that lead to price decreases. However, since the massive adoption of a new technology often leads to a sharp decline in the use of the old one, it can also have negative consequences for a fraction of the society, which relies on the old technology. This issue is of prime importance in the communications sector, where regulators have to trade-off between economic efficiency and social equity. A vast literature has studied the competition between an old and a new technology in industries subject to sector-specific regulation (see, among others, Avenali, Matteucci, & Reverberi, 2010; Bourreau, Cambini, & Doğan, 2012; Bourreau, Cambini, & Hoernig, 2012; Briglauer, Ecker, & Gugler, 2013; Valletti, Hoernig, & Barros, 2002). Though abundant, this literature has neglected the existence of universal service obligations for the provision of the services that rely on the old technology. Should an old technology be kept afloat artificially by regulation for the sake of universal service when a more efficient technology has appeared?

The paper analyses empirically whether universal service obligations are still relevant for the provision of public payphones, an old technology threatened by the development of mobile telephony. It investigates the effect of universal service obligations on public payphone use, with a particular focus on vulnerable end users, among them low-income households. The second question addressed in the paper is what would happen if public payphones were removed from the scope of universal service. Both questions are crucial for policy makers and regulators.

E-mail address: maude.hasbi@telecom.paristech.fr

http://dx.doi.org/10.1016/j.telpol.2015.03.004
0308-5961/

Universal service is one of the keystones of the liberalisation of the telecommunications sector. It aims to guarantee that affordable access to a minimum set of communication services of specified quality subsists after the end of the public monopoly. Universal service is designed to avoid social exclusion, ensuring that everyone, and specifically those that an unregulated market would not serve for economic efficiency reasons, has access to a basic set of communication services. Universal service also includes free access to emergency services (yet, this specific issue is not addressed).

In 2009, the European Commission stated that "services such as the provision of a connection to a telephone network and public payphones are considered by EU law to be a safety net for achieving social inclusion".[1] Nonetheless, the inclusion of public payphones in the scope of universal service is not solely founded on social grounds but also on economic grounds. Due to the existence of network externalities, it may be founded from a social welfare point of view to support the expansion of the network. Besides, as the postal network, the telecommunications network is a means to promote regional and rural development.

However, over the last decades, technological, economic and social developments have occurred, altering the way end-users communicate. Mobile phones have been massively adopted, whereas public payphone use has declined in both urban and rural areas. As a result, the upholding of public payphone provision in the scope of universal service is being hotly debated in the European Union.

In 2013, ten EU countries did not enforce any universal service obligations for public payphone provision, considering that due to the widespread use and coverage of mobile telephony services, mobile phones represented a substitute for payphones (BEREC, 2010).[2] Others, such as France, suggested its progressive withdrawal.[3] The paper contributes to the debate by providing empirical evidence on the impact of universal service obligations on public payphone use in the EU. Despite its obvious policy relevance, few studies have addressed the question of the sustainability of universal service obligations, when old technologies subject to regulatory obligations face fierce competition from more advanced technologies. In particular, no such study has specifically focused on their relevance when applied to public payphone provision.

So far, the debates in the literature have essentially focused on the need to modify the scope of universal service to take account of technological changes (see, for example, Nucciarelli, Sadowski, & Ruhle, 2014) and Cremer, Gasmi, Grimaud, & Laffont, 2002; Jaag, 2011). Other authors have assessed whether the economic and social grounds justifying the enforcement of a universal service policy remain valid. For example, Alleman, Rappoport, and Banerjee (2010) and Garcia-Murillo and Kuerbis (2005) argue that maintaining universal service obligations for public payphone provision in mature telecommunications markets could generate major distortions of economic efficiency. In the postal sector, Gautier and Poudou (2013) show that owing to the massive adoption of new communication technologies, end users' willingness to pay for legacy services (i.e., postal services) has declined. Stern (2003) demonstrates, for the US market, that the switch from payphones to a mobile phone by an individual creates a negative externality to all payphone users. Simpson (2004) underlines the importance to consider "*the need to create progressive, socially responsible, universal service reflective of the requirements of 21st century users*".

Another stream of the literature has explored the social process underlying technological transitions. Rihll, Wang, and Tucker (2011) indicate that the non-use of a more advanced technology does not necessarily imply the existence of inequality. On the contrary, a new technology can be rejected by a part of the population not under affordability considerations, but as a choice of non-use. Nevertheless, in sectors where universal service concerns prevail, the inefficiency and inadequacy of the old technology turns out to be an insufficient reason, for policy makers, to remove the universal service obligations attached to its provision. They consider that the cost of the new technology might hinder the switch from end users (see Adda & Ottaviani, 2005, for a thorough analysis). Despite the existence of a large body of policy-oriented studies, there is no quantitative analysis in the literature of the impact of regulation on payphones use. The objective and contribution of the present paper is to provide such a study.

The impact of universal service on public payphone use is estimated, after controlling for individual and cross-country differences, using micro-level pooled cross-sectional data on 106,989 households from 27 EU countries, from 2005 to 2009.

The first main finding is that universal service obligations do not have a significant impact on public payphone use. Only when a minimum number of payphones, depending on the density of population (i.e., coverage obligations), is imposed, this impact becomes positive. The second main finding is that if universal service obligations had been absent, the use of payphones would have decreased on average, in the European Union between 2005 and 2009, by 15%.

The remainder of this article is structured as follows. Section 2 provides a brief theoretical discussion on the effects of universal service obligations on public payphone use. Section 3 introduces the econometric model, and Section 4 the data. Section 5 presents the estimation results. Finally, Section 6 concludes.

[1] European Commission (2009) Press Release IP/09/164 "Telecoms: Portugal referred to the European Court of Justice over selection of companies providing universal service".

[2] These 10 countries are: Belgium, Denmark, Estonia, Finland, Luxembourg, The Netherlands, Latvia, Romania, Sweden, and Slovakia.

[3] ARCEP Opinion 2013-0519 on a project of decree related to telephone price reduction for some category of people in the frame of universal service (April 16, 2013).