“THE USE OF COST-SHARING TO CONTROL
DEMAND AND THE IMPLICATIONS FOR EQUITY:
SOME THEORETICAL AND EMPIRICAL EVIDENCE
FOR ITALY”

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“The use of cost-sharing to control demand and the implications for equity: some theoretical and empirical evidence for Italy”

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Abstract

The existence of barriers to access to health care depends in the complex interaction of supply and demand-side factors, and both these factors will determine the extent to which access is equitable, based on the principle of equal utilization for equal need. Among these barriers we have cost-sharing that represents a well established tool to control demand, in many OECD countries. Many contributions in literature highlight arguments pro and against user charges: on one side, advocates of them claim that they can reduce demand by encouraging a more responsible use of health services, and raise revenue to sustain and expand the provision of health care, on the other side there is some evidence suggesting that they have a detrimental effect on the utilization of health services, and by extension on health status. The aim of the paper is to assess the extent to which the imposition of statutory user charges deter individuals from using health services and whether they result in health care systems characterized by unequal utilization for equal need. A special attention is given to the case of Italy, where tickets rules have been piling up in recent years, we do have some evidence of inequity of access and a stronger regional autonomy due to the process of federalism could exacerbate local disparities in access to essential assistance level. Can tickets have a positive role in this scenario? A moderate level, coupled with right exemption schemes seems to induce positive effects for equity, with the possibility of widening the range of health services within the public coverage and preserving the distributional function of the national health system.

Keywords: cost-sharing, equity in access, health care demand, tickets in Italy

Jel classification: I14, I18, H77, D63

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1 Introduction

Universal rights to health care can be found in almost every member state of the Union, however they do not automatically ensure universal access to health care. Barriers to access exist and in recognition of this the European Community recently proposed the achievement of universal access to health care as a common objective of EU health care systems and a priority objective for EU co-operation in social protection.

From an economic prospective, barriers to access are associated with supply-side factors and demand-side factors. In the first case they broadly relate to service availability, relevance and effectiveness\(^1\), and can be financial, affecting the supply of health services, or organizational, often caused by capacity issues.

Demand-side factors also restrict access to health care, such as an individual’s ability to pay for health services (income), and other personal factors, therefore they can be financial, socio-economic, psycho-social or socio-cultural. The complex interaction between supply- and demand-side factors produce barriers to access, and both factors will determine the extent to which access to health care is equitable, on the principle of equal utilization for equal need.

Out-of-pocket payments have traditionally accounted for a substantial proportion of health care expenditure in states such as Italy\(^2\), and while data on private spending should be treated with some caution, it is interesting to note that private expenditure grew substantially as a proportion of total expenditure on health care especially in the 1990s.

Private expenditure produces inequity in health care funding because it shifts the funding burden away from population-based risk-pooling arrangements, towards out-of-pocket payments by individuals and households with an impact which is pro-rich distributive (Evans and Barer 1995; Creese 1997). And it is important to remember that the higher the proportion of private expenditure in the total mix of funding for health care, the greater the relative share of the burden falling on poor people and people in poor health, so reducing the solidarity between healthy and unhealthy, rich and poor (van de Ven 1983; Rice and Morrison 1994). The evidence from international comparisons of progressivity in health care funding show that those systems relying more on private funding are more regressive than those in which the funding is predominantly public (Wagstaff et al. 1999). Furthermore, as

\(^1\) Supply-side factors can be the existence of a statutory system of health insurance, the level of public financial resources for health care, the level of human resources for health care, the allocation of these resources, the location of health services and the existence of waiting times for treatment.

\(^2\) See also Greece, Portugal and Spain, in Gulliford and Morgan (2003)
Mossialos and Thomson (2003) point out, even in progressive or proportionate health care systems the imposition of user charges may create financial barriers and iniquity in access to health care.

The structure of the paper is the following: arguments for and against cost-sharing are discussed; an analysis of the empirical evidence of the effects follows with the possible strategies to counterbalance negative effects; equity implications for Italy are presented on a theoretical and empirical ground; ticket application is then analyzed in a decentralized system, and final considerations conclude the work.

2. The use of cost-sharing to control demand

Member states generally use three types of cost-sharing:
• deductibles (apply to specific cases or for a period of time, require the user to bear a fixed quantity of the cost, with any excess borne by statutory health insurance);
• co-insurance (based on a percentage of the total cost, borne by the user);
• co-payment (flat-rate payments that are fixed fees for services; user behavior is influenced by quantity of health care consumed).

In Italy cost-sharing takes the form of co-payment, and it is usually called “ticket”, from the French meaning ticket moderateur. In this work ticket will be used as a general synonym for cost-sharing.

2.1 Arguments for cost-sharing

2.1.1 Moral hazard and funding of health

Many governments impose user charges for statutory health services, with the aim of achieving two objectives: they reduce demand by encouraging a more responsible use of health services, and they finance health expenditure.

If the cost of a service to users is zero, the users will have an incentive to consume more services than is socially beneficial. Therefore cost-sharing prevents health services from being undervalued and abused. This argument is pertinent especially when governments are concerned about containing health care expenditure.

It is also argued that cost-sharing can raise revenues to sustain and expand the provision of health care (Chalkley and Robinson 1997; Kutzin 1998; Willman 1998), and this would be the second role.
Whether these objectives are achieved depends on different assumptions made about elasticity of demand. If the first is achieved, then the second cannot be (Towse 1999). According to Mossialos and Thomson (2003), if user charges are collected to raise revenues, then the cost of collecting them must be less than the revenue raised. In practice the exemption of particular groups of the population, and the high cost of administering such exemptions affect the revenue raising potential of user charges (Evans and Barer 1995).

For the first role economic literature has produced many distinguished contributions, showing that the presence of cost-sharing limits the phenomenon of *ex post moral hazard*, when the insurance coverage is wide and an over-consumption of health care services takes place, beyond the levels of effectiveness and adequacy\(^3\). In this case social costs due to excess consumption can counterbalance social benefits from the insurance coverage of health risks. We can have a loss of social welfare, that is bigger, the higher the price elasticity of demand for health care.

With statutory health care\(^4\) (such as the SSN) the expenditure increase given by moral hazard can be offset by the increase of compulsory contributions or taxes. This option however is not feasible for most industrialized countries, because of the limits the globalization places on a bigger fiscal pressure and for the loss of social welfare due to excessive demand. For a third-party payer then, even public, it is more efficient to control moral hazard through forms of co-payment or co-insurance, that will make individuals more aware of the costs of health care services and will deter people from using services that are not really necessary.

Many models in literature try to determine the structure of the insurance contract and the level of cost-sharing in order to achieve the optimal level between the pooling of the risks and inefficiency (due to moral hazard) reduction: the price elasticity of demand of health care services seems to be crucial in determining the ticket effectiveness to control moral hazard\(^5\). The rule seems to be that cost-sharing should be null or very low for all health services with low price elasticity of demand (such as emergency services, life saving drugs, forms of care for very ill people that do no present any alternatives). *Ticket* in this case seems to be ineffective to control demand, but effective as financing source, since demand is completely rigid. Therefore there would be no gain in controlling moral hazard, and much iniquity.

\(^3\) A rich review of the economic literature on *ex post moral hazard* and cost sharing mechanisms is given by Rebba (2009).

\(^4\) Statutory health care depends on an individual's status as a citizen, resident and employee and is usually independent of ability to pay, whereas voluntary health insurance is dependent on ability to pay.

\(^5\) The following contributions are relevant: Zeckhauser (1970), Manning and Marquis (1996), Blomqvist (1997), Zweifel et al. (2009).
would be generated, since just people with serious health problems should pay for necessary health care.

A correct use of ticket therefore implies that cost-sharing is higher for those services with higher elasticity of demand, even though it is difficult to define ex ante whether health services are not urgent or not essential. Also people with low income and very high price elasticity of demand, who have to pay a ticket, could dramatically reduce their utilization (effective and appropriate) of services. The risk is to produce under-consumption, a lower level of prevention, with a negative effect on health and an increase of health expenditure in the long term. Equity in access and efficiency would be reduced, with a lowering of social welfare: exemptions are given to people in low income.

Many contributions in literature show that when the ticket has a partial application (it applies only to some services with moral hazard), unwelcome effects are produced, given a high substitution between services. If, due to the ticket, people want to utilize free services, again we could have an increase of public expenditure which is greater, the higher is price elasticity of demand (cross and direct) for the free services. A wide application of tickets can make the patient responsible and avoid demand deflection towards types of care which are not appropriate, costly but ticket free.

Sometimes the ticket can even stimulate substitution between health goods and services with an expenditure saving: brand pharmaceuticals are replaced by generic ones, equally effective and less costly.

2.2 Arguments against cost-sharing

2.2.1 SID effect and Ticket effectiveness
Two aspects have to be considered for user charges: first of all they may prove to be an ineffective method of containing health care costs because they operate on demand side, whereas health care expenditure is driven by supply-side factors (Evans and Barber 1995); secondly they may have a detrimental effect on the utilization of health services and by extension on health status.

The first argument is maybe more relevant and is strongly related to SID effect. The over-consumption can be reduced not only through cost sharing, but changing doctors’ behavior with correct incentive schemes. The assumption behind this is that there is no substitution between different treatments for a specific health status, so that there is only one level of demand, driven by the doctor, which is independent from price, and neutralizes ticket effects. Two objections can be raised: alternative
treatments can be used for a health problem, therefore health care demand is elastic\(^6\). Moreover if there is no co-payment, an implicit collusion can originate between doctor and patient with detriment to the third-party. The presence of the ticket could set a limit to consumers' direct demand and break the collusive game: patients would like to utilize health goods and services which are necessary, doctors would steer patients into more cost-effective services. The remuneration system is crucial: tickets work with per capita payment, but not if doctors (G.P.s. and specialists) are remunerated per service. In this case induction effects would be very strong, especially for specialists, and tickets could not allow the control of demand.

As far as the second topic is concerned, new contributions try to deal with the problem using an approach that tries to improve the standard model based on control of moral hazard: cost-sharing is positively correlated with price elasticity of demand of health services. This is the value-based cost sharing, and assumes that lower cost-sharing should be applied for health goods and services with higher marginal social benefits with respect to costs. In this approach the right level of cost-sharing (which produces an incentive) is determined by empirical evidence of Health Technology assessment. Services with a good level of cost-effectiveness should benefit from a lower ticket, or be free in some cases (Braithwaite and Rosen 2007). In this way insured patients do not reduce (because of tickets and lack of information) their demand for appropriate and effective services which could be of social gain.

The new approach of value-based cost-sharing has been reconciled with the standard one by Pauly and Blavin (2008). They suggest that if demand for health care is based on correct information about effectiveness and appropriateness of care, the optimal level of cost-sharing should increase with elasticity of demand, as standard theory of moral hazard shows, even though the new model is adopted. But, whenever the patients do not have all the correct information to evaluate the productivity of care, the optimal level of cost-sharing depends not only on price elasticity of demand, but also on imperfection of information. With imperfect information, demand could be higher or lower than real social marginal benefit based on clinical and epidemiological evidence, with an under-consumption of health care; considering elasticity of demand, it is correct to reduce the level of cost-sharing. If under-evaluation of marginal benefits from health care is marked, the cited authors

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\(^6\) This would not be the case for urgent or very complex services, or for services in a set course of treatments, such as follow-up and diagnostic tests for cancer pathologies: the demand would be rigid and is given by the doctor-agent (Rebba, 2009).
show that the optimal cost-sharing should be low as far as elasticity of demand is high, and this would allow reaching the social optimal consumption.

In Rebba analysis (Rebba 2009), given a precise scheme of remuneration and organization of health care providers, tickets can be effective as a tool for direct control of demand. Moral hazard and SID effects however suggest controlling health consumption on demand-side (through ticket) and on supply-side, through incentive schemes that make doctors responsible and willing to steer patients towards appropriate and effective services. This mix can differ from one health system to another, and depends on the strategies of the third-party, and typologies of health service.

3. **Empirical evidence of the effects of cost-sharing**

The most important random controlled trial is the Rand Insurance health Experiment, a well known analysis of the effects of user charges on the demand for ambulatory and secondary health care and health status. It took place in the 1970s, and involved over 7000 participants from six sites of the United States. Its main findings are as follows (Shapiro *et al.* 1986; Foxman *et al.* 1987; Lurie *et al.* 1987):

- utilization decreased as the level of cost-sharing increased;
- increased cost-sharing had the same impact on the utilization of effective and ineffective or inappropriate treatment; although there were small differences in health status between those receiving free care and those subject to cost-sharing, cost-sharing appeared to affect people in low income groups and those in poor health disproportionately; free care was beneficial to the health of these people.

TheRand experiment is a rigorous body of research, partly due to its unique experimental status, length and expense involved, but many have pointed out its weaknesses and limitations, therefore urging some caution in the interpretation of the results. The main criticisms are about its generality, design issue and the sample inclusion criteria, the presence of an income-related ceiling on participants' out of pocket expenditure, the study's length, the range of health outcome measures used and the failure to take into account that many decisions regarding utilization are determined by providers rather than patients (Relman 1983, Schoenman 1993, Evans and Barer 1995).

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7 The authors suggest that a corrective action on demand can be obtained through an informative campaign. Actually they are a good tool of demand control only for services with a rigid demand (Rebba 2009).
Many other studies have analyzed the impact of statutory co-payments on utilization and health status. The main results can be summarized as follows:

- demand of health services usually has a negative price-elasticity, with very small values;
- demand from people with heavy, chronic pathologies and urgent needs is rigid, and does not react to cost-sharing;
- elasticity of demand is relatively bigger for people on low income, and their consumptions tend to decrease considerably after ticket introduction or exacerbation;
- there is no unique evidence about ticket effectiveness in reducing overall health expenditure;
- there is no clear evidence that tickets are effective in limiting consumption with a low health productivity.

In the last case it becomes relevant to verify whether cost-sharing has a detrimental effect on health, and again evidence is conflicting: many European countries have exemptions for vulnerable and weak persons, such as chronically ill patients, disabled and people in difficult conditions. In those countries where exemptions are not considered, studies show a detrimental effect on health of those fragile categories. People on low incomes are more reactive to tickets, and request an amount of services which is below the necessary level, whereas people affected by chronic pathologies are less sensitive to tickets and are forced to bear a high expense even for effective and appropriate services. In these cases, as Rebba (2009) suggests, exemptions and strong ticket reductions should be applied, based on equity and efficiency considerations.

Mapelli (2005) analyzes the change of pharmaceutical consumption in Italy after abolition of cost-sharing in 2001, introduced in 1978 and modified several times during the years. Exempt people have a rigid demand, scarcely influenced by ticket abolition. Elasticity values are 0.05 for total population and 0.04 for those with exemption: within this group, we have a value of 0.16 for income exemption, and 0.01 for chronic pathologies, so confirming the results of other studies.

Finally a review conducted by Goldan, Joyce and Zheng (2007) analyzes the relationship between cost-sharing and pharmaceutical consumption and finds negative evidence of it. Specifically, price elasticity is within a range that goes from 0.2 to 0.6. Other results are confirmed: people on low income are more sensitive to cost-sharing changes and for chronic illnesses a higher cost-sharing is associated with a higher use of other health services. Generally a worse health status is found in fragile people (old and poor patients), probably for the absence of an exemption scheme. Authors such as Fairmann, Motheral, Johnson analyzing all of the population
(not only the chronically ill people) find that co-payment increase does not correlate with a worsening of health.

2.1 Tickets' negative effects and possible strategies

Tickets are correlated with cost and amount of demand for goods and services, and neither consider the user contributive capacity nor the health risk. For this reason they determine a regressive taxation. Chronic patients and fragile people, with rigid demand, are penalized as well as people on low income, whose demand is elastic. In this situation cost-sharing can significantly reduce access to health care, for those in real need or who can't afford to pay even a low price. Furthermore it can reduce solidarity within the NHS, through a shifting of the financial weight on most ill and poor people.

Some of the regressive effects can be eliminated or reduced thanks to a range of measures such as: subjective exemptions in relation to pathology, age, economic condition; tickets' increase with income and wealth in order to preserve progressivity; a maximum ceiling per year or a maximum limit of incidence on annual income.

Not all the authors agree on regressivity, and according Muraro (2003) the evaluation of redistribution effects of tickets is complex, for two reasons: firstly, traditional theory ignores that tickets partially replace hidden mechanisms of rationing (waiting times, and worsening of quality of public care) and reduce the use of private medicine. In other words, waiting times could be reduced and quality of public care would be increased with a benefit for citizens on low income, who more than rich ones rely on public services. Secondly, without a regulating mechanism, and the funding from tickets, a public health system could not be able to satisfy the demand of new services, which is typical in a society where biomedical innovation and the new concept of health (to be intended as well-being, not only as absence of illness). Through the use of tickets with all the corrective measures the new services could be available for a larger group and not only for those who can afford them at a full price or with a voluntary health insurance.

In this framework if tickets allow the compression of waiting times and the widening of the range of services in the basic offer of public care, then they can help the health system to better respond to evolution of health needs and innovations. The overall evaluation of the equitable effects is not simple but a non negative result could not be excluded.

The other frequent objection refers to the possible negative health effects in the long run. Tickets could reduce prevention actions and postpone care ones, with a
consequent worsening of the health conditions of the population, and an increase of health spending for a higher but late utilization of expensive services.

However this situation takes place when there is an under-consumption of pharmaceuticals and services effective in preventing some pathologies but not for all the forms of health care. In most industrialized countries preventive medicine has become more and more relevant, with a free supply of diagnostic services, pharmaceuticals, vaccines, measures for environmental protection, and a good level of health education of the population. A negative effect is possible for people with a critical economic condition, who would not have access to preventive services, but the remedy again in this case is that of exemption or ticket reduction.

4 Equity implications

Equity has long been considered an important goal in the health sector. Yet inequalities between the poor and the better-off persist. Many commentators accept that these inequalities reflect mainly differences in constraints, lower incomes, less access to health insurance, living conditions that are more likely to spread disease, rather than differences in preferences (Alleyne et al. 2000; Braveman et al. 2001; Evans et al. 2001; Wagstaff 2001). Such inequalities tend to be seen not simply as inequalities but as inequities.

Some commentators, including nobel prize winners Tobin (1970) and Sen (2002), argue that inequalities in health are more worrisome than inequalities in other spheres. Health and health care are integral to people's capability to function, and flourish as human beings. Sen's words in this regard are: “health is the most important condition of human life and a critically significant constituent of human capabilities which we have reason to value” (Sen 2002).

Health equity has become an increasingly popular research topic in the past 25 years. Typically, health equity research is concerned with one or more of four sets of focal variables (World Bank Institute 2008):

- health outcome
- health care utilization
- subsidies received through the use of services
- payments people make for health care (directly through out-of-pocket payment as well as indirectly through insurance premiums, social insurance contributions and taxes)
In the case of health utilization, subsidies, the concern is typically with inequalities between the poor and the better-off; in the case of out-of-pocket and other health care payments the analysis tends to focus on progressivity, the incidence of catastrophic and impoverishing payments.

4.1 Equity of access

Equity goals distinguish between horizontal equity, equal treatment of equals, and vertical equity, appropriate unequal treatment of unequals. In health care most attention has been given the horizontal equity principle, defined as “equal treatment for equal medical need irrespective of other characteristics such as income, race, place of residence, etc.” (van Doorslaer et al. 2000; Wagstaff and van Doorslaer 2000a).

Equity in the funding of health care exists when contributions are made according to ability to pay, while equity in access to health care exists when health care is accessed according to need. Both types of equity have a horizontal and vertical dimension. Vertical equity has received more attention in the funding of health care, whereas horizontal equity has been more applied to access to health care.

User charges have an impact on utilization of health services, therefore special attention is given to the measure of equity in access to health care.

The methodology (Wagstaff and Doorslaer 2000a and 2000b) uses concentration index 8, defined with reference to concentration curve, and criteria to indirectly standardize the need 9.

4.1.2 The empirical evidence for Italy

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8 The concentration index describes the distribution of income-related inequalities in need or access; it is estimated as twice the area between the concentration curve and the diagonal. It will have a value of 0 when there is no inequality, and a value of 1 when there is maximum inequality. A positive value indicates inequality favouring the rich, and a negative value indicates inequality favouring the poor. To evaluate horizontal inequity the expected level of health care utilization for each income group, based on its share of need, can be estimated by indirect standardization, using the distribution of utilization by need in the whole sample for reference. The concentration curve for observed utilization can be compared with a second concentration curve for expected utilization after standardizing for need. The index of horizontal inequity proposed by Doorslaer et al. (2000), is given by the difference between the concentration indices for observed utilization and expected utilization after standardizing for need. A positive value is consistent with horizontal inequity in the utilization of health care favouring the most affluent, and a negative value indicates inequity favouring the poor (Gulligord and Morgan 2003).

9 The concentration index of the actual medical care use measures the degree of inequality and the concentration index of the need-standardized use (which is the horizontal inequity index) measures the degree of horizontal inequity. In a further step it is possible to estimate the separate contributions of the various determinants of inequity and their relative importance (van Doorslaer, Masseria, 2004).
Van Doorslaer (2007)\textsuperscript{10} analyzing the situation of Italy for equity in health care, finds that doctor access is high and equitable in Italy, but relevant differences come out when access is based on the general practitioner, specialist visits and hospital admissions. In the first case, access seems to be pro-poor, whereas for the other two the degree of inequity is positive and therefore pro-rich\textsuperscript{11}. In other terms, given (equal) need, high and low income groups are roughly equally likely to see a doctor, but not the same doctor: they are not equally likely to see a GP or a medical specialist. The subsequent decomposition of inequity (for physician and specialist visits) does not take into account explicitly any barrier such as cost-sharing, but ascribes it to income, education, activity status and regional disparities.

The resulting picture is a mean health care utilization close to the European average, but while rich and poor have the same probability of seeing a GP when they need one, the rich are significantly more likely to see a specialist than the poor. Among utilization determinants, which are of greater interest to health policy analysis there are regional discrepancies, that give a pro-rich contribution for specialist visits and hospital care.

Another work (Rapporto CEIS 2004, Masseria and Paolucci (2005)\textsuperscript{12}) confirms that people living in the north have a higher probability of being hospitalized, and enjoy a better quality of care; people from the south tend more frequently to move to other regions to receive hospital care.

A study on equity of access in CEIS report (2006) considers different use variables: total visits, general practitioner visits, specialist visits, specialist visits with out-of-pocket payment, and diagnostic tests. Some evaluations about the results seem to be interesting. All the use variables present a negative value as far as the inequality index is concerned, so that real use concentrates in classes with a lower socio-economic condition. Some differences come out from the comparison of the inequity index: whenever there is a payment (ticket for specialist visit and for diagnostic tests and full o-o-p payment for specialist visit) the value is positive\textsuperscript{13}: with the same need characteristics wealthier people are those that make more use of these health services.

The critical point of the analysis is related to income data: they are not reported in ISTAT Multiscopo and income information is given by a proxy based on the activity status and the educational level. The data limitation is somehow overcome by Giannoni Masseria (2010), who match the data from Multiscopo Survey (2000)

\textsuperscript{10} The data are from ECHP from Eurostat, wave 2000.
\textsuperscript{11} The values of the inequity index are -0.025 for GP, 0.09 for specialist visits and 0.03 for hospital admissions.
\textsuperscript{12} The data are from Multiscopo, Istat.
\textsuperscript{13} The values range from 0.0025 (o-o-p spec.visits) to 0.0061 (spec. visit) and 0.0125 (diagnostic tests) (CEIS 2006).
with ECHP for Italy. The results show significant pro-rich income related inequity for GP (in contrast with van Doorslaer analysis), specialist and emergency care, and no inequity is found for inpatient care. Inequity is mainly caused by income and regional variations, ad by reducing regional variation it would be possible to significantly reduce the pro-rich inequity in GP, specialist and emergency care.

Italian rules for cost-sharing have been piling up in the last years, so originating a mechanism with strong risks of inequity and ineffective to fight inappropriateness. O-o-p health expenses for a poor family in 2005 are strongly concentrated in pharmaceuticals, and this seems to confirm an imperfect functioning both of the exemption and cost-sharing system. Besides pharmaceuticals, specialist visits too are a big weight on out-of-pocket expenses for impoverished families (Ceis Report 2007).

Hence, what can be the role of cost-sharing as determinant of inequity? It depends on the type of charge imposed and on the exemption system in place. The studies in equity of access to health give slightly different results, and this could be ascribed to the different data set used for income. However the presence of inequity whenever there is a payment seems to suggest some co-responsibility for tickets as a possible barrier to access to health care.

The availability of income data in Multiscopo survey would allow to produce more detailed and reliable information to this regard.

4.2 **Ticket application in Italy: equity problems in a decentralized system.**

A system with a high degree of decentralization can have different cost-sharing, for the same form of health care, based on the insurance plan, and the specific territorial organization of the local government. Equity implications can be important.

The Italian Health System is characterized by a strong autonomy of regions in managing cost-sharing, that could become even larger with federal reform.

The situation for tickets in Italy is very differentiated, and they apply to pharmaceuticals, specialist visits, diagnostic and laboratory controls, rehabilitation services, non urgent care services in first aid.

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14 Eight regions do not apply tickets on pharmaceuticals, whereas the others do, and the situation is very differentiated: for diagnostic and laboratory controls, rehabilitation services, the major part of regions adopt a ticket below € 36,15, with a big variety of levels between regions; for non urgent care services in first aid all the regions expect a ticket (again different levels); exemptions for pharmaceuticals rely on criteria which are different from region to region, but are the same at national level for diagnostic and specialist medicine (Rebba 2009).
Regions' interventions are very much differentiated and have often been modified since 2001, when a full regional autonomy on pharmaceuticals was recognized. The use of cost-sharing however seems to have been a response to problems of financing rather than a tool to control demand. The result has been a major regression in the system, and this is very true when the central government obliges the regions to balance the budget ex post. The paradox is that tickets which are intended to avoid inefficiencies due to inappropriate users' behavior, finally weigh upon citizens because of inefficiencies in local administration. This is verified especially for tickets on pharmaceuticals and diagnostic and specialist services, whereas for inappropriate services of first aid, tickets seem to work and avoid the abuse of the service. Furthermore, whenever it is not possible to verify prerequisites for exemptions (income or other causes not correlated with pathologies) cost-sharing can be ineffective and iniquitous.

In a few conditions tickets in Italy respond to objectives of efficiency, and at the same time there often are problems with equity, both horizontal and vertical. In the first case cost-sharing determines differentials in access to essential assistance level, for pharmaceuticals and specialist care, in the second one there is evidence of strong variability between Italian regions in definition and application of exemption criteria.

Within a prospective of fiscal federalism, the use of diversified mechanisms such as cost-sharing is usually done to give responsibility to regional administrators, so that they allocate resources in a cost-effective way. However the risk is to exacerbate the diversities of access in different geographic areas of the country, and to make the viability very difficult of equalizing financial flows that go from regions able to control demand towards those with a budget deficit.

Arguments on federalism are complex and various, but since cost-sharing strongly determines accessibility conditions to essential assistance level (which must be guaranteed evenly on the national territory), this too should be uniformly regulated at national level, in order to avoid further differences between regions. Central government should define a common base of regulation, and leave to regions margins of diversified action within fully acknowledged criteria at national level. As Rebba (2009) suggests, as far as services within LEA are concerned, regulation on a national basis should specify the type of service subject to cost-sharing, foresee a unique regime of exemptions based on a mechanism able to verify the economic conditions of the users\textsuperscript{15}, define a maximum ceiling of ticket incidence on users' income and a

\textsuperscript{15} That would be the ISEE, the indicator of the equivalent economic situation.
maximum of cost-sharing on each service or group of services, within a national nomenclator.

Regions, within the national framework defining LEA, could decide a level of ticket below the maximum, or a higher threshold for exemptions, with regional differences in services outside essential assistance level.

5. Conclusions

In this work the aim has been that of reviewing the effects of user charges for health services on utilization and health status, in an attempt to evaluate the effectiveness to control demand and the implications on equity ground.

A steady rise in the proportion of health care funded through out-of-pocket payments in many member states (and in Italy), during the 1980s and the 1990s suggests that governments have favored the retention or introduction of cost-sharing. However the evidence regarding their impact is limited, because random controlled trials have not been carried out in Europe, and most of the studies in this area are observational, which is a major drawback. Nevertheless there is sufficient evidence to suggest that user charges have a higher impact on the utilization of people in lower socio-economic groups (although this impact has been short-lived), and also affect the health of poorer people. If cost-sharing does reduce the utilization of some health services, it does not necessarily control expenditure growth in the long term, so that supply-side policies may be more effective in containing health care costs.

Hence, what evaluation can be given? Can tickets be used to control demand? Do they create inequality of access? Ticket application poses the classical trade-off between efficiency and equity and this tool should be used to better exploit efficiency with minor negative effects on equity. And equity implication of any reduction in utilization and consequent lowering of health status are likely to depend on the type of charge imposed and the exemption system in place.

The ticket is a possible instrument to control demand and should not be used with the objective of financing health expenditure, but instead with the aim of making the patient responsible for the cost of health services, in order to contain inappropriate and ineffective consumption. And even though doctors drive demand of health care, ticket incentive is still present.

Empirical analysis shows that it is often difficult to separate consumption with very low productivity for health from necessary utilization of health services, and this translates into the requirement that cost-sharing is not applied indiscriminately in order to prevent negative effects on access and detrimental effects and health status.
The new approach “value-based cost sharing” gives interesting hints. Incentive levels of cost-sharing are not always positively correlated with price elasticity of demand, but should be characterized by empirical evidence of clinical effectiveness and cost-effectiveness of services for specific groups of patients. Within this approach it would be useful to explore this ticket design (Rebba 2009): some of the revenue should be used to finance public agencies that evaluate cost-effectiveness of new pharmaceuticals, diagnostic and therapeutic procedures, so that tickets would not be used any more as a financing tool.

Cost-sharing generally applies to pharmaceuticals (for which over-consumption is common and it is easier to discriminate between essential and non-essential components), but it is not so widespread in diagnostic services, specialist visits and hospital admissions. To counteract the adverse impact of cost-sharing for vulnerable groups on their access to essential services, most countries offer full or partial exemption to young and elderly people, people with certain chronic diseases and low-income households. These policies can protect vulnerable people from the full cost of illness and disability, but inevitably add to the complexity of managing a cost-sharing scheme and tend to raise administrative costs (European Observatory on Health Care Systems Series 2002).

In the case of Italy, a stronger regional autonomy due to the process of federalism could exacerbate local disparities in access to essential assistance levels. This risk can be reduced through a regulation on a national basis that fixes a ceiling of ticket incidence and criteria for LEA protection. Margins for a differentiated application on a regional basis are possible.

The analysis has shown that a moderate ticket can reduce waiting times for services within LEA with possible positive effects for equity, and gives the possibility of widening the range of services within the public coverage; the health public system can adapt to evolution in health needs and biomedical innovations. In this view cost-sharing could help to preserve the distribution function of the national health system. However the effectiveness to control demand can be supported by other instruments and mechanisms able to invest doctors with responsibility in their prescribing action.

6. References


