3 Data and descriptive statistics

The service that's offered by the telephone companies vary from the gadgets selling to the service usage by the users. The addressed issue in this paper aims the consequence of the portability number law occurrence in competition between the companies from different countries. This law allows to the user the right to own the number and, thereafter, switching cost will be lower when they decide to change the phone company. The occurrence of the portability number law, therefore, can be understood in the model terms as a reduction in the switching cost. Depending on the industry maturity, the effect in competition can be distinct. This happens, thus when the industry maturity is low, the firms tends to be in competition stage for market share.

The database that is used in this work is from Merryll-Lynch and Global Matrix on telecom and includes an industry panel of the mobile telephony in 53 countries during the period of 36 quarters, since 1998 till 2007. It contains income data per user, cost per user, variable pointing the penetration of the industry (numbers of lines per population), an dummy variable indicating when occurred the number portability, a variable that points the market churn, among others.

The first two tables present descriptive statistics of variables. Ebitda represents the profit of the firms before interest, rates, depreciation and amortization; Arpu represents the average revenue per user; cpu the average cost per user; rpm the revenue per minute; mou would be minutes of utilization; capexu the investment level per user; churn represents the industry churn degree; hh would be the herfindahl-hirschman index; penetration would be the number of lines per population and, finally, n_players witch would be the inverse of herfindahl-hirschman index.

Table 1

Variable	Mean	Std. Dev.
ebitda	0.353	0.137
arpu	34.160	18.124
cpu	22.229	12.503
rpm	1.686	13.656
mou	197.977	149.235
capexu	0.172	0.164
churn	0.020	0.008
hh	0.366	0.107
penetration	0.796	0.292
n_players	2.973	0.888

Table 2

Variable	Mean port_tri=0	Std. Dev. port_tri=0	Mean port_tri=1	Std. Dev. port_tri=1
Ebitda	0.376	0.120	0.339	0.145
arpu	28.650	25.027	37.722	10.200
cpu	17.640	14.528	25.196	9.934
rpm	3.993	21.602	0.195	0.076
mou	182.698	126.980	207.855	161.305
capexu	0.147	0.192	0.187	0.140
churn	0.021	0.010	0.019	0.007
hh	0.387	0.123	0.352	0.092
penetration	0.567	0.292	0.944	0.171
n_players	2.875	1.004	3.036	0.798

The table below shows the average of ebitda weighted by market share of the firms, splitting the moment that the portability wouldn't have occurred yet and after the occurrence of the law. It's noticed observing this table that the law effect doesn't appear to be so clear in profitability. Some countries show greater profitability, others lower and there are still those that the effect appears to be almost null.

In table 4 it have been made the regression with the fixed effects of time and country without distinguish the industry maturity and the effect seems to be null without separation. Both the variable ebitda and the variables that represent the income and cost do not vary with the portability occurrence in this estimation.

It will be seen later that the industry maturity question is fundamental for the estimation of this public policy. This, thus firms own distinct incentives depending basically on the industry maturity.[2]

Table 3

country	mean(ebitda*mktshare) port=0	country	mean(ebitda*mktshare) port=1		
			0.0901561		0.1786592
Australia	0.112187	Italy		0.149655	
			0.1053349		0.0591466
Austria	0.0875077	Japan		0.088006	
			0.1430866		0.1190896
Belgium	0.1168855	Korea		0.128015	
			0.0971483	New	0.1867213
Canada	0.076923	Zealand		0.203822	
					0.1722629
Czech	0.1458748	0.15876	Norway		0.189053
			0.0631553		0.1179067
Denmark	0.0467139	Poland		0.124361	
			0.1071539		0.1035019
Finland	0.1445693	Portugal		0.121522	
			0.1256704	South	0.1424793
France	0.1021406	Africa		0.113498	
			0.0953342		0.0886908
Germany	0.0781717	Spain		0.133359	
			0.1266243		0.1291927
Greece	0.1230526	Sweden		0.133697	
Hong			0.0394513		0.1457999
Kong	0.055412	Taiwan		0.144391	
					0.0578947
Hungary	0.1788543	0.15413	US	0.03942	
			0.1520515		
Ireland	0.1865386				

[2] This effect is seen both in Klemperer (1987 a) and in Klemperer (1987 b).

Table 4	(1) EBITDA%	(2) ln(ARPU)	(3) ln(CostPU)
penetration	0.021	-0.858***	-0.894***
	(0.60)	0.00	0.00
portability	0.005	-0.002	-0.013
	(0.59)	(0.96)	(0.74)
Constant	0.345***	4.107***	3.663***
	0.00	0.00	0.00
Country fixed effect	yes	yes	yes
Time fixed effect	yes	yes	yes
Observations	1444	1444	1444
R-squared	0.506	0.945	0.933

Robust p-values in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%