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Estimating the effect of symbolic copayments in health care in Czech Republic

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Abstract

This research paper estimates the effect of introducing symbolic fees, into otherwise a free health care system, on medical consumption. Namely, the number of adult patient visits to general practitioners is followed. The estimation takes advantage of differing approaches in the fourteen different regions and employs the difference in difference design using some of the regions as a control group. It is found, that copayments seem to increase the number of visits to the general practitioners. This is assigned to a behavioral "entitlement effect".

Introduction

Intro to topic

On the 1st of January 2008 the Czech ministry of health care introduced a co-payment system for using various health care services. This was the first and only time a Czech patient had to make a payment when acquiring basic health care. Specifically, each patient had to pay 30 CZK (EUR 1.2) for every doctor visit and every item on a prescription, 60 CZK (EUR 2.4) for every night at the hospital and 90 CZK (EUR 3.6) for ambulant treatment. (Petrášková, 2008). The aim of the policy was to create a cost to the otherwise completely free health care system. To observe whether the objective was reached the following research question is raised:

"Does introducing a symbolic cost to a Beveridge health care system improve its efficiency?"

Background

The Beveridge system is one where "health care is provided and financed by the government through tax payments" (PNHP). As many other countries that employ this system also Czech Republic has been struggling with vast inefficiencies in the medical sector. The issue stems from the fact that the citizens do not directly bear any of the costs when they acquire health care, hence overconsumption appears. The fee structure attempted to reduce this inefficiency by presenting costs to the population for consuming health care. At the same time such a small amount can be dismissed as a barrier to getting health care and therefore is not in contradiction with the basic philosophy of the Beveridge system.

It is vital to understand the context of these co-payments. The average income in Czech Republic in 2008 was 22 592 CZK (EUR 903.68) and the mean retirement benefit was 9 347 (EUR 373.88). Even with the minimum wage of 8000 CZK (EUR 320) if the citizen went to the doctor every day, he would spend about 11% of his income on medical care. In case of an unusual amount of medical attention required there was a cap set at 5000 CZK (EUR 200) for the adults and 2500 CZK (EUE 100) for the retired. Minors were not obliged to make any of these payments since April 2008.

Nevertheless, it was considered to be a slippery slope towards an expensive private health care system and therefore a large political opposition formed. This resulted in many of the regions refusing to collect the fees and instead pay it for their inhabitants. This factor establishes a control group within the country and therefore allows an estimation of the effect using a difference-in-difference model.

Scientific relevance

This research paper will attempt to closely identify the impact the fees had, specifically on the amount of patient visits to the general practitioners. The results will attempt to add to the earlier inquiries into the effects of these copayments in Czechia. These can then be compared to the cases from other countries, where similar reforms were done. The aggregate of these studies has to potential to enhance the Beveridge health care system. Comparatively this case specifically showcases the effect on the number of visits to a general practitioner.

Social relevance

Furthermore, as with many public policies it is vital for the voter to precisely know the implications. In this research paper the hope is to present the information on the effectiveness of such a reform. Together with estimation of the impact of similar policies it will add to the knowledge on the topic, therefore allow a more educated decision in terms of future policies. Overall, if it proves to be effective it has the chance to greatly optimize the Beveridge approach to health care.

Research paper description

The paper will do so by employing the difference-in-difference method in order to estimate the effect. The hypothesis will be formed in the theoretical framework and related research will be introduced. Then, the used data will be presented and commented on. The adopted methodology will be described and elaborated on in the respective section. Following will be the results of the employed models. These will also be reviewed in terms of internal validity and limitations. Finally, the interpretation of the findings will follow with a conclusion of

the research question. To end, the conclusion and limitations of this research will be used to give suggestions for further research.

Theoretical framework

Hypothesis

The fact, that the system is built to have no barriers to acquire health care, causes its overconsumption as the population does not bear any of the direct costs. This makes it a public good and creates and inefficient market, where the population consumes too much considering the social cost. There is also the potential for moral hazard to further exacerbate the inefficiencies. The new fees imposed by the government create a shift in the supply curve by offering the same quantity of services while increasing their price. As the health care demand curve is down sloping, the expectation is to have a lower equilibrium quantity of health care in the market (Aron-Dine, Einav, & Finkelstein, 2012). Moreover, moral hazard should become less of a problem. Therefore, the following hypothesis is formed: "As symbolic fees are introduced, the health care market becomes more efficient." This hypothesis will be evaluated in the following sections of this paper.

International literature

An essential piece of literature related to patient fees is based on the evidence from the Rand Health Experiment. The general conclusion says that in the short term too small of a fee des not decrease overconsumption of health care. On the other hand, too high of a co-payment results in not seeking out an appropriate level of heath care. At the same time if the payments are set at a suitable level there is no avoidance from seeking necessary care (Kaiser, 2006). Such a level would be highly applicable in a Beveridge medical care system.

There are several instances, where some sorts of copayments were introduced in different countries. In the case of South Korea and France there was no evidence of an effect, when patients were charged for a visit to the general practitioner (Kim, Ko, & Yang, 2005) (Chiappori, Durand, & Geoffard, 1998). In Belgium similar charges were found to decrease the

number of patients acquiring care from their physicians (Cockx & Brasseur, 2003). In Japan the data indicated that there was also a decrease in demand for the general practitioner care, but data for longer periods identified no impact (Kan & Suzuki, 2010). Therefore, in this case the policy was deemed to have only a short-term effect. A case that was thoroughly studied in Germany found that a fee for prescription medicine did decrease the number of patient visits to the general practitioners (Winkelmann, 2004). However, further copayments collected specifically for going to the physician were seen as ineffective dealing with overconsumption (Augurzky, Bauer, & Schaffner, 2006) (Schreyoegg & Grabka, 2008). Based on these cases it can be clearly seen that in some cases the system was effective. Hence, it can be observed that the degree of success is highly dependent on the cost amount and individual characteristics of each of the reforms.

Estimations from CZ

This precise effect from the Czech Republic has been estimated by three other researchers. The first analysis conducted by Zapal took advantage of the abolishment of the copayments for children in April 2009 and therefore was able to use the adults as s control group in this natural experiment (Zapal, 2009). The measured outcome, doctor visits, is found to remain the same in the treatment group. A similar experiment conducted over more periods of time didn't find an effect either (Votapkova & Zilova, 2016). However, different results can be expected with adults in the treatment group instead of children. This is due to a difference in the elasticity of demand for health care in the two groups. The effect is presumably more pronounced, also desired by the policy maker, among the adults. Specifically, the effect might be cumulated within the elderly (Angermannová, 2012). Therefore, in this research paper the focus will be put onto the general practitioners for adults.

Adults, in the 50+ age group, were observed in the research paper written by Kalousova. The paper looks at several outcome variables and does find a decrease in the amount of primary care used by the elderly (Kalousova, 2014). However, there is a problematic assumption in this research; precisely that the polish population serves as a control group in her difference in difference model. This is questionable, especially since the countries have a very different

health care systems and expenditures, which are affected by different time varying factors. Comparatively, in this inquiry into the effect of the policy Czech regions will be used as a control group, therefore the estimation should not be influenced by time variant variables that are different between the two countries.

Data

Policy timing in the regions

The copayments, which are the subject of this research, faced a large pushback and were therefore not in affect in many of the regions at some point. They were introduced by the ministry of health care in 2008 and abolished in 2015. The regions can be separated into three groups, with different timing of their push back policies. Prague was the only region, where the fees were collected in their full scale since the introduction of the policy. On the other hand, Stredocesky kraj collected the fees only in 2008, as in 2009 it paid the fees in full amount instead of its citizens. This was seen as too costly, so in 2010 they instead started reimbursing the population on demand and continued to do so until the end of the policy. The remaining twelve regions started the same reimbursement approach in 2009, but by the end of 2010 they stopped in favor of collecting the fees. The timeline can be seen below, in table 1.

Table 1

Region(s)	**2008**	**2009**	**2010**	**2011-2014**
Prague	all fees collected	all fees collected	all fees collected	all fees collected
Stredocesky kraj	all fees collected	fees paid for by the regional government	fees reimbursed	fees reimbursed
The remaining 12 regions	all fees collected	fees reimbursed	fees reimbursed	all fees collected

An important difference to note is between the regional government paying the fees for its citizens and reimbursing them. Only a fraction of the population would ask for reimbursement on their fees. Therefore, a dummy variable for “reimbursement” will be used to

distinguish between the two states. At the same time if fees are reimbursed it will be regarded as if fees were not collected.

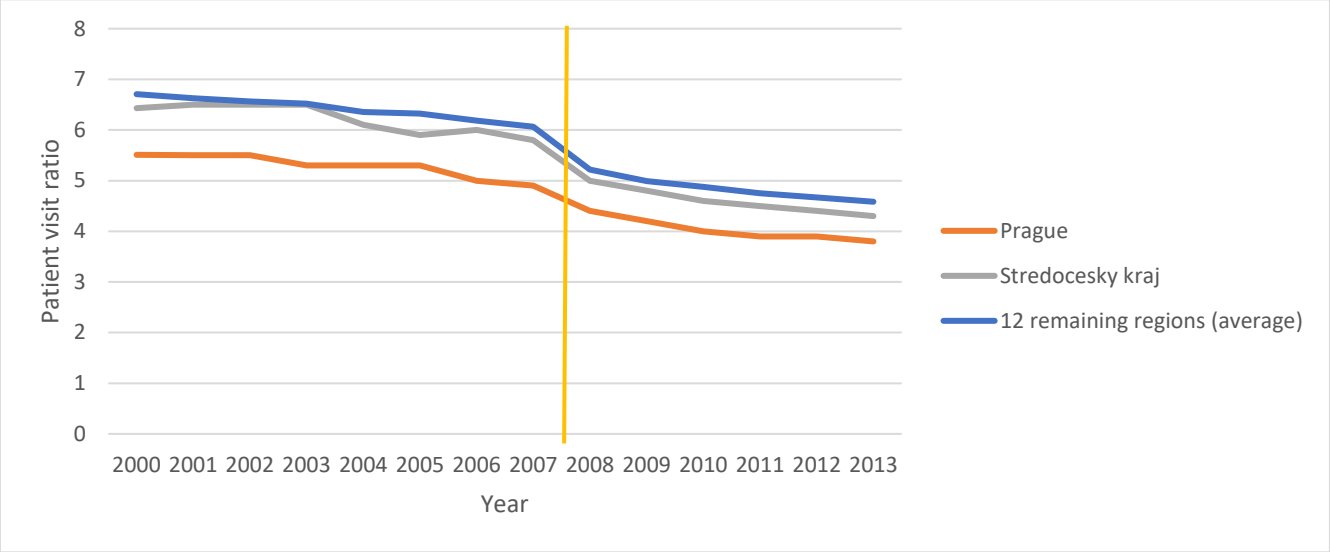
The patient visit ratio

The main variable of interest is the number of patient visits to their general practitioner per year per every registered patient. This variable will be from now on referred to as the "patient visit ratio".

$$\text{patient visit ratio} = \frac{\text{yearly number of visits to a general practitioner / number of general practitioners}}{\text{the number of registred patients}}$$

This data is retrieved from the yearly statements produced by the institute of health information and statistics and is primarily provided by the medical enterprises offering the services of general practitioners. The data is available for all the fourteen regions of Czechia in years 2000-2013. The values can be observed in the relevant groups below, in graph 1.

Graph 1



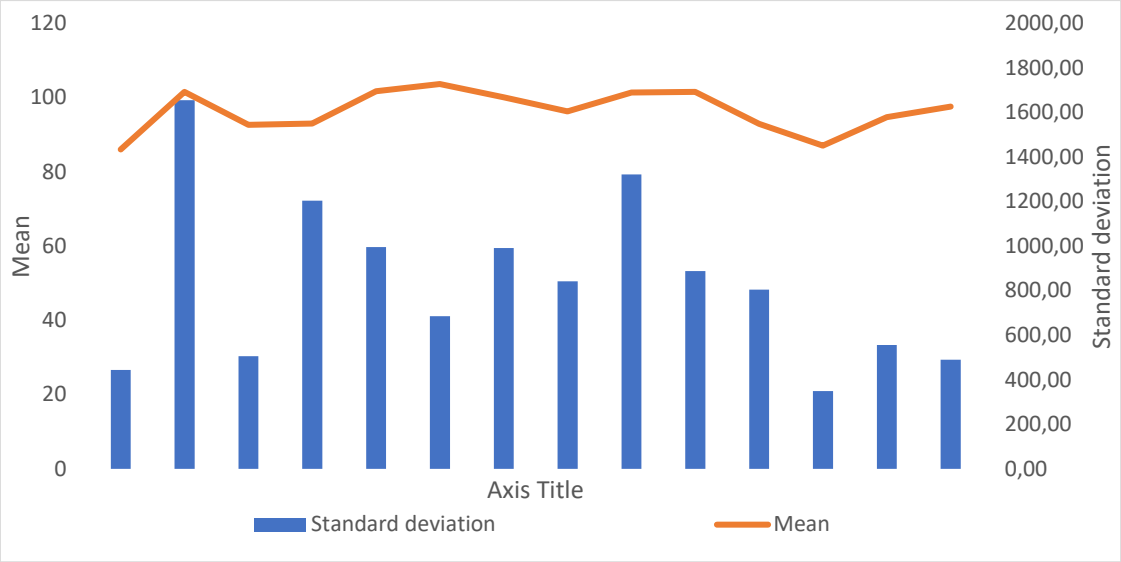
Patient visit ratio for the three relevant groups over 2000-2013 with the yellow line depicting the fee introduction

The values average 5.6 at the national level over time with a range from 3.8, recorded in Prague in 2013, to 7.41 in Zlínský kraj in 2000. The region with the lowest average of the

number of patient visits is Prague with the value of 4.8 and the region with the highest average number of 6.2 is Zlínský kraj. A downward trend can be seen over the observed period.

A crucial component of the patient visit ratio is the number of registered patients per doctor. An important thing to observe is the stability of this variable. This is to that the impact of the fees is not misestimated due to changes in the number of register patients instead of the actual visits. Therefore, the mean and the standard deviation can be observed in Graph 2 below.

Graph 2



Standard deviation and the mean for the number of registered patients for the fourteen different regions over 2000-2013

This graph shows the overall average and standard deviation of the number of registered patients per doctor. The values are shown for each region separately. The 1st and the 2nd region are Prague and Stredocesky kraj respectively with the other twelve regions following them. The values show, that relative to the average the standard deviation is low. The observed stability allows the patient visit ratio to be used as the outcome variable, which will be further specified in the following section.

Methodology

Intro to design + OLS

In order to identify the impact of the aforementioned fees on the patient ratio a difference in difference method is going to be used. First, however the effect will be observed a using the ordinary least squares method (OLS). The equation to estimate the effect is constructed as follows:

$$Y=\alpha + \beta T + \varepsilon$$

In this formula the outcome Y, which represents the number of patient visits, is determined by a constant α, the treatment effect βT and the random error ε. If the region has fees and does not reimburse them, then the value for T is 1, otherwise it is 0. This model will compute the average mean difference between the times the fees were collected, and they were not. The results will be presented in the next section of the paper. However, the ordinary least squares method suffers from omitted variables bias. Possible sources of misestimations are any confounding variables, such as changes to the health care quality over time or other country wide policy changes. This means that the correlation of the error term and the treatment variable is not zero.

Diff in diff description

Therefore, to determine the impact of the reform to the health care system the difference-in-difference method is going to be used. This technique attempts to isolate the effect of the fees by using a control group to predict a counterfactual. This value can be then compared to the outcome in the treatment group, while including a fixed effect for each region and year.

Set up diff in diff

In this case the region of Stredocesky kraj will be used as a control group. This governing region opposed the new fees. In 2009 the fees were paid in full, but the following years the citizens were eligible for reimbursement of the fees. As the reimbursement has different behavioral implications compared to full compensation it is thought of as a different type of treatment. Using these two treatment variables and the two fixed effects the following equation is set up:

$$Y=\alpha + \rho R_i + \gamma P_p + \Omega t + \beta R_{(i,t)} + \mu R_{(i,t)} + \varepsilon_{i,t}$$

The α can be interpreted as the constant with the ρR_i, and the γP_p as the fixed effects of the different regions and periods respectively. Specifically, the two periods p denote the time before and after the policy introduction. To account for a linear trend in the outcome variable the argument Ωt is included. The $R_{(i,t)}$ determines whether region i at time t was under either of the two treatments. The μ is the coefficient of the impact of reimbursement and the β the sought-after coefficient of the effect of demanding the new copayments. Together with random error $\varepsilon_{i,t}$ the number of patient visits Y is given.

Parallel Trends

A significant assumption of this method is that were it not for the treatment the trends in the outcome variable of all the regions would be parallel. All the regions fall under the same ministry of health care and therefore dispose of the same health care system as the other regions. They also show similar if not identical geographical, historical and cultural backgrounds. These are good presuppositions for parallel trends but need to be further tested.

As treatment was applied this cannot be confirmed or disproven. The only time period that can be judged is before the payment structure was introduced. Therefore, the parallel trends assumption will be tested for the period of 2000-2007, by including leads of the

treatment values in the aforementioned difference-in-difference model. The results for the model and the parallel trend assumption test will be presented in the following section.

Dropping variables in diff-in-diff

To add to the previous model a diff in diff with only one treatment variable is going to be estimated as well. In order to do this the values for 2009 and 2010 will be dropped. the policies were in turmoil, as in 2009 Stredocesky kraj paid the fees in full, and then switched to reimbursement like the majority of the other regions, while in 2010 the other regions stopped the reimbursement plan. If these two years are ignored it allows to use Stredocesky kraj as a control group in the period they reimburse their citizens. For the sake of this model the behavioral difference between reimbursement and automatic coverage is assumed to be nonexistent. This allows the isolation of the effect in the following equation:

$$Y=\alpha + \rho R_i + \gamma L_t + \beta R_{(i)}t + \varepsilon_{it}$$

Where again the α can be interpreted as the constant with the ρR_i, and the γL_t as the fixed effects of the different regions and years respectively. The β is the coefficient of the $R_{(i,t)}$which stands for the region i at time t, where the fees are collected. Together with random error $\varepsilon_{(i,t)}$ the number of patient visits Y is given. This model encounters a significant problem, which stems from the dropping the observations for the two years. As there is a trend in the outcome variable the exclusion of data will create a deceptive difference between the year 2008 and 2011, as the middle years are excluded. It is the reason for using yearly fixed effects, rather than a linear trend with fixed effects for the periods as the previous model. This may affect the estimation of the impact of the treatment variable; nonetheless the results will be presented in the following section.

Estimating the effect of reimbursement

Lastly, the impact of reimbursement needs to be tested. This will be done in the following model using a difference in difference between Prague and the remaining twelve regions in the period between 2008-2013:

$$Y=\alpha + \rho R_i + \gamma P_j + \Omega t + \mu R_{(i,t)} + \varepsilon_{i,t}$$

Similarly to the first model, the constant α, the fixed effect of the different regions ρR_i and the linear trend Ωt are included. Together with $\mu R_{(i,t)}$ and the standard error $\varepsilon_{i,t}$ these arguments give the patient visit ratio. The desired reimbursement coefficient is the μ of $R_{(i,t)}$which stands for the region i at time t, where fees are reimbursed as opposed to being collected. The estimation of μ will be presented together with the ones from other models in the following section.

Results

In this section, the results from the previously mentioned methods will be examined to answer the given research question and confirm or disprove the hypothesis given in the theoretical framework. The first model used to estimate the effect of the new copayments on the patient visit ratio is OLS. The results can be seen in Table 2 column E.

Table 2

	Difference in difference				**OLS**
	A)	B)	C)	D)	E)
Fees	.0168	.0354	0.0853		-1.30
	(0.677)	(0.399)	(0.083)		(0.00)
Reimbursement	-.0379	-.0297		-.0627	
	(0.279)	(0.426)		(0.028)	
Lead treatment		-.0612			
		(0.052)			
Constant	5.86	5.85	5.67	5.504	6.02
Period fixed effects	Yes	Yes	No	Yes	No
Region fixed effects	Yes	Yes	Yes	Yes	No
Yearly fixed effects	No	No	Yes	No	No
Yearly trend	Yes	Yes	No	Yes	No
Sample size	14	14	14	13	14

*statistical significance is displayed below the coefficients in the respective column

The main coefficient of interest is negative with a significant value of -1.30. This indicates that if fees are collected, then the number of patient visits is lower by said coefficient in region i at time t. Such a result would confirm the hypothesis, but previously mentioned biases influence

the estimation. Therefore, there can be no conclusions made solely on these results, rather the diff-in-diff model needs to be presented.

However, before the more refined methods are shown their foundational assumption needs to be tested. This is the assumption of parallel trends among the observed treatment and control groups. This is tested using a lead treatment variable as described in the methodology section. The results for this test are presented in Table 2 column B. Based on these it can be rejected, that pre-trends are significantly different from each other up to the 10% level. This justifies the difference-in-difference approach. Hence, the model with both "reimbursement" and "fees" variables is presented in column A Table 2 above.

The vital values to observe in the table above is the "fees" treatment variable. The coefficient, previously referred to as beta in the methodology section, is positive, but insignificant. Hence, there can be no conclusions drawn from this estimation. The hypothesis remains unproven. The estimation also suggests reimbursing has a negative impact on the patient visit ratio. Nonetheless the respective coefficient is also statistically insignificant.

The results for the second method to test the hypothesis are shown in table 2 column C. This method estimates that on average if fees are collected the number of patient visits is higher compared to not requiring copayments. This suggests a behavioral "entitlement effect", which causes an increase in consumption of public goods if people have to purchase them for small fee. Gneezy and Rustichini, who observed a similar effect in childcare centers, say that "Something funny happens when you move from zero fine to a small fine" (Gneezy & Rustichini, 2010). In this case the financial incentive can certainly be described as relatively small, which would explain the observed impact. However, the coefficient is also significant only at the 10% level.

Lastly the impact of reimbursing instead of collecting the fees on the patient visit ration can be seen in column D of Table 2. The estimation presents a slight negative effect, which is significant at the 5% level. This result confirms the estimation from column C, as it signals an increase in the patient visit ratio when fees are fully collected instead of reimbursed. This finding is likely to be due to the previously discussed "entitlement effect" or a limitation in the

design. Therefore, the possible sources of misestimation will be discussed in the following section.

Limitations of the design and suggestions for further research

Time varying factors

The common flaw with the diff-in-diff design is a group specific time varying factor. This is very relevant in the described research. As the regions are geographical formations, they are prone to any local disease outbreaks, which would likely affect outcome variable in the specific region. If this would be the case, then the estimation of the impact of the fees would be misestimated. Unfortunately, there is no way to account for this, as general practitioners can be under stress from minor diseases, which do not get reported or force the people to take work leave.

Reimbursement is not perfect

Further, some of the effect can be captured by the reimbursement factor, even though a control variable is used. The problem is that there are not enough instances, except for Stredocesky kraj, where reimbursement was in place and hence the estimation of this control variable is likely flawed. This would then drastically affect the estimation of the "fees" variable. This issue is impossible to solve, as there are no regions which would pay the costs for their citizens in the long term and be able to serve as a control group.

Simple regression

Lastly the indication of a decrease in demand of health care provided by the simple regression is likely influenced by a country wide reform. This new legislation was introduced at the same time as the copayment system. It dictated that the first three days of sick leave the worker did not receive any financial support anymore. This resulted into workers visiting their physicians almost only if they expected their sickness lasted longer than three days. Hence the coefficient from the regression is likely to be an overestimation.

Further research

This research operates under the assumption that decreasing the amount of consumption of medical care, when overconsumption is present will improve the efficiency. However, this area needs to be further investigated. The fees could possibly stop the population from getting the appropriate level of health care, which would result in higher medical costs later on. This would deepen the inefficiency problem in the health care system. It should be established how such symbolic fees prevent people from acquiring the appropriate level of healthcare.

Further, the behavioral effect, which makes people purchase more of a public good when monetary costs are introduced, should be studied in a medical environment. This effect is particular in health care, because of the long-term societal implications. If it would be positively observed in other cases, then it can be used to the advantage of the policy makers. Hence it should be specifically studied in different countries and different medical settings to establish its exact extent.

Conclusion

Recap

In order to answer the research question and prove the hypothesis, that introducing symbolic fees into a Beveridge health system improves its efficiency, a case from the introduction new legislation in 2008 in the Czech Republic was observed. Common to every free health care system an overconsumption is present and therefore the average number of patient visits to a general practitioner per registered patient is used as a proxy to the general consumption. A simple regression design indicates that the new payment system did in fact decrease the number of patient visits. However, there is a high likelihood of outside factors influencing the estimation. Hence a more sophisticated method was devised.

Diff-in-diff results

The design took advantage in the discrepancies of legislation between the different regions and employed the difference-in-difference design. The first model differentiated

between control regions reimbursing the population for the copayments and other control regions paying the fees for its citizens without question. The estimations of this model were insignificant. By ignoring the values for two years a second model was simplified and designed with only one treatment variable. The results signaled an increase in consumption with the fees. This was confirmed by the last method, which used a similar design, but only thirteen regions and six years to estimate the effect of reimbursing the copayments. This indicates that a behavioral factor made people go to the doctor more if they had to pay the fee.

Limitations

Even though the parallel trends assumption holds there are other factors that could have influenced the results. A likely bias comes from region specific time varying factors, such as diseases. The effect is also likely to be captured by the fact that reimbursement does not perfectly simulate having no fees. This should be solved by controlling for it, which is done, but there are likely not enough data points to know the precise influence of this factor on the estimation.

Closing and suggestions

In conclusion, to answer the research question there was no increase in efficiency found after the introduction of symbolic costs. The results from the Czech Republic therefore do not support the hypothesis. However, the increase in consumption of medical care with a copayment should be studied further, especially in relation to efficiency of the health care sector. This should be done in other medical areas and other countries to provide evidence to the extent of the observed effect.

Bibliography:

Angermannová, A. (2012, May 22). Důchodcům v pondělí léky nepředepisuji, napsal lékař na dveře ordinace. *Idnes.cz*. Retrieved June 8, 2019, from https://www.idnes.cz/zpravy/domaci/lekar-nepredepisuje-v-pondeli-leky-duchodcum.A120522_1781722_usti-zpravy_alh

Augurzky, B., Bauer, T. K., & Schaffner, S. (2006). Copayments in the German Health System - Do They Work? *SSRN Electronic Journal*. doi:10.2139/ssrn.928914

Chiappori, P., Durand, F., & Geoffard, P. (1998). Moral hazard and the demand for physician services: First lessons from a French natural experiment. *European Economic Review,42*(3-5), 499-511. doi:10.1016/s0014-2921(98)00015-4

Cockx, B., & Brasseur, C. (2003). The demand for physician services: Evidence from a natural experiment. *Journal of Health Economics,22*(6), 881-913. Retrieved June 8, 2019, from https://www-sciencedirect-com.eur.idm.oclc.org/science/article/pii/S016762960300047X.

Gneezy, U., & Rustichini, A. (2000). Fine is a price. *Journal of Legal Studies,29*. Retrieved July 10, 2019, from https://rady.ucsd.edu/faculty/directory/gneezy/pub/docs/fine.pdf.

Kaiser, H. J. (2006). The Role of Consumer Copayments for Health Care: Lessons From the RAND Health Insurance Experiment and Beyond. *Henry J Kaiser Family Foundation*. Retrieved June 8, 2019, from https://www.kff.org/health-costs/report/the-role-of-consumer-copayments-for-health/.

Kalousova, L. (2014). Curing over-use by prescribing fees: An evaluation of the effect of user fees' implementation on healthcare use in the Czech Republic. *Health Policy and Planning,30*(4), 423-431. doi:10.1093/heapol/czu024

Kan, M., & Suzuki, W. (2010). Effects of cost sharing on the demand for physician services in Japan: Evidence from a natural experiment. *Japan and the World Economy,22*(1), 1-12. doi:10.1016/j.japwor.2009.06.005

Kim, J., Ko, S., & Yang, B. (2005). The effects of patient cost sharing on ambulatory utilization in South Korea. *Health Policy,72*(3), 293-300. doi:10.1016/j.healthpol.2004.09.002

Votapkova, J., & Zilova, P. (2016). The abolition of user charges and the demand for ambulatory visits: Evidence from the Czech Republic. *Health Economics Review*,*6*(1). doi:10.1186/s13561-016-0105-7

Winkelmann, R. (2004). Co-payments for prescription drugs and the demand for doctor visits - Evidence from a natural experiment. *Health Economics,13*(11), 1081-1089. doi:10.1002/hec.868

Zapal, J. (2010). Doctor-Visit Co-Payment Exemption for Children: First Look at the Data. *Finance a Uver: Czech Journal of Economics & Finance*,*60*(1), 58-72. Retrieved June 8, 2019, from https://web-b-ebscohost-com.eur.idm.oclc.org/ehost/detail/detail?vid=0&sid=b1457294-38e1-4628-bc84-5df6e2f8897d@pdc-v-sessmgr01&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#AN=48315040&db=buh.