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# **Paying informally for public health care in Albania: scarce resources or governance failure?**

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## **Abstract**

Informal payments for health care are common in most former communist countries. This paper explores the demand side of these payments in Albania. Using tobit and Heckman selection models we control for individual determinants of informal payments in outpatient and inpatient health care. Propensity score matching techniques are used to investigate the changes in the characteristics of people paying informally over the different years. Our findings suggest that vulnerable groups in society remain less protected against such payments and policy measures have not reached the most deprived regions of the country.

**Key words:** informal payment, health policy, Heckman selection model, propensity score matching.

**JEL Codes:** I18, I1, P36, C24

## **I. Introduction**

Informal payments for health care providers are widespread not only in the former communist countries in Central and Eastern Europe and the former Soviet Union, but also in other middle income and developing countries (Killingsworth, 1999; McPake et al., 1999; Lewis, 2000; Gaal et al., 2006; Vian et al., 2006). They are usually defined as payments made to health care providers for services, which are supposed to be provided at no charge to the patient (Lewis, 2000). Informal payments in health care can be conceptualized as strategies adopted by both the demand and supply side to cope with the lack of resources and poor performance of the health care system (Lewis, 2000; Vian et al., 2006). Patients pay informally to jump the queue, receive higher quality of health services or more care (Lewis, 2000; Vian et al., 2006; Liaropoulos et al., 2008). For providers of medical care, informal payments can turn into an instrument to supplement their low salaries or to satisfy the desire for a higher income (Liaropoulos and Tragakes, 1998).

In countries like Albania informal payments to medical staff in the public health care sector have accompanied the transition from a central planned economy to a market economy. The existence and magnitude of such informal payments is often attributed to a mix of causal factors (Gaal and McKee, 2005; Vian et al., 2006; Tomini and Maarse, 2011). Often the phenomenon is linked to the legacies of 'Semashko' systems formerly implemented in post-communist CEE and FSU countries (McKee 1991). The freely available services and the growing health care demand in the transition period are also considered as driving factors from this perspective (Gaal and McKee 2005). Other causes are also believed to be the culture of expressing gratitude through gifts (Delcheva et al., 1997; Balabanova and McKee 2002) and the lack of resources (Ensor and Savelyeva, 1998; Ensor and Witter, 2001; Chawla et al., 1998).

The presence of wide spread informal payments to medical staff is generally seen as an indicator of governance failure in the health sector (Lewis and Petterssen 2009). Governance failure in this case (condoning fraudulent behaviour) is closely linked with tolerance towards corruptive practices in other parts of society which are indicative for a lack of good governance. The general low probability of being detected or penalised when engaging in such practices contributes directly to the spread of informal

payments. In some cases informal payments – although illegal – are condoned by governments that are unable to provide sufficient funding for health care providers.

A disputable topic regarding informal payments in health care is also that of the ‘ultimate’ remedy against these practices. Previous studies have argued that improving the remuneration mechanisms for medical staff, increasing providers’ accountability and empowering patients’ voice may be remedies against such phenomena (Lewis and Pettersson 2009). Policy measures in the last years in Albania have addressed mainly the financing of primary care services and the compensation of general doctors. The impact that these measures have on informal payments is questionable. The persistence of informal payments (both inpatient and outpatient services) poses major questions both for the dynamics of the main causes over time but also on the effectiveness of the public measures against them. In this paper we use a propensity score matching (PSM) technique that allows for matching individuals over different cross-sectional surveys so that we can evaluate the effect that individual characteristics (like health insurance or other factors) have on the probability to pay informally.

The main aim of this paper is to test for the main motives behind informal payments in health care and to assess the effectiveness of various measures that have been implemented to reduce such informal payments over the last years in Albania. Data from the Albanian Living Standard Measurement Survey (ALSMS) for 2002, 2005 and 2008 are used for this purpose. A tobit and Heckman selection model are employed to identify the main individual determinants. We also use propensity score matching (PSM) techniques to investigate how individual characteristics of people paying informally have changed over the years.

## **II. Informal payments and recent reforms in the health care sector in Albania**

Albania, as most of the other ex-communist countries, has inherited a health care system based on the former Soviet ‘Semashko’ model. This system was designed to cover the entire country including every single village, following the communist ideology of “free health care services for all”. The health sector during the communist period was underfinanced and considered as a non-productive sector (Nuri and Tragakes, 2002). The funds allocated to the health sector were low and investments in health technology were even lower. The priority of the government in health care was

mainly related to providing access to primary and secondary care. This led to a widely distributed web of primary health care (PHC) posts and centers and to a relatively large number of local and regional hospitals (most of which had outdated equipments and were overstaffed).

The Ministry of Health (MoH) in Albania (National Health Sector Strategy, 2004) has recognized that informal payments in health care are widespread both in inpatient and outpatient care. However the government has not succeeded to contain these informal payments so far.

**Table 1.** Responsibilities in the health care sector

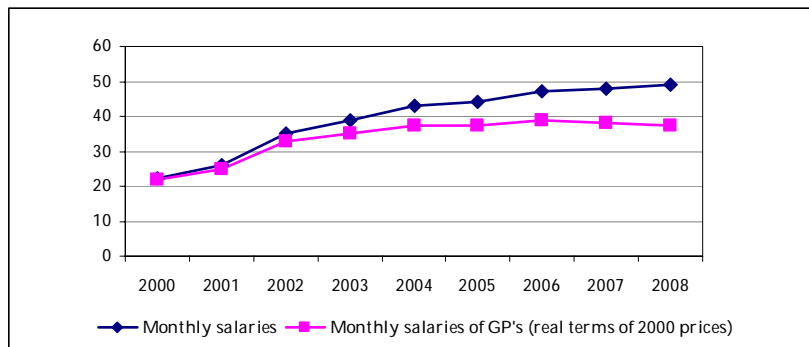
| <b>YEAR</b>      | <b>MINISTRY OF HEALTH IS RESPONSIBLE FOR:</b>  | <b>HEALTH INSURANCE INSTITUTE IS RESPONSIBLE FOR:</b>   | <b>LOCAL GOVERNMENT UNITS ARE RESPONSIBLE FOR:</b>   |
|------------------|--|---|--|
| <b>2002</b>      | <ul style="list-style-type: none"> <li>- Salaries of medical staff<sup>1</sup></li> <li>- Capital investments (hospitals only)</li> <li>- Operating costs</li> <li>- Human resources planning</li> </ul> | <ul style="list-style-type: none"> <li>- Salaries of GPs</li> <li>- Salaries of PHC medical staff in Tirana</li> <li>- Durres hospital (pilot project)</li> <li>- Drugs reimbursement</li> </ul>  | <ul style="list-style-type: none"> <li>- PHC operating costs</li> </ul>                          |
| <b>2005</b>      | <ul style="list-style-type: none"> <li>- Salaries of medical staff<sup>2</sup></li> <li>- Capital investments for hospitals</li> <li>- Operating costs</li> <li>- Human resources planning</li> </ul>    | <ul style="list-style-type: none"> <li>- Salaries of GPs</li> <li>- Salaries of PHC medical staff in Tirana</li> <li>- Durres hospital (pilot project)</li> <li>- Diagnostic reimbursements for expensive tests</li> <li>- Drugs reimbursement</li> </ul> | <ul style="list-style-type: none"> <li>- PHC capital investments (conditional grants)</li> </ul> |
| <b>2008</b>      | <ul style="list-style-type: none"> <li>- Salaries of medical staff in hospitals</li> <li>- Capital investments for hospitals</li> <li>- Human resources planning</li> </ul>                              | <ul style="list-style-type: none"> <li>- Contracting of PHC services (420 PHC units since 2007)</li> <li>- Durres hospital (pilot project)</li> <li>- Diagnostic reimbursements for expensive tests</li> <li>- Drugs reimbursement</li> </ul>             | <ul style="list-style-type: none"> <li>- PHC capital investments (conditional grants)</li> </ul> |
| <b>2009-2010</b> | <ul style="list-style-type: none"> <li>- Capital investments for hospitals</li> <li>- Human resources planning</li> </ul>  | <ul style="list-style-type: none"> <li>- Contracting of PHC services (salaries and operating costs)</li> <li>- Contracting of hospital services (salaries and operating costs) – ongoing</li> <li>- Drugs reimbursement</li> </ul>                        | <ul style="list-style-type: none"> <li>- PHC capital investments (conditional grants)</li> </ul> |

Source: World Bank 2006, MOH 2004, HII 2010

<sup>1</sup> This excludes the salaries of general practitioners, primary health staff in Tirana and medical staff in Durres hospital which are paid directly by the Health Insurance Institute.

Table 1 gives an overview of the changes in responsibilities for health care throughout the recent years. As can be seen from the table, the main changes between years 2002 and 2005 relate to consolidating the financing of Primary Health Care (PHC) through the Health Insurance Institute (HII) (but limited in the salaries of general practitioners). The reforms between 2005 and 2008 consist of a further increase of the HII role in contracting PHC services. The first changes began in 2007 but to the best of our knowledge no evaluation of the effects exists. Generally, reforms between 2002 and 2008 were focused on primary health care and outpatient service. Little was done with regard to inpatient care (the contracting of such services from the HII will only be implemented in 2009-2010 and the effects are still to be seen).

**Figure 1.** Monthly salaries of General Practitioners (in 000 ALL)



Source: Own calculations based on World Bank (2006) and Health Insurance Institute (2010). Note: All amounts are in Albanian Leks are deflated to 2002 prices. 100 ALL = 0.73 Euros in June 2002 (Bank of Albania, 2010)

One of the measures linked to informal payment has been the increase of medical staff's salaries. Between 2002 and 2005 such salaries have significantly increased for the general practitioners (GPs) who were paid through the HII. Figure 1 shows the average salary level of GPs between 2000 and 2008 both in nominal values and in real terms (adjusted for Consumer Price Index). This increase has been substantive in real terms between 2000 and 2005, but there is a decline of average salaries in real terms between 2006 and 2008.

Salaries of medical staff in the inpatient sector have also constantly increased during this period (especially after 2005), but the average wage for medical specialists in this sector remains below the average wage of the medical staff in PHCs.



### **III. Data and descriptive statistics**

The data used in this study come from Albania Living Standard Measurement Survey (ALSMS) 2002, 2005 and 2008. These are cross sectional surveys representative for four main stratified regions; Tirana (the capital), mountainous, coastal and central areas. The number of households sampled were 3599 in 2002, 3640 in 2005, and 3600 in 2008. The questionnaires include information on household demography, education, labor, income/consumption, health status, health care episodes and out-of-pocket payments in health care. The variables that we have used in our analysis all come from identical questions in these three years. Using the fact that poverty measures in countries like Albania are based primarily on expenditure/consumption rather than income (World Bank, 2006) we present here figures based on aggregate consumption. The ALSMS consumption aggregate includes the main components of consumption: food consumption (both purchased and consumed from own production), non food expenses, utilities, and durables (World Bank, 2006).

For the purpose of our analysis we restrict our samples to individuals who have visited outpatient care during the last four weeks (visited public ambulatory services), or who have been visiting inpatient care in the last 12 months (hospitalized in the public hospitals). The selected individuals are then asked separately about the amount they have paid informally as payments to the medical staff.

The incidence of informal payments is relatively high throughout the years. However, the incidences of informal payments for outpatient and inpatient care differ significantly when the two types of services are compared. Informal payments are less frequent in outpatient than in inpatient care. One explanation for this can be the fact that the average wages for medical specialists in inpatient services is less than the wages of the medical staff in PHCs. Another reason may be the severity of treatment. Patients may feel more obliged to pay specialists in inpatient care than general practitioners as they may feel more time and efforts are involved in the first case.

Informal payments are widespread also across consumption quintiles, with the lowest quintiles having a large incidence of such payments. What is more interesting is that while there is a general declining trend of such payments in 2005 and 2008, the

poorest quintiles are the ones for whom this declining trend is least pronounced. In fact in outpatient care in 2005 and 2008 the poorest quintile is the one with the highest incidence of informal payments (26.8 and 22.1 per cent respectively). This tendency is certainly signaling that whatever measures were taken between years these were certainly not targeted to the poor (see Table 2).

**Table 2.** The share of patients paying informal payments to medical staff in outpatient and inpatient health care by consumption quintiles (ALSMS data 2002-2008)

| CONSUMPTION<br>QUINTILES | YEAR 2002 |         | YEAR 2005 |         | YEAR 2008 |         |
|--------------------------|-----------|---------|-----------|---------|-----------|---------|
| <b>Outpatient care</b>   |           |         |           |         |           |         |
| 1                        | 0.228     | (0.041) | 0.268     | (0.042) | 0.221     | (0.047) |
| 2                        | 0.293     | (0.042) | 0.244     | (0.046) | 0.158     | (0.035) |
| 3                        | 0.268     | (0.032) | 0.203     | (0.039) | 0.200     | (0.040) |
| 4                        | 0.327     | (0.042) | 0.222     | (0.035) | 0.215     | (0.035) |
| 5                        | 0.271     | (0.028) | 0.162**   | (0.029) | 0.150     | (0.032) |
| Total population         | 0.281     | (0.021) | 0.218     | (0.021) | 0.190     | (0.021) |
| Nr of observations       | 2120      |         | 1463      |         | 1151      |         |
| <b>Inpatient care</b>    |           |         |           |         |           |         |
| 1                        | 0.479*    | (0.063) | 0.548     | (0.060) | 0.465     | (0.071) |
| 2                        | 0.569     | (0.060) | 0.602     | (0.056) | 0.495     | (0.085) |
| 3                        | 0.654     | (0.048) | 0.586     | (0.061) | 0.351     | (0.080) |
| 4                        | 0.644     | (0.049) | 0.529     | (0.057) | 0.445     | (0.078) |
| 5                        | 0.598     | (0.048) | 0.517     | (0.055) | 0.434     | (0.086) |
| Total population         | 0.597     | (0.030) | 0.559     | (0.032) | 0.439     | (0.041) |
| Nr of observations       | 707       |         | 677       |         | 377       |         |

Note: Quintiles refer to total per capita consumption quintiles. Standard errors are in brackets. Stars indicate if the mean for the subgroup is significantly different from the mean of all other subgroups. \*\*\* p<.01, \*\* p<.05, \* p<.1

The amounts paid informally to medical staff for inpatient care (per admission) are much higher than those paid in outpatient care (per visit). Over the years we observe a decline (in real terms) in the average amount paid in outpatient care, while there is an increase for the inpatient care between 2002 and 2005 and a slight decrease between 2005 and 2008. Again, as for the incidence of payments, the poorest quintiles are the most heavily burdened by the payments (see Table 3).

**Table 3.** The mean of the amount paid informally per outpatient visit and per day hospitalized by consumption quintiles (ALSMS data 2002-2008)

| CONSUMPTION<br>QUINTILES | YEAR 2002 | YEAR 2005 | YEAR 2008 |
|--------------------------|-----------|-----------|-----------|
|--------------------------|-----------|-----------|-----------|

**The mean of the amount paid informally per outpatient visit in Albanian Leks (series with 2002 prices)**

|                   |         |          |        |          |         |          |
|-------------------|---------|----------|--------|----------|---------|----------|
| Quintile 1        | 74.733  | (20.639) | 82.088 | (20.486) | 67.548  | (16.590) |
| Quintile 2        | 76.037* | (11.757) | 71.665 | (17.044) | 38.499  | (9.838)  |
| Quintile 3        | 86.652  | (20.342) | 80.278 | (21.037) | 53.222  | (11.613) |
| Quintile 4        | 125.885 | (37.708) | 71.945 | (14.106) | 59.052  | (11.992) |
| Quintile 5        | 122.419 | (23.090) | 52.283 | (10.410) | 35.356* | (7.874)  |
| Total Population  | 103.163 | (12.875) | 71.110 | (9.866)  | 50.810  | (6.206)  |
| Nr of observation | 2120    |          | 1463   |          | 1151    |          |

**The mean of the amount paid informally per inpatient admission in Albanian Leks (series with 2002 prices)**

|                   |            |           |         |           |         |           |
|-------------------|------------|-----------|---------|-----------|---------|-----------|
| Quintile 1        | 2698.46*** | (612.39)  | 4292.77 | (899.46)  | 2564.90 | (710.81)  |
| Quintile 2        | 3348.46**  | (679.37)  | 4809.48 | (753.51)  | 4127.07 | (1676.40) |
| Quintile 3        | 4739.35    | (828.56)  | 5020.69 | (1033.69) | 2090.51 | (709.64)  |
| Quintile 4        | 6097.60    | (935.21)  | 5289.25 | (1188.33) | 4924.74 | (1483.99) |
| Quintile 5        | 6470.97*   | (1193.82) | 7679.65 | (1904.73) | 3396.17 | (1003.77) |
| Total Population  | 4835.32    | (450.216) | 5284.28 | (574.32)  | 3341.70 | (525.99)  |
| Nr of observation | 697        |           | 660     |           | 354     |           |

Note: Quintiles refer to total per capita consumption quintiles. Standard errors are in brackets. Stars indicate if the mean for the subgroup is significantly different from the mean of all other subgroups. \*\*\* p<.01, \*\* p<.05, \* p<.1

#### IV. Empirical strategy

The descriptive statics show clearly that certain characteristics of individuals (e.g. economic status) might be closely associated with the amounts paid. There are also distinct changes between the years and between consumption categories. In order to further explore this we look at how patients' characteristics influence informal payments during the years.

##### *Determinants of informal payments*

The Albanian LSMS it is not a panel survey so we have to rely on cross section analysis to determine the effect of individual characteristics on the amount paid informally to medical staff. In order to have an estimation of such determinants over the years and also compare the changes between the years we pool the data from ALSMS 2002, 2005 and 2008. The ALSMS allows this due to the identical questions asked over the years.

Our first goal is to get more insights in the individual characteristics that determine the amount paid informally. Not all patients who visited health care have

reported informal payments to medical staff. Therefore we have a share of people reporting zero payments. We suspect this may be linked to two possible reasons: 1) the left censoring at zero, or 2) a possible selection problem.

As we are dealing here with informal payments in health care it is completely reasonable to imagine that some people may be aware that they should get treatment at no costs, as they have already contributed to the public health care by paying health insurance premiums or through taxes and that the law guarantees access to health care as a right. Moreover, they may also feel that they contribute far more than they actually benefit from the treatments or visits. Therefore it is feasible to assume that the data can be better described by a model that accounts for self-selection.

The possible selection bias may be a classical case where the selection and the outcomes are determined by different probability functions. This is a two part model where the first part is a binary outcome, modeled as the probability that the binary variable is bigger than 0, and the second part uses a linear regression to model the outcome if the outcome is bigger than 0. The Heckman selection model is used to check whether there exists any potential biases in the selection of respondents who do pay and for whom we observe positive values on informal payments. This model is supposed to capture the overall effect that certain observable characteristics may have on the selection of respondents who pay informally. This is a very important aspect if we want to avoid any biases associated with the estimates from the tobit model. Results from the two models are compared with each other to check for inconsistencies.

### *Impact over the years*

Evaluating the between-years changes in individual informal payments for health care requires a panel survey that follows the same individuals over the years and measures the incidence and amounts paid informally over time. In the absence of such panel data, we use the potential of similar representative surveys for 2002, 2005 and 2008 and employ propensity score matching (PSM). PSM helps in identifying individuals with similar characteristics over different years in the absence of an experimental set up, where we would be able to construct counterfactuals. After these counterfactuals are identified we can use them to observe the changes over the years

for those paying informal payments and those not paying. This would capture the real change over the years not for the total population but for people having similar characteristics and therefore produce more accurate estimates. Thus, PSM creates a situation similar to an experiment where everyone has the same probability of participating in the consecutive year, and this probability is balanced among the participants and not participants and conditional on observed variables.

We assume  $y_{1i}$  to be the participation outcome for individual  $i$  when this individual is subject to participating in the current and previous survey and  $y_{0i}$  to be the outcome in absence of the participation for the same individual (see also Deheija and Wahba, 2002; Dabalen et al., 2008). The effect for an individual is:

$$\tau_i = y_{1i} - y_{0i} \quad (5)$$

and population effect can therefore be defined as:

$$\tau_i = E(y_{1i} | T_i = 1) - E(y_{0i} | T_i = 0) \quad (6)$$

where  $T$  indicates the participation in the survey, and  $T_i$  is equal to 1 if individual  $i$  participates in the survey and 0 if not. As the “treatment” here refers to the consecutive year of the survey we do not observe outcomes that would have materialized if corresponding individuals had not participated in the survey  $E(y_{0i} | T = 1)$ . In our case the “treatment” involves the entire population and therefore the participation is independent of the potential outcomes  $(y_{1i}, y_{0i} \perp T_i)$ . The average participation effect for the population participating is:

$$\tau = E(y_i | T_i = 1) - E(y_i | T_i = 0) \quad (7)$$

The variables used for matching correspond to observable characteristics of individuals that are stable over the years. The random selection of participants in the surveys makes sure that the qualities of the participants and the non participants are identical in terms of the distribution of the observed characteristics. Given that all

surveys were country representative, we can assume that individuals had the same probability of participating in the consecutive surveys, and that both participants and not participants came from the same economic environment. Both the condition of random selection of participants and the similarities in the background (Heckman et al., 1997) are fulfilled in our analysis.

## V. Results

Table 4 gives the results of tobit and Heckman selection models for the amounts paid informally for both outpatient and inpatient care. The exclusion instruments used for non-random assignment of systematic non-payers (patients who will not pay an informal payment under the given circumstances) are the dummies corresponding to having health insurance, having difficulties to pay for health care, and being a health practitioner (as the profession of the patient). These instruments are chosen as they are related to the probability of paying informally, but not to the amount paid. The overidentifying restriction tests (Sargan, 1958; Basmann, 1960) indicate whether the exclusion instruments fulfill the requirement of being exogenous to the amount paid informally (while correlated with the probability of paying). The outcomes of the tests do not reject the null hypothesis (the lower part of Table 3). This suggests that our exclusion instruments can be considered valid. At the same time we also test for the validity of the selection correction. The likelihood-ratio test for  $\rho=0$  rejects its null hypothesis showing that OLS estimates without the selection correction would be inconsistent.

As we can see, the effects of individual characteristics on the amount paid informally (expressed here as the natural logarithm) vary slightly across the tobit and Heckman selection models for both health care services. The results show that the mean of the amount paid informally for outpatient and inpatient care has decreased over time. Patients pay lower amounts informally in 2008 and 2005 compared to 2002. However, the exclusion instruments in the selection model suggest that such decrease is mainly due to a lower probability of paying in these later years (some individuals are not likely to pay and their share increases over the years). However, the Heckman selection model shows that the change in the amount paid over the years in both outpatient and inpatient care turns out to be positive and significant (except for outpatient care in 2008). In other words, in 2005 and 2008 people may be less likely to

pay informally than they were in 2002 but those who pay informally, pay higher amounts.

Residents of rural areas pay higher amounts of informal payments for outpatient care compared to residents of urban areas. The selection correction shows that such difference is statistically significant only for the amount paid and negative (not statistically significant) for the probability of paying. This shows that patients coming from rural areas are less likely to pay (for every patient from rural area the logs of paying informally decrease by 0.3 percent times compared to urban area patients), but pay in general higher amounts. Such differences can be a result of a mix of visits in health care centers located in rural or urban areas. Due to social connections they are less likely to pay informally in their own localities (Vian and Burak, 2006), but pay higher amounts in urban areas where such network connections are lacking and higher opportunity costs are involved (e.g. higher transportation costs, staying over, etc). The situation is different for inpatient care where being a rural resident does not have a statistical significant effect on the amount paid informally for inpatient care. This is evidence that the amounts paid informally in inpatient care do not differ significantly between patients living in rural or urban areas.

**Table 4.** Informal payments for Outpatient and Inpatient health care – Results from tobit and Heckman selection models

| VARIABLES                     | OUTPATIENT SERVICES    |                         |                        | INPATIENT SERVICES     |                         |                        |
|-------------------------------|------------------------|-------------------------|------------------------|------------------------|-------------------------|------------------------|
|                               | TOBIT MODEL            | HECKMAN SELECTION MODEL |                        | TOBIT MODEL            | HECKMAN SELECTION MODEL |                        |
|                               | Log of the amount paid | Selection model         | Log of the amount paid | Log of the amount paid | Selection model         | Log of the amount paid |
| <i>(Year 2002)</i>            |                        |                         |                        |                        |                         |                        |
| Year 2005                     | -0.683***<br>(0.150)   | -0.240***<br>(0.050)    | 0.123**<br>(0.058)     | -0.080<br>(0.305)      | -0.033<br>(0.071)       | 0.192*<br>(0.111)      |
| Year 2008                     | -0.672***<br>(0.175)   | -0.220***<br>(0.058)    | -0.041<br>(0.069)      | -1.044**<br>(0.405)    | -0.230**<br>(0.092)     | 0.354**<br>(0.155)     |
| Rural area                    | 0.039<br>(0.146)       | -0.003<br>(0.049)       | 0.147***<br>(0.050)    | 0.224<br>(0.320)       | 0.046<br>(0.073)        | -0.049<br>(0.113)      |
| <i>(Stratum central)</i>      |                        |                         |                        |                        |                         |                        |
| Stratum coastal               | 0.486***<br>(0.153)    | 0.187***<br>(0.051)     | -0.162***<br>(0.055)   | 0.900**<br>(0.359)     | 0.169**<br>(0.085)      | 0.055<br>(0.132)       |
| Stratum mountain              | -0.870***<br>(0.183)   | -0.293***<br>(0.061)    | 0.063<br>(0.071)       | -1.799***<br>(0.339)   | -0.328***<br>(0.077)    | -0.416***<br>(0.129)   |
| Stratum Tirana                | -0.983***<br>(0.221)   | -0.316***<br>(0.073)    | 0.111<br>(0.090)       | -1.388**<br>(0.540)    | -0.270**<br>(0.122)     | 0.144<br>(0.205)       |
| Gender ("0" male, "1" female) | 0.091<br>(0.126)       | 0.031<br>(0.042)        | 0.007<br>(0.045)       | 0.265<br>(0.279)       | 0.060<br>(0.064)        | -0.057<br>(0.104)      |

|   |                      |                      |                     |                      |                      |                      |
|---|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|
| Age (in years)  | 0.009<br>(0.014)     | 0.002<br>(0.005)     | 0.008<br>(0.005)    | 0.024<br>(0.031)     | 0.004<br>(0.007)     | 0.033***<br>(0.011)  |
| Age squared   | -0.000**<br>(0.000)  | -0.000<br>(0.000)    | -0.000*<br>(0.000)  | -0.000<br>(0.000)    | -0.000<br>(0.000)    | -0.000***<br>(0.000) |
| Chronic illness   | 0.008<br>(0.176)     | -0.001<br>(0.059)    | 0.063<br>(0.062)    | -0.864**<br>(0.397)  | -0.180**<br>(0.091)  | -0.020<br>(0.149)    |
| <i>(Health rate: bad)</i>   |                      |                      |                     |                      |                      |                      |
| Health rate: average  | -0.034<br>(0.158)    | -0.010<br>(0.053)    | -0.035<br>(0.057)   | 0.023<br>(0.387)     | -0.071<br>(0.088)    | 0.437***<br>(0.144)  |
| Health rate: good   | -0.237<br>(0.198)    | -0.066<br>(0.066)    | -0.094<br>(0.072)   | 0.496<br>(0.452)     | -0.008<br>(0.104)    | 0.650***<br>(0.166)  |
| <i>(Primary/No education)</i>   |                      |                      |                     |                      |                      |                      |
| Secondary education   | 0.014<br>(0.171)     | -0.007<br>(0.057)    | 0.122**<br>(0.061)  | 0.547<br>(0.363)     | 0.113<br>(0.084)     | 0.025<br>(0.132)     |
| University education  | -0.471<br>(0.322)    | -0.164<br>(0.108)    | 0.223*<br>(0.129)   | 0.777<br>(0.711)     | 0.088<br>(0.166)     | 0.380<br>(0.255)     |
| <i>(Nuclear families)</i>   |                      |                      |                     |                      |                      |                      |
| Extended families   | 0.116<br>(0.135)     | 0.038<br>(0.046)     | -0.008<br>(0.048)   | -0.094<br>(0.298)    | -0.035<br>(0.069)    | 0.182*<br>(0.109)    |
| Quintile 1  | -0.033<br>(0.214)    | -0.016<br>(0.072)    | 0.050<br>(0.077)    | -0.981**<br>(0.426)  | -0.192**<br>(0.097)  | -0.016<br>(0.160)    |
| Quintile 2  | -0.008<br>(0.206)    | 0.013<br>(0.069)     | -0.104<br>(0.073)   | -0.149<br>(0.416)    | -0.043<br>(0.095)    | -0.084<br>(0.153)    |
| <i>(Quintile 3)</i>   |                      |                      |                     |                      |                      |                      |
| Quintile 4  | 0.460**<br>(0.189)   | 0.154**<br>(0.064)   | -0.003<br>(0.067)   | 0.163<br>(0.427)     | 0.052<br>(0.099)     | -0.064<br>(0.155)    |
| Quintile 5  | 0.307<br>(0.197)     | 0.080<br>(0.066)     | 0.186***<br>(0.069) | 0.599<br>(0.441)     | 0.103<br>(0.103)     | 0.295*<br>(0.159)    |
| Has health insurance  | -0.748***<br>(0.142) | -0.256***<br>(0.047) | -                   | -0.952***<br>(0.310) | -0.216***<br>(0.062) | -                    |
| <i>(Have no difficulties to pay for health care services)</i>   |                      |                      |                     |                      |                      |                      |
| Have difficulties to pay for health care services   | 0.266*<br>(0.140)    | 0.090*<br>(0.046)    | -                   | 0.563*<br>(0.313)    | 0.152**<br>(0.062)   | -<br>-               |
| Health practitioners  | -0.653<br>(0.495)    | -0.215<br>(0.166)    | -                   | -0.368<br>(0.888)    | -0.091<br>(0.170)    | -<br>-               |
| Constant  | 2.031***<br>(0.386)  | -0.357***<br>(0.128) | 5.625***<br>(0.173) | 2.026**<br>(0.910)   | 0.252<br>(0.205)     | 5.964***<br>(0.322)  |
| N (Left-censored N)   | 4734<br>(3634)       | 4734<br>(3634)       |                     | 1711<br>(788)        | 1711<br>(788)        | -<br>-               |
| Log likelihood  | -4294.121            | -3603.754            |                     | -3418.707            | -2669.832            | -                    |
| Pseudo R <sup>2</sup>   | 0.0317               | -                    |                     | 0.021                | -                    | -                    |
| Rho: Correlation of error terms   | -                    | -0.394***<br>(0.120) |                     | -                    | -0.798**<br>(0.537)  | -<br>-               |
| LR test of independent eqns. (H0: rho = 0), [Prob>chi <sup>2</sup> ]  | -                    | 5.80 [0.016]         |                     | -                    | 14.65 [0.000]        |                      |
| Wald chi <sup>2</sup> [Prob>chi <sup>2</sup> ] Whole model  | -                    | 69.72 [0.000]        |                     | -                    | 101.23 [0.000]       |                      |
| <b>Overidentification tests:</b>  |                      |                      |                     |                      |                      |                      |
| Sargan (score) chi <sup>2</sup> (H0: Instruments are exogenous to log of amount paid informally) [Prob>chi <sup>2</sup> ] |                      | 1.140 [0.566]        |                     | -                    | 0.218 [0.896]        |                      |
| Basman chi <sup>2</sup> (H0: Instruments are exogenous to log of amount paid informally) [Prob>chi <sup>2</sup> ]         |                      | 1.135 [0.567]        |                     |                      | 0.215 [0.897]        |                      |

Note: Stars indicate: \*\*\* p<.01, \*\* p<.05, \* p<.1; Reference categories in italics. Standard errors are in brackets. Results of the middle column "Selection model" should be interpreted as the increase



The results of the geographic divisions (stratums) show that there are significant regional differences in paying informally to medical staff. The results from the tobit and Heckman selection models differ at this point. Residents of coastal areas seem to be more likely to pay informally to medical staff for both outpatient and inpatient care compared to others areas but they pay lower amounts (after the selection correction). On the other hand, residents of mountainous areas and Tirana are less likely to pay informally compared to residents of coastal and central areas. This difference may be due to the fact that mountainous areas and Tirana are on average poorer than central and coastal areas (World Bank, 2006).

Older people are faced with higher informal payments for outpatient and inpatient care. This is related to the higher predisposition of requiring health care (older people have a higher demand for health care). The negative slope of the age squared variable indicates an inverted-U shape of the amount paid informally to age. This shows that working-age adults are the ones who pay larger amounts informally and this can be linked to their higher income generating capabilities and higher opportunity costs. As expected, patients in the higher consumption quintiles generally spend more on informal payments for both health care services. However, coefficients are not always statistically significant showing that differences between quintiles are not clearly marked. For instance for outpatient service the selection correction shows that patients in quintile 1 may have a lower probability of paying but pay (for every patient from rural area the logs of paying informally decrease by 0.3 percent times compared to urban area patients) larger amounts than higher quintiles (though results are not statistically significant), or that quintile 4 may pay lower amounts than respondents from lower quintiles (the coefficient for the logarithm of amount paid is negative but again not statistically significant). This shows that informal payments do not follow the trend of the income distribution and that the lowest quintiles are the most disadvantaged ones.

Health insurance is among the identifying instruments in the selection equation. As we have shown the major contribution of health insurance is that it lowers the probability of paying informally for outpatient and inpatient care (this also explains its significance in the tobit model) but does less so for the amount paid. The use of the other correction instruments shows that people who have difficulties to pay for health

care are more likely to pay informally. This demonstrates the unfairness of informal payments and also indicates that vulnerable groups (e.g. those who are also less likely to be protected by health insurance) are more prone to such payments. On the other hand, the results show that groups with more social connections and information, like health practitioners, have a lower probability to pay informally for health care (though results are not statistically significant showing that informal payments nevertheless occur among all groups).

**Table 5.** Propensity Score Matching results for Outpatient and Inpatient health care – Time impact on the average amount paid informally to medical staff

|                              | OUTPATIENT HEALTH CARE SERVICE |         | INPATIENT HEALTH CARE SERVICE |         |
|------------------------------|--------------------------------|---------|-------------------------------|---------|
| <b>Year 2002 – 2005</b>      |                                |         |                               |         |
| Nearest – neighbour matching | 0.021                          | (0.059) | 0.113                         | (0.113) |
| Kernel matching              | 0.020                          | (0.053) | 0.062                         | (0.106) |
| <b>Year 2005 – 2008</b>      |                                |         |                               |         |
| Nearest – neighbour matching | -0.152**                       | (0.067) | -0.026                        | (0.152) |
| Kernel matching              | -0.180***                      | (0.063) | -0.044                        | (0.138) |
| <b>Year 2002 – 2008</b>      |                                |         |                               |         |
| Nearest – neighbour matching | -0.111*                        | (0.065) | 0.096                         | (0.145) |
| Kernel matching              | -0.125**                       | (0.058) | 0.094                         | (0.136) |

The matching results reported in Table 5 show that there were no big differences in the average amount paid informally for outpatient and inpatient care between the years 2002 and 2005, but there is a decrease in the average amount of such payments between the years 2005 and 2008 (statistically significant for outpatient care). The effect of different measures (i.e. financing health services and wages directly from the HII and increasing the wages of GPs) could only be seen in later years. The overall effect between the years 2002 and 2008 differs for outpatient and inpatient service. So, for outpatient care there is even a slightly decrease (a 11 and 12.5 per cent decrease of the average amounts in real terms). This can be considered as a relatively small achievement in this regard. In inpatient care the overall effect between years 2002 and 2008 is positive (but statistically not significant). Again, it looks like there have been more incentives to reduce informal payments between years 2005 and 2008 than there were between years 2002 and 2005.

Table 6 shows the time impact on the main characteristics of patients paying informally when individuals are matched following similar characteristics. For the geographical areas we notice that the share of patients paying informally does not change in a similar direction over the years. Rural area residents become more likely to pay informally in inpatient care services if year 2008 is compared to year 2002 and this confirms that the burden is shifting towards those with higher opportunity costs (due to longer distances) or fewer social connections and information (since hospitals are mostly located in Tirana and urban areas).

For outpatient service results show that residents of the central area and Tirana become more likely to pay informally for outpatient care if years 2005 and 2008 are compared to 2002. Patients living in the mountainous area are more likely to pay informally in 2008 compared to 2002. Only patients living in the coastal area, which is among the wealthier areas (World Bank, 2006), have become less likely to pay informal payments over the observed years. The tobit and Heckman selection models show that patients living in coastal area have the highest probability to pay compared to all other areas and therefore the decline over the years can be attributed to the effectiveness of policy measures in this particular area. However, such policy measures fail to affect deprived regions (i.e. the mountainous areas, whose residents are less likely to pay in 2002 and 2005 but more likely to pay informally between 2002 and 2008). Similar to outpatient services there are differences between residents of geographical regions of the country. Patients living in central Albania become more likely to pay informally in inpatient care if year 2008 is compared to 2002 while patients coming from other regions become less likely to pay informally (though differences are not always significant). These between-areas differences could be a consequence of more resources being allocated to certain geographical areas (e.g. higher salaries for medical staff willing to work in remote hospitals, etc).

**Table 6.** Time impact for patients paying informally (Propensity Score Matching results for Outpatient and Inpatient care services)

| VARIABLES  | THE DIFFERENCE BETWEEN YEAR FOR<br>OUTPATIENT SERVICE |                    |                    | THE DIFFERENCE BETWEEN YEAR FOR<br>INPATIENT SERVICE |                    |                    |
|------------|---|--------------------|--------------------|--|--------------------|--------------------|
|            | years<br>2002-2005                                    | years<br>2005-2008 | years<br>2002-2008 | years<br>2002-2005                                   | years<br>2005-2008 | years<br>2002-2008 |
| Rural area | -0.139***   | -0.039             | -0.061             | 0.060  | 0.066              | 0.109**            |

|   |           |           |           |           |           |            |
|---|-----------|-----------|-----------|-----------|-----------|------------|
|   | (0.040)   | (0.050)   | (0.047)   | (0.039)   | (0.051)   | (0.051)    |
| Stratum central                                   | 0.174***  | 0.036     | 0.170***  | 0.047     | 0.109**   | 0.177***   |
|   | (0.037)   | (0.049)   | (0.044)   | (0.035)   | (0.050)   | (0.049)    |
| Stratum coastal                                   | -0.090**  | -0.144*** | -0.274*** | -0.064*   | -0.053    | -0.150***  |
|   | (0.041)   | (0.048)   | (0.045)   | (0.037)   | (0.045)   | (0.046)    |
| Stratum mountain                                  | -0.150*** | 0.087***  | 0.011     | -0.030    | -0.006    | -0.014     |
|   | (0.028)   | (0.032)   | (0.035)   | (0.037)   | (0.046)   | (0.046)    |
| Stratum Tirana                                    | 0.066***  | 0.021     | 0.093***  | 0.047**   | -0.049*   | -0.013     |
|   | (0.023)   | (0.035)   | (0.030)   | (0.020)   | (0.031)   | (0.028)    |
| Gender (“0” male, “1” female)                     | 0.028     | -0.203*** | -0.128*** | 0.007     | -0.228*** | -0.220***  |
|   | (0.040)   | (0.049)   | (0.047)   | (0.039)   | (0.051)   | (0.050)    |
| Age (in years)                                    | -0.023    | 1.644     | 0.071     | 1.101     | 4.686**   | 5.367**    |
|   | (1.999)   | (2.493)   | (2.282)   | (1.746)   | (2.278)   | (2.159)    |
| Age squared                                       | 144.518   | 181.639   | 183.316   | 185.505   | 377.037*  | 522.859*** |
|   | (158.96)  | (204.37)  | (186.134) | (140.670) | (202.331) | (194.429)  |
| Chronic illness                                   | -0.020    | 0.014     | -0.007    | -0.084**  | 0.057     | -0.026     |
|   | (0.040)   | (0.049)   | (0.046)   | (0.039)   | (0.052)   | (0.052)    |
| Health rate: bad                                  | 0.025     | -0.005    | 0.047     | 0.084**   | -0.058    | 0.081*     |
|   | (0.037)   | (0.047)   | (0.044)   | (0.035)   | (0.048)   | (0.046)    |
| Health rate: average                              | -0.036    | -0.008    | -0.107**  | -0.092*** | 0.005     | -0.080*    |
|   | (0.038)   | (0.048)   | (0.046)   | (0.033)   | (0.040)   | (0.043)    |
| Health rate: good                                 | 0.020     | -0.001    | 0.062     | 0.043     | 0.009     | 0.017      |
|   | (0.038)   | (0.047)   | (0.044)   | (0.039)   | (0.051)   | (0.051)    |
| Without education                                 | -0.017    | -0.004    | -0.018    | -0.011    | 0.012     | -0.011     |
|   | (0.014)   | (0.015)   | (0.018)   | (0.009)   | (0.009)   | (0.013)    |
| Primary education                                 | 0.059     | -0.010    | 0.080*    | 0.062     | -0.038    | 0.049      |
|   | (0.041)   | (0.050)   | (0.048)   | (0.039)   | (0.051)   | (0.051)    |
| Secondary education                               | -0.072**  | 0.056     | -0.035    | -0.060*   | 0.077*    | -0.009     |
|   | (0.032)   | (0.042)   | (0.041)   | (0.032)   | (0.044)   | (0.045)    |
| University education                              | -0.039*** | -0.001    | -0.065*** | -0.032*   | -0.007    | -0.038*    |
|   | (0.013)   | (0.013)   | (0.016)   | (0.017)   | (0.019)   | (0.020)    |
| Nuclear families                                  | -0.049    | -0.431*** | -0.494*** | -0.129*** | -0.439*** | -0.535***  |
|   | (0.040)   | (0.042)   | (0.039)   | (0.039)   | (0.042)   | (0.040)    |
| Extended families                                 | 0.034     | 0.440***  | .486***   | 0.117***  | 0.413***  | 0.501***   |
|   | (0.040)   | (0.043)   | (0.040)   | (0.039)   | (0.044)   | (0.042)    |
| Quintile 1  | 0.080***  | 0.037     | 0.052     | 0.076***  | 0.054     | 0.043      |
|   | (0.029)   | (0.041)   | (0.035)   | (0.029)   | (0.043)   | (0.041)    |
| Quintile 2  | 0.031     | -0.065*   | -0.029    | 0.034     | -0.036    | 0.001      |
|   | (0.031)   | (0.038)   | (0.035)   | (0.032)   | (0.043)   | (0.041)    |
| Quintile 3  | -0.042    | 0.019     | -0.005    | 0.033     | -0.051    | -0.077*    |
|   | (0.032)   | (0.041)   | (0.039)   | (0.033)   | (0.040)   | (0.039)    |
| Quintile 4  | -0.010    | -0.007    | 0.026     | -0.053*   | -0.040    | -0.016     |
|   | (0.035)   | (0.043)   | (0.042)   | (0.032)   | (0.041)   | (0.042)    |
| Quintile 5  | -0.059*   | 0.016     | -0.044    | -0.090*** | 0.073*    | 0.048      |
|   | (0.034)   | (0.038)   | (0.039)   | (0.032)   | (0.040)   | (0.042)    |
| Has health insurance                              | 0.043     | 0.145***  | 0.133***  | -0.022    | 0.176***  | 0.169***   |
|   | (0.041)   | (0.049)   | (0.046)   | (0.039)   | (0.051)   | (0.051)    |
| Have difficulties to pay for health care services | -0.025    | -0.095*   | -0.156*** | -0.023    | -0.093*   | -0.105**   |
|   | (0.039)   | (0.049)   | (0.046)   | (0.036)   | (0.049)   | (0.048)    |
| Health practitioners                              | -0.022**  | 0.011     | -0.008    | -0.027**  | 0.001     | -0.023     |
|   | (0.009)   | (0.008)   | (0.012)   | (0.012)   | (0.011)   | (0.016)    |

Note: Results are displayed for the matching using 5-nearest neighbour estimator. The caliper width is 0.01. Stars indicate: \*\*\* p<.01, \*\* p<.05, \* p<.1; Standard errors are in brackets.

People with any university education are less likely to pay informally for outpatient and inpatient care if years 2005 and 2008 are compared to 2002. This effect shows that higher educated people have become more aware of their rights or are in a better bargaining position with medical staff. The time effect turns positively only for people with primary education if year 2008 is compared to 2002 showing that they become more likely to pay informally for all health care services. Having very basic education reduces the chances to be formally employed (and therefore to benefit from health insurance) and may also limit social connections with medical staff (the same table shows that being a health practitioner lowers the probability of paying over the years because of these connections).

The share of people in the highest quintile who pay informally decreased between years 2002 and 2005. The same trend is more or less maintained for the three top quintiles throughout the years (even though not statistically significant). The opposite has happened for the first and second quintiles. The first quintile becomes consistently more likely to pay informally throughout all years confirming our previous findings and showing a regressive effect of measures taken to reduce informal payments in the Albanian outpatient care.

In the tobit and the Heckman selection models we have found that having health insurance reduces the probability of paying informally. Despite this, the effect of health insurance over the years has not moved in the same direction. Patients having health insurance become more likely to pay if year 2008 is compared to 2002 and 2005. The positive (and statistically significant) coefficients show that the effect of health insurance in lowering the probability of paying has decreased over the years. In fact, it looks like that the lack of further policy measures between years 2005 and 2008 has created reverse incentives for participation in the social health insurance scheme.

## **VI. Discussion**

By using the results for inpatient and outpatient care, we are able to say something about the causes of informal payments in Albania. The high incidences of informal payments among certain groups of payers (e.g. rural residents, lower educated patients, and those with difficulties to pay for health care) shows how wide

spread this phenomena is. The significant effects of having less information on the amount required (as with patients with basic or no education) or having fewer social connections (as with rural residents seeking health care in urban areas) clearly indicate a governance failure in the system and demonstrate that not all causal factors are exclusively linked to scarcity of resources. Moreover, certain groups in the population seem to be more disadvantaged than others. Patients belonging to the lower consumption quintiles pay similar amounts compared to the middle quintile, while rural residents pay higher amounts for outpatient care. This shows that they are very vulnerable to informal payments. The government fails to protect these groups in the population that are left to cope with market mechanisms (You need care? You have to pay for it!). It is clear that lack of government support and a lower bargaining power of these groups will make them more susceptible to poverty in the long-run.

Having national health insurance lowers the probability of paying informally both for outpatient and inpatient care. This may be due to the greater bargaining power of these patients in interacting with medical staff. They are better informed on what their rights are. However, such relation was proven to be fragile in the long-term as we showed that the role of health insurance has become weaker between 2005 and 2008. This frail status of health insurance in Albania calls for more attention to evaluating the effect of ongoing reforms especially in the inpatient care.

Other aspects we have tested were the effects of particular policy changes that have taken place mostly between 2002 and 2005 (such as the contractual agreement between HII and outpatient care and the increase of GPs salaries). Assuming that most of the changes took place in outpatient care (in terms of reorganization and financing primary health care centers), we expect most of the effects to be associated to this service. In fact, the matching techniques show that the amount paid by individuals did not change much during the first years after 2002. Moreover, the direction of the changes was not always as expected. Some of the unexpected results included: the increase in the average amount paid between 2002 and 2005 for outpatient care; the gradual increase of the probability of paying among patients having health insurance between 2002 and 2005/2008; and the relatively high amounts (and probability) paid for patients in lower quintiles, i.e. among patients who have the most difficulties to

pay. This is evidence for some debatable effects of the reform measures and clearly indicates that weak governance remains one of the biggest challenges in the sector.

Previous research has highlighted government failure as one of the main causes for informal payments in health care (Lewis, 2006). When the government fails to enforce accountability or fails to prevent non-ethical behavior of medical staff, the most vulnerable will bear the consequences. Our findings show that in the Albanian context one of the main reforms directly linked with the underpaid health care staff (the increase of GPs wages), has proven ineffective in reducing informal payments in the long run. This was due to lack of a follow up on reforms and the indexation of wages over the years. The evidence shows that even though economic factors may play a role in determining the amount of informal payments to medical staff, governance issues are more closely linked to the incidence of such payments.

## **VII. Conclusion**

Informal payments to medical staff are widespread in Albania both for outpatient and inpatient care. Most of the evidence coming from ALSMS data for 2002, 2005 and 2008 support a scarcity of resources and governance failure in health care as the main reasons behind them. The past reforms and reorganization of the primary health sector have only managed to achieve small reductions in the amounts and incidence of informal payments. The empirical evidence shows that even though the wages of primary care medical staff have doubled (in real value) over the years, informal payments remain widely spread. Vulnerable groups in society remain less protected against such payments and policy measures have not reached the most deprived regions of the country.

Patients and physicians are using informal payments as coping strategies to ease problems brought about by a lack of resources and poor governance. Judging from the evidence provided by the ALSMS data for 2002, 2005 and 2008, the most effective policy measure in Albania from a supply-side perspective would be to include inpatient care in the benefits package of the health insurance scheme. The direct contracting of inpatient services by the health insurance fund would increase efficiency and accountability of inpatient care provision. Such measures have only started to be implemented in 2009. The effects on inpatient care are yet to be seen

while the experience with outpatient care calls for more attention on the outcome of this reform. The data analysis in this paper has demonstrated that the people suffering the effects of informal payments are the poorest or regionally most disadvantaged (i.e. residents of rural areas). Providing better protection for the most vulnerable groups of the population and adjusting the regional distribution of resources will certainly help in this direction. Moreover, every extension of health insurance to inpatient care must be combined with policy measures to protect the chronically ill and the uninsured. It goes without saying that the increased efficiency in financing the health care system would also require taking measures to eliminate informal payments. Experiences from other countries (see also Lewis and Pettersson, 2009) have shown that providing more incentives for physicians (e.g. revenue sharing) and increasing control and accountability would contribute in this regard.



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