



# Mobile service Affordability for the needy, Addiction, and ICT policy implications

L-F Pau, Prof. Mobile business , Rotterdam school of economics and Adj.Prof, Copenhagen Business School

[lfp.inf@cbs.dk](mailto:lfp.inf@cbs.dk) 2008-04-02

# INTRODUCTION AND SOME OF THE ISSUES

- **APPROACH** : This paper links communications and media usage to social and household economics *boundaries*.
- **BACKGROUND**: In present day society , communications and media are a necessity, but not always affordable , and that they furthermore open up for addictive behaviours which raise additional financial and social risks .
- **RELEVANCE** : a) Real market growth comes from the edges made of untapped potential user groups (emerging countries, elderly, etc )  
b) Specific business models and risk management apply , with sometimes regulatory support
- **CONTRIBUTIONS** : a) A simple and efficient methodology, compatible with state-of-the-art social and communications business statistics is developed, which produces the residual communications and media affordability budget and ultimately the value-at-risk in terms of usage and tariffs . Sensitivity analysis provides precious information on communications and media adoption on the basis of affordability.  
b) Case data are surveyed from various countries .  
c) ICT policy recommendations are made to support widespread and responsible communications access.

# COST605 RELEVANCE AND DEMANDS

- Some may find the topic “untraditional” but a european initiative in this field is in line with social policies, as well as opening up opportunities to suppliers, operators and communities alike
- **NEEDS** : -data on social and real poverty measures in various countries across Europe
  - communication needs and expenses of the needy across Europe
  - legislation or political support to the “communications right” ,also of the needy
  - identify and link up with sponsors and supporters
  - identify breakthrough technologies, business models and deployment environments
- **AND** : the ultimate test on operator’s and supplier’s social responsibilities

# Affordability of communications and media

- **DEFINITION** : Affordability of communications and media services is an expression of the social and material experiences of people, constituted as households or enterprises, in relation to their individual situations .Affordability expresses the challenge each household or enterprise faces in balancing the cost of its actual or potential communications and media cost, on one hand, and the other imposed expenditures, on the other, within the constraints of their income.
- **ISSUES:**
  - a. conceptual rigor vs. practical policy implications : USO does not help if no one can afford it
  - b. communications and media affordability vs. “affordable service consumption”:
  - c. communications and media affordability vs. quality standards in communications and media
  - d. a normative standard of affordability vs. empirical analysis of communications and media costs in relation to incomes
- **MEASURES OF AFFORDABILITY** of communications and media can be defined:
  - in relative terms, say e.g. vs. cost of living ;
  - in subjective terms, whatever individual households are willing to or choose to spend, while realizing that the degree of financial flexibility increases with income ;
  - vs. family or individual’s budget: monetary standards based on an aggregate expenditure patterns;
  - as a ratio, say of maximum acceptable communications and media costs / income;
  - as a residual , as normative standards of a minimum income required to meet other household needs (such as food, health, education and housing) at a basic level after paying for communications and media .

# SOME AFFORDABILITY DATA

- **USA** : the lower standard budgets (for two adults and two children) analyzed by the Economic Policy Institute (EPI) , and the Wider Opportunities for Women group for 2003 in Boston were 25690 USD -30132 USD/Year depending on the study group, compared to a US Poverty threshold of 18660 USD .But the communications and media share is amalgamated inside “Other goods and services” with amounts of 4200-5594 USD /Year, or to 13-18 % .
- **Denmark:** for 2003 , the equivalent lower standard budget was 150 600 DKK and the “Other goods and services “ share was 15 % (Center for samfundsanalyse CASA).
- **France:** for 2005 according to NGO Secours catholique the national poverty threshold was 817 Euros/Month and the NGO had interventions of which at least 84 % were under that threshold ,and communications and media represented 22 Euros / month in average (lower for fixed access, and higher for wireless access) .

# Addiction to communications and media

Using our collaboration with Inrium Justitia

- **DEFINITION** : Addiction is the psychological and social behavior in which individuals lose any restraint to consumption of a good or service
- **COUNTERMEASURES** : Such addictive behaviors, e.g. with mobile phones, lead to a change in the social sphere of the individuals. To meet their payment obligations, while satisfying their addictive dispositions, the exposed individuals very often cut on necessities and, when possible, use consumer lending. From the risk theory point of view, in a situation of known customer addiction, where the credit institution and/or communications operator will recognize they are exposed to a loss, they will adopt a randomizing policy based on value at risk.
- **CASES**: a) **Switzerland** :According to Inrium Justitia Switzerland (with its 2,5 Million/year credit reports data base) the typical Swiss indebted individual lives in a town ,alone, is aged 25-34 years ,has little institutional training or is an individual entrepreneur .The debt risk indicator for the 25-34 years age group is 61 % higher than the national average , while the over 65 year old seniors have indicators 49 % lower ,and the rural inhabitants stay close to the average . An essential finding is that current penetration rate of mobile service subscriptions (post-or pre-paid) in the same age group is close to 92 % ,and that the post paid rate is only 16 % , which is indicative of a high share of running pre-paid subscriptions having the same high credit risk exposure profile as other budget items .  
b) **United Kingdom**: according to survey company YouGov in April 2007 , 1.7 Million individuals have difficulties paying back their debt , 1 Million are close to or in personal insolvency ,and Inrium Justitia has established an average credit loss rate of 1,8 % ,and three times more on recoverable debts to communications suppliers .  
c) **Sweden** : one third of the consumers in the age group 15-25 years gets costly payment reminders , often from communications and media suppliers .

# ANALYSIS AND DECISION METHODOLOGY

- **Residual communications and media affordability NA** : uses residual income and access terminal density D

**Numerical example:** US poverty level /household (2003): 18860 USD (Economic Policy Inst.)

Standard necessities others than communications and media (assuming for these a ratio comparable to elsewhere of 82 %) (2003): 15500 USD

Average wireless penetration per household (2003):0,37 (FCC Data)

Average PC penetration per household (2003): = 0,2 (NSTIA Data)

Average communications or appliance density per household  $D = \text{Max}(0,37; 0,2) = 0,37$

Average normalized communications and media affordability and value at risk from a household /year and per subscription or appliance:  $NA = A * D = (18860 - 15500) * 0,37 = 1243.20$  USD (2003)

- **Payments to communications and media suppliers NR** :

**If the household accrues several usage subscriptions (post paid or prepaid) to communications and media, each accruing ARPU (i) average revenue per user per month:**

**NR = Sum (ARPU (i) \*12, i=1... p) +MediaProducts**

**where MediaProducts is the annual sum of spot purchases of media not distributed over networks**

**Numerical case:** US wireless ARPU per month (2003): ARPU (1) =34 USD (from CTIA data)

US fixed line ARPU per month (2003): ARPU (2) = 12 USD (from FCC data)

US CATV ARPU per month (2003): ARPU (3) = 21 USD (from Cable Labs data)

MediaProducts (2003) = 105 USD

NR = 905 USD (2003) assuming all three communications media.

- **Addiction vs. affordability: value at risk VaRCom**

**VaRCom = NA-NR**

USA (2003) : VaRCom = 1243-905 =338 USD/year which shows that in the USA in 2003 , in average , the household's residual communications and media budget did cover the average spending at official poverty level

*Sweden (2006)* : Assuming only wireless and Internet access technologies (and excluding CATV or SatTV), VaRCom = 13890 – 15600 SEK= (-1710) SEK (data : Konsumentverket )

# POLICY IMPLICATIONS (I)

- **Affordability as a communications adoption accelerator** : Lost revenue / revenue opportunity can be calculated from VaRCom (p, PopulationGroup) , the value at risk probability distribution within a given population with one income profile in a given market with homogeneous income, communications and media costs, and cost-of living characteristics
- **Determining the adoption potential for wireless and broadband services in lesser developed countries**, or amongst less affluent parts of the population in such countries (India and China work)
- **Consequences of a living standard increase**: the increase in the communications and media affordability NA translates into a shift in the value at risk curve with an immediate revaluation of the Lost Revenue.
- **Communications and media addiction situations**: although mostly individual, can be treated as extreme cases in the analysis above which thus serves as a unifying framework.



# POLICY IMPLICATIONS (II)

- **Eligibility and payment standards for communications and media subsidies**: in an information based society :one wonders why, when necessary, housing subsidies (like rent subsidy and equivalents) are not extended to some basic communications demand to help beneficiaries in their social and workforce insertion;
- The flexibility offered by **individual communications tariffs** over fixed bundles: would allow some households to represent a lesser risk level to suppliers and to themselves, provided they can specify a usage ceiling meeting real needs rather than service addiction
- **Financial education regulations** : It would be simple to implement a messaging service by the operators back to the users when the consumption pattern over time is likely to exceed the residual communications and media affordability, based on a declared income. This could be a partial measure inside the planned EU regulations for financial education to consumers