Measuring Healthcare System’s Efficiency via Total Health Expenditure per capita. Evidence from 27 Selected Countries

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Introduction

Health care expenditure represents one of the main sources of absorption of human and economic resources at national level. From OECD Statistics (2015) we know that during the last decades (1970-2005), in almost all the OECD countries, health care expenditure as percentage of GDP has been growing significantly, with a median annual growth rate reported at 4.7% among them. US registered the highest growth rate of health expenditure, reaching a peak of 15.3% of GDP in 2005.

However, the recent Financial Crisis altered this long-term growth path, raising concerns and questions about the right policies to implement. The Crisis lowered substantially the growth rate registered in almost all the OECD countries- but Hungary, Mexico, Switzerland, Japan, Chile and Israel- which were driven especially by the reduction in the resources available from the public sector.

From literature we know that there is evidence of widespread waste of resources in health systems that generate inefficiencies, which are common to all the countries. , even if they exhibit with different sizes. Many studies focused on describing the process of transforming health inputs variables, such as health expenditure, physical and environmental variables, into health outcomes, which are mainly proxied by (healthy) life expectancy and amenable mortality rates, and they realized that in this process at least some resources were wasted generating inefficiencies. Moreover, they observed the presence of remarkable variations in health care delivery not only across, but also within countries. OECD (2014) addressed further researches on these variations and they concluded that those resulted to be too large to be exclusively due to the patients’ needs or preferences. Additionally, in this context, EU policymakers’ concerns focus on keeping health expenditure long-term growth under control, without compromising or altering the access or quality of health care.

The aim of this empirical work is to measure the level of efficiency in health care systems by estimating the effects of one additional dollar spent in health care on life expectancy. In order to do so, we are going to implement a two-approach strategy, inspired by the model developed by J. Medeiros & C. Schwierz (2015). They adopted a DEA non-parametric model to investigate technical inefficiencies, by computing the deviations between observed values and estimated production possibility frontier. Secondly they conduct a sensitivity analysis by using a Stochastic Frontier Analysis method in order to check for robustness of results, by imposing a functional form to the production function. This two approaches differ in the fact that the latter prescribes to derive a functional form for the production function of the health system which then, presents stochastic errors and inefficiencies.

This study is organized as follows: next we proceed with an overview of the principal insights and conclusions arising from literature, before we describe and plot the data collected. Moreover, we explain in detail the methodology and the results we derived. We proceed with a summary of recommended policies and finally, we conclude.

Literature Review

As discussed in the introduction, we are going to provide some information from the relevant literature about the efficiency measurement of the health care system. Indeed, the efficiency of health care system constitutes a topic of perpetual interest but it became even more popular after the bust of financial crisis in 2008, when governments throughout the world faced substantial strains to their budgets and they tried to achieve an adequate fiscal consolidation by spending less and more efficiently in order to retain the same outcomes. We start this review from Organisation for Economic Co-operation and Development (OECD) that does numerous assessment and reports for its members and in the same time gathers very interesting data in a database which is called OECD Health.

OECD (2010) underlines that there is still room for improvement even for the best performing countries in terms of efficiency and healthcare spending. It takes into consideration the institutional uniquenesses of each country which justifies why there are disparate health care outcomes across but also within countries. The institutional uniquenesses denote that there is no “one-size-fits-for-all” to reforming the health care system. Finally, OECD underlines that by improving efficiency the gains would be considerable both, in terms of public spending savings and health outcomes such as life expectancy. Furthermore, OECD (2015) describes the healthcare spending of its members and in particular, the significant reductions in public healthcare spending that occurred since 2009. However, it highlights another interesting trend which is the increase out-of-pockets and private health insurance expenditures. At last, OECD that health care expenditures are increasing rapidly in emerging economies, such as China, Brazil and Russia.

Another set of papers which are mainly focused on European Union are written from i) de Cos & Moral-Benito (2011) and ii) Medeiros & Schwierz (2015). Both papers use very similar methods which are and used extensively in the paper of Joumard, André and Nicq (2010). Very briefly those methods are i) the non-parametric DEA (Data Envelopment Analysis) and ii) the SFA which is a parametric Stochastic Frontier Analysis/ Approach. The efficiency gains can be measured in two ways: either by increasing health outcomes, while keeping inputs constant (output-orientation) or the input-orientation where the health outcome are kept constant, while the inputs are diminishing. After the authors classifying the countries with respect to their efficiency they conclude that: i) generally, there is excessive expenditure, ii) the relation between inputs and outcomes is obscure and iii) health production and efficiency crucially depend on a variety of determinants such as institutions and demographic factors (e.g. population’s composition).

At last, Anderson and Frogner (2008) focus mainly on the markedly inefficiency of the United States comparing to other OECD countries. This concentration on the United States in quite useful because the United States have the highest healthcare spending among OECD countries but they persistently under-perform. The authors warn that without reforms of declining excess healthcare spending and extending coverage, the real growth of the economy will be consumed by healthcare sector.

Methodology

After analyzing the different perspectives from the relevant literature, we proceed with the description methodology. For the purpose of analyzing the efficiency of healthcare we use a simpler empirical approach. In particular, we examine the efficiency of each country explicitly through the effect of total healthcare expenditure per capita on life expectancy at birth.

Data & Descriptive Statistics[1]

The countries that we included in total are 27 and only one of them does not belong to OECD. Namely, that country is Lithuania, however OECD Health data bases contains quite complete data. Table 1 presents in detail all the countries.

Table 1

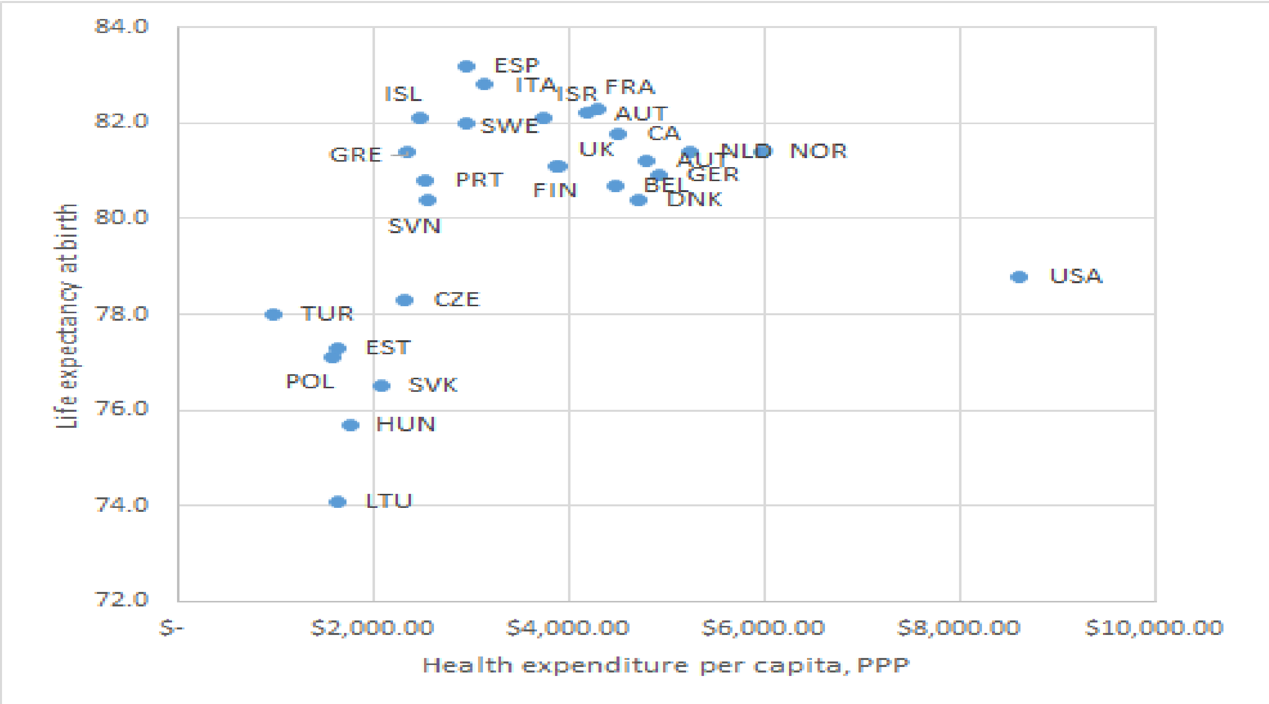
Number	Country's Name	Number	Country's Name
1	Australia (AUS)	15	Italy (ITA)
2	Austria (AUT)	16	Lithuania (LTU)
3	Belgium (BEL)	17	Netherlands (NL)
4	Canada (CAN)	18	Norway (NOR)
5	Czech Republic (CZE)	19	Poland (POL)
6	Denmark (DEN)	20	Portugal (PRT)
7	Estonia (EST)	21	Slovak Republic (SVK)
8	Finland (FIN)	22	Slovenia (SVN)
9	France (FRA)	23	Spain (ESP)
10	Germany (DEU)	24	Sweden (SWE)
11	Greece (GRC)	25	Turkey (TUR)
12	Hungary (HUN)	26	United Kingdom (UK)
13	Iceland (ICL)	27	United States (US)
14	Israel (ISR)		

In Figure 1 we provide a representation of our sample in terms of life expectancy, our dependent variable, and health care expenditure per capita, adjusted for purchasing power parity, relative to 2013. Some useful insights and considerations may be derived by observing this scatter plot. At first sight, it seems to suggest that countries with higher expenditure on healthcare report also higher levels of life expectancy at birth. However, this relationship is not so clear from the figure, reflecting the fact that life expectancy scores are also largely affected by the institutional and socio-

[1] Check Appendix: "Tables: Descriptive Statistics Individually for each country"

economic environment, which vary consistently across countries. Additionally, it identifies a set of countries whose value of life expectancy is relatively low with respect to the other ones with comparable levels of expenditure in 2013, and they are respectively Lithuania, Hungary, Poland, Estonia, Turkey, Czech Republic and Slovakia. By observing the growth path of health care expenditure relative to this cluster we realize that those were the countries which levels of expenditure per capita were the lower reported in the first years of our period of interest. Moreover, it seems to support the findings reported by Anderson and Frogner (2008), describing the particular case of the USA, whose health scores are relative poor, even though it reports the highest level of health care expenditure per capita, among all OECD countries.

Figure 1



Furthermore, we extracted yearly data from various sources which are presented in Table 2. The first column of the specific table provides the names of the variables in *Stata* because this report will be accompanied with the dataset and a *do.file* that we created in order to give the opportunity to the reader to replicate by his/ her own our estimations. We collected data from 1982 for all the corresponding variables but we limit our observations from 1995 to 2013 in order to minimize the amount of missing values and in the same time to keep the size of panel data sufficient.

Table 2

Variable's Name (in Stata)	**Description**	**Source**
lebirth[2]	Life expectancy at birth, total population	OECD; Health Database
Mort_Risk[3]	Average mortality rate, ages 15-65	The Human Mortality Database

[2] Check Figure 2 – Appendix for average values, 1995-2013
[3] Check Figure 3 – Appendix for average values, 1995-2013

totmedexp	Total health expenditure per capita, USD, PPP current prices	OECD; Health Database
phys	Physicians, Density per 1,000 population (head counts)	OECD; Health Database
medicalgrad	Medical graduates, Per 100,000 population	OECD; Health Database
alc	Alcohol consumption, Liters per capita (age 15+)	OECD; Health Database
percapita	GDP per capita (PPP) in $	World Bank
M_BMI	Mean BMI (kg/m2) (age standardized estimate)	World Health Organization (WHO)

We have a few missing values for specific variables which means that we are running a model with unbalanced panel data. Table 3 illustrates for the descriptive statistics for all the selected countries for all the time periods (1995-2013).

Table 3

Variable's Name (in Stata)[4]	**Num. Obs.**	**Mean**	**Std. Dev.**	**Min**	**Max**
lebirth	513	77.85497	3.130484	67.9	83.2
Mort_Risk[5]	489	0.0032596	0.0013254	0.000456	0.0076713
totmedexp	507	2,388.158	1,380.477	1,727.806	8,617.429
phys	502	3.288466	1.091904	1.1	8.32
medicalgrad	509	9.804951	3.449131	3.84	22.12
alc	506	9.57668	2.974554	1.2	15.1
percapita	513	27,830.19	17,253.43	2,68.796	10,2910.4
M_BMI	513	25.694	0.7354374	24.55	28.75

Namely, the missing observations exist[6]:

- ***Mort_Risk*:** Canada (2012-2013); Italy (2013); Netherlands (2013); United States (2013)
- ***totmedexp*:** Estonia (1995-1998); Slovak Republic (1995-1996)
- ***physl*:** Australia (2010); Israel (1995); Netherlands (1995-1998), Portugal (2013); Slovenia (1995-1997); Spain (1995)
- ***medicalgrad*:** Greece (2000; 2002-2004)
- ***alc*:** Israel (2012-2013); Lithuania (1995-1999)

[4] The description of the variables exists on the second column of Table 2
[5] No observation for Turkey
[6] The parenthesis denotes the year of missing observation

Variable selection

The reason why we chose the specific variables has to be mentioned. We select life expectancy at birth (*lebirth*) as our main dependent variable. The main regressor is the total health expenditure per capita (*totmedexp***)** because through this variable we are trying to examine a potential effect on on life expectancy at birth. Moreover, we gradually include variables to control for GDP per capita (*percapita*), lifestyle factors such as alcohol consumption, liters per capita (*alc*) and mean BMI (*M_BMI*). At last, we include indicators of physical inputs in the healthcare system such as the number of physicians and medical graduates.

Medical graduates is a very interesting variable because not only denotes one input but in the same time can be regarded as a variable that delineates the education level or the orientation of the healthcare system across countries. However, we have to be cautious with that number because it might suffer from various omissions. For instance, it might be easier to study medicine in a few countries than others. Similar story can be found also for the number of physicians. For instance, a few countries may have advanced medical technology within their hospitals and there is no need for a big amount of physicians to cover the needs of the population. For robustness checks, we will use as dependent variables the average mortality age for the between the ages 15 and 65.

Regressions models

Our regressions will follow the models which Medeiros & Schwierz (2015) used but in an alternative way. We start from Model 1 which the simplest and we end up with Model 3 which includes additional control variables. Within our model we develop them gradually by adding various effects. Namely, we are entering i) year fixed effects, ii) country specific year fixed effects and iii) trends which are able to delineate how the effect of spending one additional dollar in healthcare, on our dependent variables evolved over the time.

Table 4

<table>
<tr><th rowspan="2">Health outcomes/ Dependent variables</th><th colspan="5">Inputs/ Independent variables</th></tr>
<tr><th>Mode 1</th><th colspan="2">Model 2</th><th colspan="2">Model 3</th></tr>
<tr><td>Life expectancy at birth, total population</td><td>Total health expenditure per capita, USD, PPP</td><td>Total health expenditure per capita, USD, PPP</td><td><u>Socio-economic and lifestyle factors:</u></td><td>Total health expenditure per capita, USD, PPP current prices</td><td><u>Socio-economic, lifestyle factors and physical system:</u></td></tr>
</table>

Average mortality rate, ages 15 - 65[7]	current prices	current prices	GDP per capita (PPP) in $; Alcohol consumption, Liters per capita (age 15+) ; Mean BMI (kg/m2) (age standardized estimate)		GDP per capita (PPP) in $; Alcohol consumption, Liters per capita (age 15+) ; Mean BMI (kg/m2) (age standardized estimate); Physicians, Density per 1,000 population (head counts); Medical graduates, Per 100,000 population

Table 1 (Appendix-Regression Table) shows the result of our regression according to the three models we specified. It is profound that as we develop the model and include further control variables and effects (including trends) then the explanatory power of our models is decreasing significantly (see R^2 overall). This implies that the variations in life expectancy at birth (*lebirth*) cannot be explained properly from our model. From Model 2 (Panel IV) and afterwards (Panels V-VII) the control variables become statistically insignificant except alcohol consumption (*alc*).

In Panels I and II we are able to observe the average effect on life expectancy at birth (*lebirth*) of an increase in total health expenditure by one dollar. Interestingly, Panel II shows how the average effect changes for all the countries when we add the year fixed-effects. This implies that time and various other determinants over the time play a significant role in explaining the variation of life expectancy, in general. The parameter of interest, except life expectancy at birth (*lebirth*), is the *medexp* for each country. This variable is the interaction between total healthcare expenditure per capita (*totmedexp*) and the dummy variable for each country. With this method, we are able to examine what are the additional effects of spending one additional dollar of healthcare on life expectancy at birth separately for each country with respect to United States which serves as a baseline (omitted variable to avoid multicollinearity).

Interestingly, in terms of medical expenditure and life expectancy all the countries perform better than the US (Panel III coefficients are positive). Another, interesting fact is that countries that spend relatively low over the time in healthcare (Figure 3, Appendix) such as Czech Republic, Hungary, Israel, Poland, Slovenia, Slovak Republic and Turkey demonstrate relatively high coefficients. However, this does denotes efficiency but it might happening because an additional dollar from those countries has a bigger marginal effect comparing to the countries which spend more in health care such as the US, Norway, Germany and Austria (Figure 3, Appendix).

Therefore, we observe that the input analysis is not able to explain sufficiently the variation of life expectancy at birth while it might suffer from endogeneity. For instance, the institutions and legislation of each healthcare system might affect both the dependent and independent variables. In that spirit, we will not classify the countries according to the coefficients of their interaction terms (even if there are statistically significant) because our model might suffer from various omission and endogeneity, thus those coefficients are just correlations and do not constitute causal effects.

[7] Variable for robustness check

Robustness check

Because of the fact that life expectancy at birth constitutes a rigid variable which does not changes rapidly over the time and in the same time is determined by multiple factors, we selected to test our models with another more flexible variable. For the purpose of robustness test, we choose to examine the average mortality rate (*Mort_Risk*) where the most deaths occur. We extract data from the *Human Mortality Database*. Unfortunately, we have to exclude Turkey from this analysis because there are no data available for mortality rates.

Table 2 (Appendix-Regression Table) presents our results. It is apparent that the explanatory models is very low and there is statistical significance up to Panel III. Due to statistical significance, we are able only to give a very prudent interpretation of counties' coefficients, based on Panel III. Israel is our baseline (omitted variable) and we observe that Estonia, Hungary, Poland and Slovenia perform relatively better (negative coefficients). However, again we are not in position to derive credible conclusion due to endogeneity and multiple omissions. Thus, we do not rank the countries with respect to their performance, in terms of mortality rates and we report our results as simple correlations of how an additional dollars spent in healthcare affect the corresponding dependent variable.

Policy Recommendations

After measuring the efficiency of each healthcare system by investigating the effect of spending one additional dollar on life expectancy and studying the relevant literature the main challenge of remains. From a policy perspective, the evidence suggest that large gains could be achieved in health outcomes by improving efficiency and cost effectiveness of health spending. Thus, the health reform efforts should concentrate on enhancing value per dollar spent on healthcare and in the same time to curtain the excess health expenses.

As the OECD (2010) underlined, there is still room for countries to augment the effectiveness of the healthcare spending through reforms related to various determinants[8] of health system. We take into account that our analysis includes countries with substantial institutional differences and this make it difficult to provide policy advice to each country individually. For that reason the following reforms we enlist have general character and can be adopted from every country according to their needs.

Firstly, reforms that augments the participation of patients in the coverage of health care costs can be implemented. Those reforms could suppress the excessive consumption of health care (services) evidence. In particular, RAND Corporation conducted an experiment in the United States and she found that: i) a higher level of co-payment diminishes considerably the health care expenditures; ii) no negative effect on the average citizens was observed, in contrast to the poorer or unhealthier citizens. Thus, the countries should be prudent with this reform and introduce complementary policies for the most perishable societal groups (de Cos and Moral-Benito, 2011).

Another plausible reform could be implemented is the monitoring of both inputs and outputs of healthcare system. Controls can be imposed, for instance, on wage of health professionals and

[8] de Cos and Moral-Benito (2011) provide a number of interesting determinants in their analysis (pp. 18-20).

reference. However, countries should be prudent because the literature highlights that by lowering doctors' wages could increase the unnecessary treatment (de Cos and Moral-Benito, 2011) whilst reducing reference prices of medicines might not be successful.

Furthermore, as OECD (2010) observes, inequalities in health status tend to be relatively low in countries with a private insurance-based system. Therefore, incorporating market mechanisms could be an effective way to tackle excessive health spending. Creation of internal markets which accelerate the private healthcare coverage could end up to lower cost and stronger incentives for investments and innovations. Nonetheless, OECD (2010) advises its members to be cautious with these kind of reforms because inequalities in health status (within countries) are often caused by factors which are not related directly with health care system, such as social status and education. In addition, high levels of competition could possibly deteriorate the quality of health services or even motivate private insurance firms to focus explicitly on healthier clients/ patients to maximize their profits by avoiding less healthy clients/ patients who require substantial more health services. This phenomenon is called "cream-skimming" in the literature.

Finally, reforms which can improve various and organizational structure of healthcare system could be introduced (de Cos and Moral-Benito, 2011). Namely, this can be achieved: i) the increase of decentralization; ii) setting budget limits on personnel and medical equipment; iii) by introducing more stringent gate-keeping which might decrease the unnecessary number of consultations and consequently, the excessive healthcare spending.

Conclusions

During the last decade, many economies all over the world have been brought to their knees from the Financial Crisis, which also generated uncertainty and instability about future growth. Nowadays, still some countries face relevant issues to deal with in order to recover the economy and stabilize the institutional environment, while Governments are required to implement multiple measure to limit their budget and re-structure their spending. This can explain policymaker's concerns regarding the efficient use of national and international resources, in an effort to rationalize the allocation of them among all sectors, including the Health Care System.

The aim of this empirical work is to measure the levels of efficiency in health care systems via healthcare expenditure per capita, while controlling also for institutional and socio-economic variables. The methodology adopted was inspired by a work from Medeiros & Schwierz (2015), attempting to estimate efficiency in health care systems across EU countries.

In general, the data and method adopted does not allow us to derive any causal relation between the variables of interests, however, some useful considerations can be derived from our work, jointly with other results in line with existing literature. In particular, from our regressions we know that all countries seem to perform positively and better than the US which, as reported by Anderson and Frogner (2008), is an unusual case and reference country in our sample. Nevertheless, there are some countries whose performances seems to be higher compared to the rest of the sample and, as mentioned earlier, this is the case of Czech Republic, Hungary, Poland, Israel, Slovenia, Slovak Republic and Turkey, and as well are the countries which report the lower levels of expenditure per capita.

However, the limitations imposed to our model arise with endogeneity and omitted variable bias especially, as well as with incompleteness of our dataset due to the presence of some missing values. In fact, the latter can be also checked when observing that our estimates change substantially when controlling for year fixed effect, reflecting the fact that time and other factors linked to it have a significant impact on life expectancy scores.

References

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Appendix

Tables: Descriptive Statistics Individually for each country

-> id = Australia

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	80.35789	1.423343	77.9	82.2
Mort_Risk	19	.0022397	.0003086	.0018563	.0027953
totmedexp	19	2749.684	817.6022	1554.798	4176.853
percapita	19	35553.03	16948.83	19495.15	67652.68
phys	18	2.771111	.3451834	2.4	3.4
medicalgrad	19	9.53	2.619287	7.01	15.46
alc	19	10.23684	.3235404	9.7	10.8
M_BMI	19	26.48947	.4420844	25.7	27.1

> id = Austria

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	79.22632	1.434047	76.8	81.2
Mort_Risk	19	.0027734	.0003626	.0022657	.0035034
totmedexp	19	3325.365	852.3053	2120.479	4806.394
percapita	19	37164.48	10208.79	24489.74	51386.38
phys	19	4.240526	.4821304	3.51	4.99
medicalgrad	19	17.22316	3.209405	12.86	22.12
alc	19	12.45789	.5570913	11.3	13.5
M_BMI	19	25.14211	.254003	24.75	25.55

-> id = Belgium

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	78.89474	1.263801	77	80.7
Mort_Risk	19	.0029086	.000263	.0024826	.0033701
totmedexp	19	2936.138	901.434	1710.452	4485.48
percapita	19	35097.7	9527.457	23121.6	48424.57
phys	19	3.045263	.3209425	2.8	3.74
medicalgrad	19	9.585263	1.747952	6.46	11.65
alc	19	10.84737	.7136514	9.9	12.3
M_BMI	19	25.63421	.2516902	25.25	26

-> id = Canada

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	79.99481	1.192089	77.97756	81.76505
Mort_Risk	17	.0023944	.0005222	.000573	.0029501
totmedexp	19	3165.902	873.0723	2001.232	4502.743
percapita	19	34289.64	12219.58	20577.49	52495.29
phys	19	2.21421	.1596982	2.07	2.57
medicalgrad	19	6.016316	.9112886	4.92	7.61
alc	19	7.873684	.4161224	7.2	8.4
M_BMI	19	26.57632	.363	25.9	27.05

-> id = Czech Republic

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	76.03158	1.530088	73.3	78.3
Mort_Risk	19	.0038788	.0005153	.003083	.0048391
totmedexp	19	1391.337	491.4357	795.1116	2330.47
percapita	19	12802.91	6432.722	5765.048	22649.38
phys	19	3.422105	.2464544	2.98	3.69
medicalgrad	19	11.07947	2.109612	7.87	15.14
alc	19	11.78947	.2401267	11.4	12.1
M_BMI	19	26.55526	.0955899	26.45	26.7

-> id = Denmark

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	77.84211	1.506768	75.3	80.4
Mort_Risk	19	.0031869	.0004745	.0024372	.0041036
totmedexp	19	3147.583	984.7622	1814.563	4708.132
percapita	19	45852.24	12396.14	30743.56	64182
phys	19	3.197895	.3422731	2.68	3.66
medicalgrad	19	15.76	5.915896	6.32	21.83
alc	19	11.7	1.258747	9.3	13.1
M_BMI	19	24.98684	.182454	24.65	25.2

-> id = Estonia

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	72.65263	2.668826	67.9	77.3
Mort_Risk	19	.0056859	.0015718	.001189	.0074856
totmedexp	15	985.3432	401.8785	497.1219	1623.194
percapita	19	9947.65	6015.627	3044.379	19029.78
phys	19	3.197368	.0780913	3.06	3.34
medicalgrad	19	8.401053	2.014825	4.39	11.21
alc	19	10.97895	2.238695	7.9	14.8
M_BMI	19	25.68158	.4042175	25.1	26.25

-> id = Finland

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	78.83684	1.402858	76.6	81.1
Mort_Risk	19	.0030388	.0002946	.0024774	.0035464
totmedexp	19	2509.787	841.243	1418.182	3890.788
percapita	19	36751.68	10858.53	24253.25	53401.32
phys	19	2.616316	.263	2.19	3.02
medicalgrad	19	9.45421	2.522735	6.42	14.59
alc	19	9.321053	.7122569	8.2	10.5
M_BMI	19	25.79474	.15714	25.5	25.95

-> id = France

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	80.15789	1.477353	77.9	82.3
Mort_Risk	19	.0027329	.0006022	.000525	.0033942
totmedexp	19	3051.248	728.5194	2037.615	4292.176
percapita	19	33112.58	8272.366	22465.64	45413.07
phys	19	3.285789	.0447605	3.2	3.34
medicalgrad	19	6.903684	1.325432	5.24	9.99
alc	19	13.15789	1.244685	11.1	15.1
M_BMI	19	24.96579	.1667105	24.7	25.2

-> id = Germany

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	79.07368	1.403108	76.6	81
Mort_Risk	19	.0027096	.0006058	.000552	.0034822
totmedexp	19	3319.721	883.1506	2185.14	4921.814
percapita	19	34656.97	8032.272	23687.32	45936.08
phys	19	3.431579	.2847858	3.05	4.04
medicalgrad	19	11.53632	.6770952	10.59	12.83
alc	19	12.02632	.7816238	10.9	13.4
M_BMI	19	25.81579	.3027892	25.35	26.3

-> id = Greece

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	79.48947	1.041844	77.8	81.4
Mort_Risk	19	.0025235	.0001383	.0022926	.002764
totmedexp	19	2052.951	620.0817	1224.271	3040.991
percapita	19	20043.04	6737.098	12042.95	31997.28
phys	19	5.098421	.9094153	3.9	6.28
medicalgrad	15	12.052	1.875516	9.21	14.84
alc	19	9.078947	.7345285	7.5	10.1
M_BMI	19	26.86579	.2887005	26.4	27.25

-> id = Hungary

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	72.94737	1.65004	70.1	75.7
Mort_Risk	19	.0059129	.0007481	.0045672	.0073576
totmedexp	19	1201.123	407.9209	615.7181	1755.542
percapita	19	9309.241	4125.676	4481.414	15669.26
phys	19	3.026842	.1680956	2.68	3.34
medicalgrad	19	10.40105	1.701662	7.7	15.12
alc	19	12.22632	.8549477	10.6	13.3
M_BMI	19	26.04737	.2741014	25.65	26.45

-> id = Iceland

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	80.82105	1.339809	78.1	83
Mort_Risk	19	.0021128	.0003444	.0016889	.0027179
totmedexp	19	3010.752	595.566	1851.567	3739.45
percapita	19	41038.64	11970.16	26851.02	68344.56
phys	19	3.48421	.1847315	3.02	3.65
medicalgrad	19	13.01737	1.544941	10.36	15.49
alc	19	6.873684	1.387981	4.7	10.2
M_BMI	19	25.58947	.2648789	25.15	26

-> id = Israel

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	79.95789	1.458811	77.5	82.1
Mort_Risk	19	.0023099	.0003321	.0018687	.00289
totmedexp	19	1812.381	280.7518	1364.889	2473.285
percapita	19	23808.6	5985.604	18028.64	36393.67
phys	18	3.392222	.1516791	3.21	3.7
medicalgrad	19	4.622105	.5798331	3.84	5.78
alc	17	2.276471	.3509441	1.5	2.7
M_BMI	19	26.3	.3503966	25.75	26.85

-> id = Italy

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	80.65263	1.359889	78.3	82.8
Mort_Risk	18	.0022627	.0003407	.0018209	.0028782
totmedexp	19	2422.46	585.7684	1507.701	3174.261
percapita	19	29255.25	7347.572	20051.24	40640.18
phys	19	4.096842	.1779529	3.7	4.43
medicalgrad	19	11.44158	.5113845	10.57	12.71
alc	19	8.552632	.9251838	7	9.8
M_BMI	19	25.56053	.3011916	25.05	26

-> id = Lithuania

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	71.92105	1.255468	69.2	74.1
Mort_Risk	19	.0062386	.0013875	.000991	.0076713
totmedexp	19	897.1355	431.4731	333.5817	1627.661
percapita	19	7862.437	4964.711	2168.796	15692.01
phys	19	3.816842	.1952506	3.63	4.28
medicalgrad	19	9.866842	2.591355	6.5	14.81
alc	14	12.35	1.363677	9.9	14.4
M_BMI	19	26.14211	.3404503	25.75	26.7

-> id = Netherlands

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	79.35789	1.38336	77.6	81.4
Mort_Risk	18	.0025248	.0003104	.0020884	.0029744
totmedexp	19	3299.869	1242.425	1691.038	5250.306
percapita	19	39317.13	11412.72	25921.13	56928.82
phys	15	2.794667	.2825361	2.38	3.31
medicalgrad	19	11.05526	2.179552	7.87	14.72
alc	19	9.636842	.381824	8.7	10.1
M_BMI	19	25.11316	.2817811	24.55	25.4

-> id = Norway

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	79.35789	1.38336	77.6	81.4
Mort_Risk	19	.002421	.0003057	.0019719	.002915
totmedexp	19	3838.005	1355.742	1750.876	5966.637
percapita	19	63317.75	26480.43	34788.78	102910.4
phys	19	3.613158	.4447353	2.95	4.31
medicalgrad	19	9.616316	1.603206	6.92	12.33
alc	19	5.973684	.6099564	4.8	6.8
M_BMI	19	25.63421	.3930128	24.95	26.2

-> id = Poland

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	74.76842	1.543464	72.1	77.1
Mort_Risk	19	.0047571	.0005024	.0039975	.0057083
totmedexp	19	871.4016	388.4323	373.2969	1580.371
percapita	19	8166.138	3983.113	3682.791	14001.45
phys	19	2.254737	.078766	2.14	2.43
medicalgrad	19	7.521053	1.463325	5.95	10.7
alc	19	9.247369	1.018915	7.8	10.8
M_BMI	19	25.82105	.3101594	25.4	26.35

-> id = Portugal

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	78.08947	1.836632	75.3	80.8
Mort_Risk	19	.0030572	.0004448	.0024321	.0037627
totmedexp	19	1885.94	590.7634	984.1816	2645.663
percapita	19	17229.08	4974.724	11502.4	24815.61
phys	19	3.387368	.4297266	2.84	4.26
medicalgrad	19	7.916316	3.182356	4.08	13.64
alc	19	12.36842	.891349	10	14.2
M_BMI	19	25.63158	.3309123	25.05	26.1

-> id = Spain

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	80.46842	1.571642	78.1	83.2
Mort_Risk	19	.0024171	.000325	.0019197	.0030021
totmedexp	19	2086.749	692.0105	1157.115	2956.786
percapita	19	23571	7555.532	14787.76	35578.73
phys	18	3.384444	.3409023	2.78	3.84
medicalgrad	19	9.865263	1.061772	8.37	12.21
alc	19	10.88421	.9923391	9.3	12.3
M_BMI	19	26.27632	.2859528	25.8	26.65

-> id = Slovak Republic

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	74.25789	1.232124	72.5	76.5
Mort_Risk	19	.0046878	.0005006	.0037948	.005457
totmedexp	17	1220.249	583.2815	562.9105	2073.048
percapita	19	11029.27	5496.244	4799.151	18650.36
phys	18	7.076111	.800589	5.8	8.32
medicalgrad	19	10.92895	1.91356	7.82	16.94
alc	19	10.46842	.4217064	9.9	11.2
M_BMI	19	25.73158	.2814696	25.35	26.2

-> id = Slovenia

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	77.44737	1.936597	74.7	80.4
Mort_Risk	19	.0035523	.0006356	.0026223	.0045156
totmedexp	19	1807.639	523.1839	970.6971	2548.682
percapita	19	17217.97	6246.425	10227.74	27501.81
phys	16	2.33875	.1459623	2.13	2.63
medicalgrad	19	8.01	2.103711	5.28	12.93
alc	19	11.17895	1.278271	8.3	13.5
M_BMI	19	25.92895	.3326308	25.4	26.4

-> id = Sweden

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	80.52632	.9932226	79	82
Mort_Risk	19	.0021986	.0002475	.0018352	.0026528
totmedexp	19	2086.749	692.0105	1157.115	2956.786
percapita	19	41687.12	11894.48	26969.24	60283.25
phys	19	3.451579	.4125027	2.89	4.12
medicalgrad	19	9.627368	.9485946	7.96	11.88
alc	19	6.673684	.5268799	5.8	7.4
M_BMI	19	25.42105	.3884856	24.75	25.95

-> id = Turkey

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	72.59474	2.167813	69.3	78
Mort_Risk	0				
totmedexp	19	574.7214	261.1535	172.7806	969.3608
percapita	19	6522.241	3073.801	2896.091	10800.54
phys	19	1.433684	.2238852	1.1	1.76
medicalgrad	19	6.935789	.4673366	6.31	7.86
alc	19	1.478947	.1272746	1.2	1.7
M_BMI	19	27.03684	.4364765	26.25	27.65

-> id = United Kingdom

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	78.93158	1.472735	76.7	81.1
Mort_Risk	19	.0025645	.0005928	.000456	.0032059
totmedexp	19	2363.427	772.2026	1273.734	3881.09
percapita	19	35336.1	8328.799	22755.56	49949.16
phys	19	2.274211	.3608065	1.75	2.77
medicalgrad	19	10.29789	2.817139	6.55	13.88
alc	19	10.41053	.7101602	9.3	11.6
M_BMI	19	26.53684	.465129	25.65	27.15

-> id = United States

Variable	Obs	Mean	Std. Dev.	Min	Max
lebirth	19	77.42632	.9613891	75.7	78.8
Mort_Risk	18	.0034904	.0002185	.0032115	.0039574
totmedexp	19	6048.333	1728.229	3598.396	8617.429
percapita	19	41475.27	7687.165	28782.18	52749.91
phys	19	2.371053	.1017019	2.19	2.56
medicalgrad	19	6.542105	.2666996	6.25	7.26
alc	19	8.463158	.2671048	8.1	8.9
M_BMI	19	27.89474	.5899376	26.9	28.75

Table 1: Regression Table

	Dependent Variable = Life expectancy at birth, total population (*lebirth*)						
Panels	**(I)**	**(II)**	**(III)**	**(IV)**	**(V)**	**(VI)**	**(VII)**
Variables	**Model 1**	**Model 1**	**Model 1**	**Model 1**	**Model 2**	**Model 3**	**Model 3 (full interacted)**
totmedexp	0.00155***	-0.000346*	0.000546***	-0.000194*	-0.000112	0.152***	0.000268
	(0.000212)	(0.000141)	(7.11e-18)	(0.0000935)	(0.000118)	(0.000166)	(0.000117)
percapita					0.00000598	0.00000457	0.00000671
					(0.0000106)	(0.00000654)	(0.0000107)
M_BMI					-0.348	-0.593	-0.218
					(0.464)	(0.562)	(0.455)
alc					-0.0805*	-0.0604	-0.0975**
					(0.0348)	(0.0389)	(0.0290)
phys						0.0286	-0.0387
						(0.141)	(0.134)
medicalgrad						-0.00781	0.00553
						(0.0138)	(0.0118)
medexp_AUS			0.00117***	0.000336**	0.000285	0.152***	0.000268
			(7.60e-18)	(0.000104)	(0.000169)	(0.0323)	(0.000173)
medexp_AUT			0.00110***	0.000343**	0.000214	0.107**	0.000232
			(7.91e-18)	(0.0000954)	(0.000147)	(0.0322)	(0.000146)
medexp_BEL			0.000831***	0.000154	0.0000641	0.00475	0.0000726
			(7.28e-18)	(0.0000847)	(0.000136)	(0.0214)	(0.000144)
medexp_CAN			0.000804***	0.0000812	0.0000528	0.0729***	0.0000571
			(7.32e-18)	(0.0000918)	(0.000135)	(0.0185)	(0.000132)
medexp_CZE			0.00247***	0.000639*	0.000473	-0.0562	0.000523
			(7.14e-18)	(0.000234)	(0.000339)	(0.0428)	(0.000314)
medexp_DEN			0.000957***	0.000402***	0.000199	-0.0233	0.000190
			(7.13e-18)	(0.0000703)	(0.000170)	(0.0253)	(0.000176)
medexp_EST			0.00496***	0.00319***	0.00347***	-0.224*	0.00350***
			(1.06e-17)	(0.000248)	(0.000267)	(0.0908)	(0.000238)
medexp_FIN			0.00111***	0.000330**	0.000239	0.0623*	0.000286
			(7.48e-18)	(0.0000986)	(0.000210)	(0.0264)	(0.000202)
medexp_FRA			0.00145***	0.000437**	0.000188	0.00270	0.000184
			(7.12e-18)	(0.000128)	(0.000202)	(0.0244)	(0.000191)
medexp_DEU			0.000986***	0.000290**	0.000171	0.00866	0.000177
			(7.23e-18)	(0.0000878)	(0.000110)	(0.0403)	(0.000104)
medexp_GRC			0.000912***	-0.000163	-0.000237	0.0499	-0.000224
			(7.16e-18)	(0.000145)	(0.000158)	(0.0414)	(0.000204)

medexp_HUN			0.00339***	0.00104**	0.000953**	0.104	0.000917**
			(9.86e-18)	(0.000295)	(0.000277)	(0.0519)	(0.000255)
medexp_ICL			0.00157***	0.000311	0.000380	0.233***	0.000416
			(8.19e-18)	(0.000156)	(0.000222)	(0.0227)	(0.000211)
medexp_ISR			0.00426***	0.000656	0.00120*	0.143	0.00111
			(7.15e-18)	(0.000440)	(0.000528)	(0.0790)	(0.000581)
medexp_ITA			0.00174***	0.000305	0.000156	0.132***	0.000128
			(7.12e-18)	(0.000180)	(0.000182)	(0.0265)	(0.000177)
medexp_LTU			0.00179***	-0.000402	0.000121	-0.984***	0.000160
			(9.72e-18)	(0.000278)	(0.000292)	(0.0782)	(0.000239)
medexp_NL			0.000562***	0.000277***	0.000167	0.0270*	0.000309*
			(7.11e-18)	(0.0000368)	(0.000108)	(0.0113)	(0.000121)
medexp_NOR			0.000459***	0.000252***	0.000162	-0.00570	0.000170
			(7.15e-18)	(0.0000255)	(0.000169)	(0.0131)	(0.000173)
medexp_POL			0.00328***	0.000770*	0.00101**	-0.0373	0.00103**
			(7.32e-18)	(0.000316)	(0.000319)	(0.0790)	(0.000309)
medexp_PRT			0.00251***	0.00112***	0.00109***	0.0736**	0.00108***
			(7.38e-18)	(0.000177)	(0.000165)	(0.0258)	(0.000144)
medexp_SVK			0.00138***	0.000207	0.000180	-0.171**	0.000149
			(7.14e-18)	(0.000166)	(0.000160)	(0.0541)	(0.000264)
medexp_SVN			0.00312***	0.00141***	0.00135***	-0.0748	0.00165***
			(7.11e-18)	(0.000214)	(0.000198)	(0.0490)	(0.000194)
medexp_ESP			0.00167***	0.000587***	0.000465**	-0.0258	0.000494**
			(7.11e-18)	(0.000139)	(0.000154)	(0.0262)	(0.000148)
medexp_SWE			0.000876***	-0.000206	-0.000189	0.0453	-0.000179
			(7.13e-18)	(0.000139)	(0.000168)	(0.0244)	(0.000163)
medexp_TUR			0.00734***	0.00320***	0.00347***	-0.102*	0.00340***
			(8.05e-18)	(0.000525)	(0.000514)	(0.0464)	(0.000491)
medexp_UK			0.00132***	0.000423**	0.000442***	0.0497*	0.000418***
			(7.11e-18)	(0.000115)	(0.000110)	(0.0217)	(0.000104)
medexp_US			Omitted	Omitted	Omitted	Omitted	Omitted
			-	-	-	-	-
constant	74.25***	76.03***	73.35***	75.30***	84.82***	24.56	81.64***
	(0.506)	(0.177)	(9.39e-15)	(0.314)	(11.71)	(165.1)	(11.47)
Year fixed effects[9]	No	Yes***	No	Yes***	Yes***	Yes***	Yes*
Specific country-year fixed effects	No	No	No	No	No	No	Yes*;**;***[10]
Trends	No	No	No	No	No	No	Yes*;**;***[11]
N	507	507	507	507	500	486	486
R^2 –within	0.6893	0.930	0.938	0.968	0.971	0.971	0.983
R^2 –between	0.3431	0.393	0.113	0.114	0.970	0.069	0.024
R^2 –overall	0.4123	0.0758	0.290	0.0607	0.061	0.056	0.009

Source: Authors' calculations

Robust standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

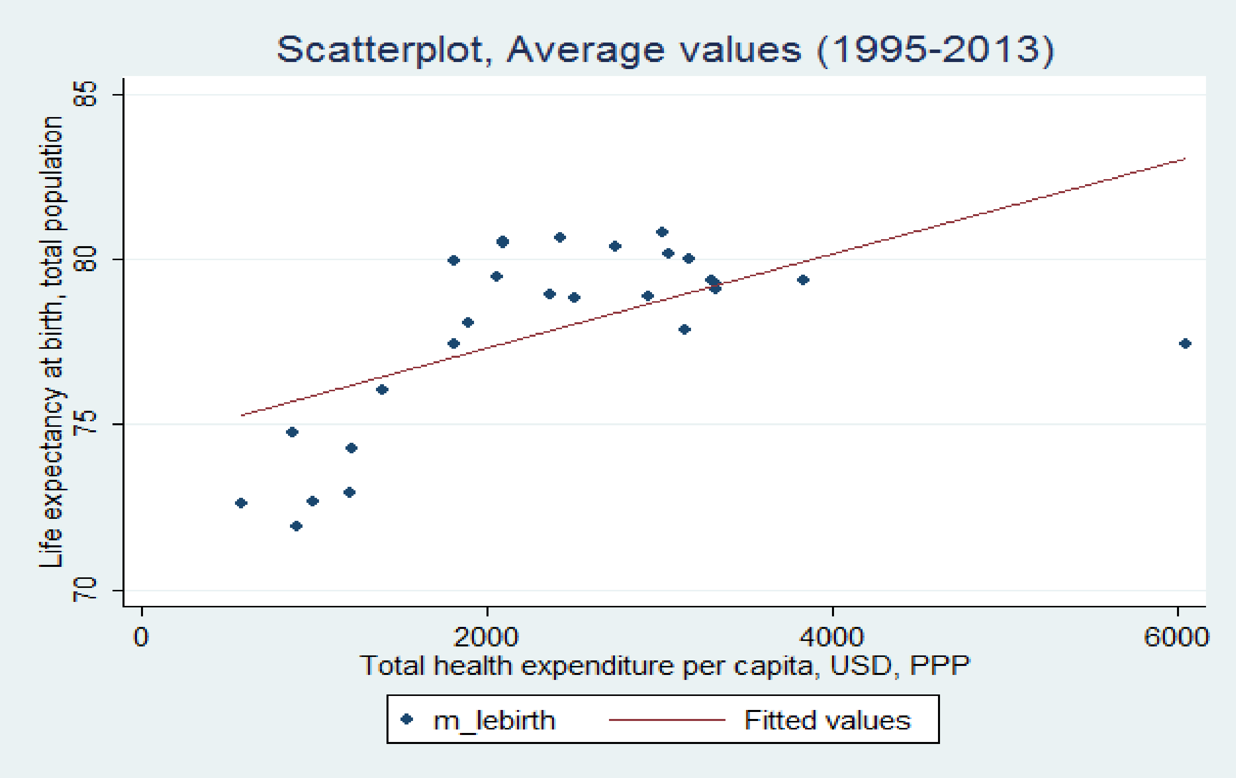
Country fixed effects are always included

[9] Omitted year 1995

[10] Mixed statistical significance (from not significant up to significant at 1% significance level)

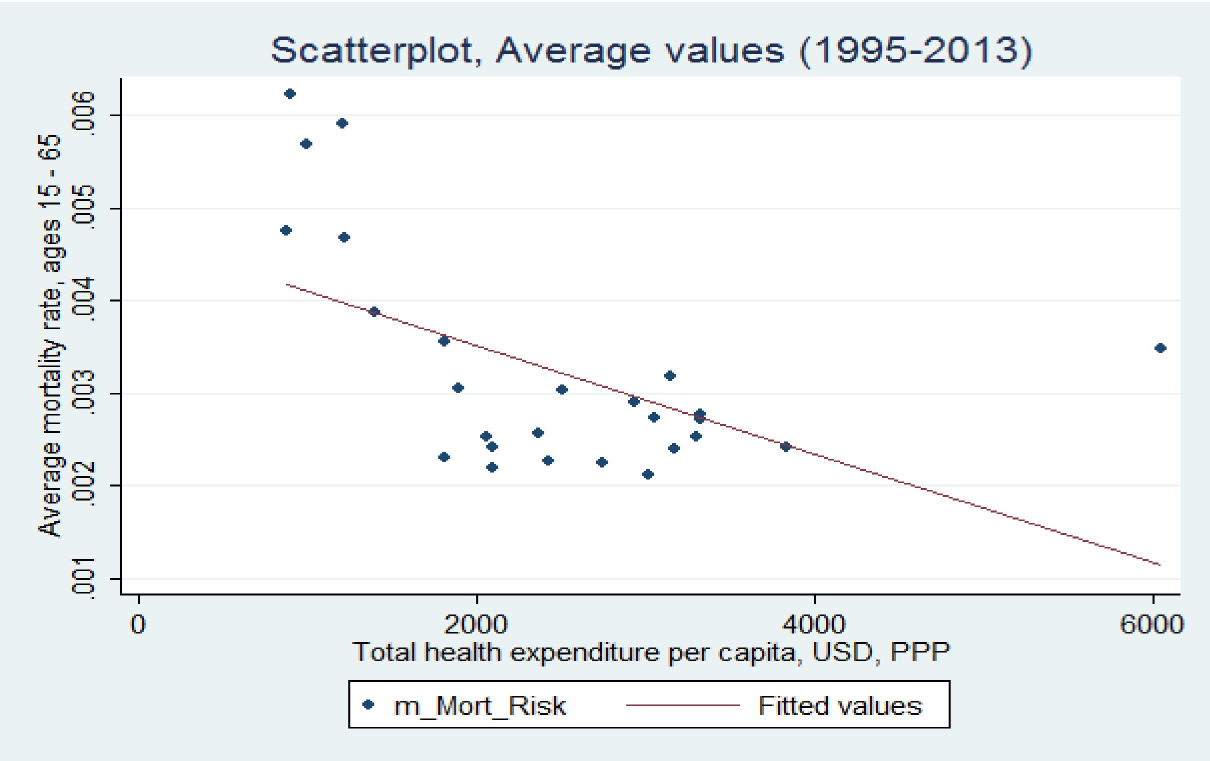
[11] Mixed statistical significance (from not significant up to significant at 1% significance level)

Figure 1



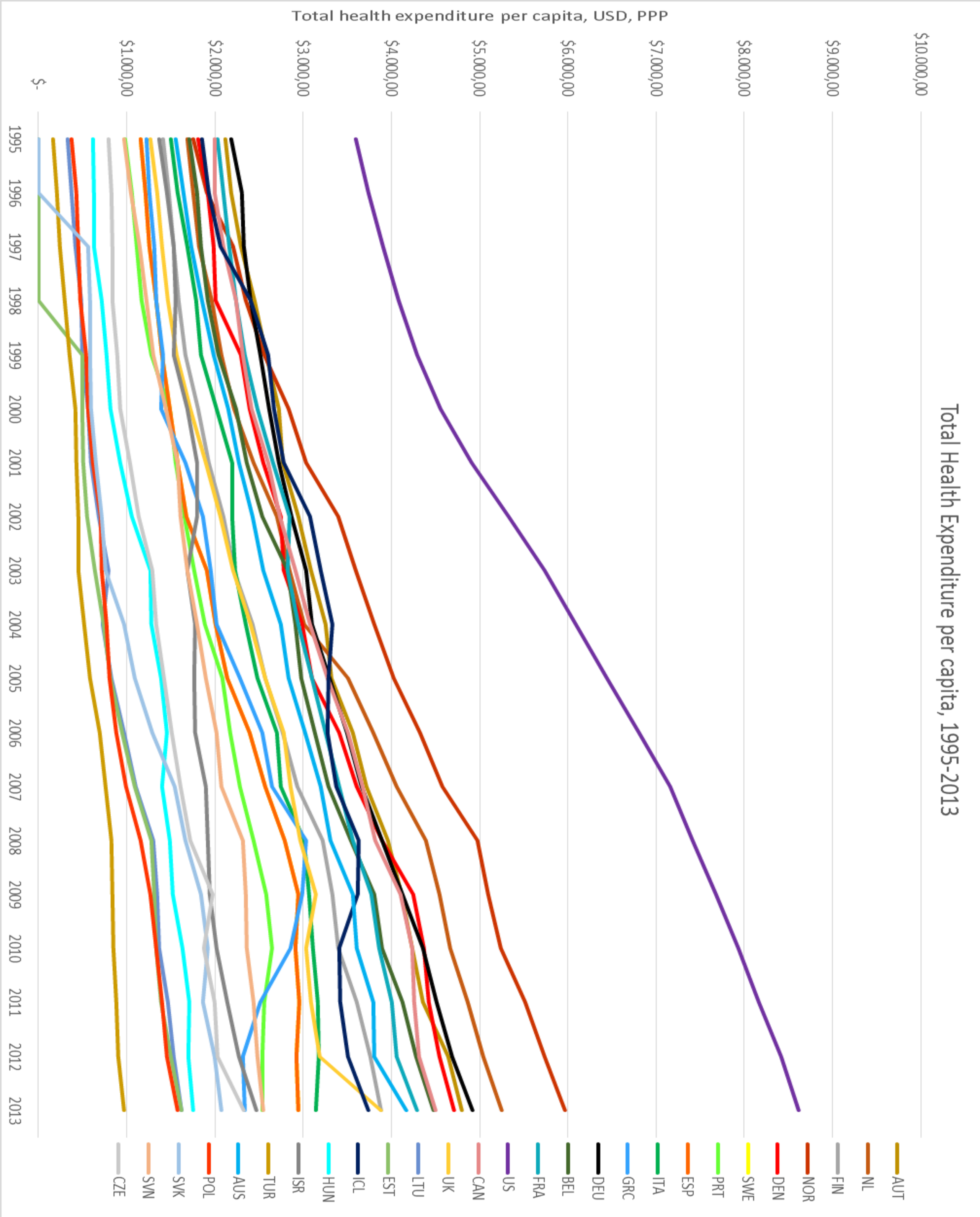
Source: Authors' calculations

Figure 2



Source: Authors' calculations

Figure 3



Source: Authors' Calculations

Table 2: Regression Table (Robustness test)

	Dependent Variable = Average mortality rate, ages 15-65						
Panels	**(I)**	**(II)**	**(III)**	**(IV)**	**(V)**	**(VI)**	**(VII)**
Variables	Model 1	Model 1	Model 1	Model 1	Model 2	Model 3	Model 3 (full interacted)
totmedexp	-0.000000344*** (5.68e-08)	0.000000112 (0.000000119)	-0.00000107*** (7.80e-20)	-0.000000515 (0.000000399)	-0.000000901* (0.000000420)	-0.000000620 (0.000000434)	0.000000105 (0.000000386)
percapita					-1.40e-09 (7.42e-09)	-1.00e-09 (7.56e-09)	-8.58e-10 (6.82e-09)
M_BMI					0.000886 (0.000775)	0.000989 (0.000816)	0.000395 (0.00101)
alc					0.0000358 (0.0000230)	0.0000400 (0.0000224)	0.0000680* (0.0000290)
phys						0.0000495 (0.0000667)	-0.0000478 (0.0000988)
medicalgrad						-0.0000172 (0.00000944)	0.00000157 (0.0000154)
medexp_AUS			0.000000708*** (7.80e-20)	0.000000353 (0.000000253)	0.000000629* (0.000000270)	0.000000369 (0.000000273)	-0.0000648 (0.0000394)
medexp_AUT			0.000000667*** (7.80e-20)	0.000000305 (0.000000261)	0.000000785* (0.000000351)	0.000000516 (0.000000397)	-0.0000262 (0.0000312)
medexp_BEL			0.000000786*** (7.80e-20)	0.000000416 (0.000000269)	0.000000875* (0.000000353)	0.000000608 (0.000000361)	0.00000203 (0.0000263)
medexp_CAN			0.00000100*** (7.80e-20)	0.000000614* (0.000000255)	0.000000955** (0.000000289)	0.000000685* (0.000000296)	-0.0000747 (0.0000368)
medexp_CZE			6.68e-08*** (7.80e-20)	-0.000000145 (0.000000165)	0.000000640 (0.000000534)	0.000000449 (0.000000601)	-0.00000282 (0.0000376)
medexp_DEN			0.000000609*** (7.80e-20)	0.000000221 (0.000000280)	0.000000777 (0.0000004)	0.000000593 (0.000000452)	-0.0000309 (0.0000342)
medexp_EST			-0.00000154*** (7.80e-20)	-0.00000171*** (0.000000206)	-0.00000162*** (0.000000213)	-0.00000184*** (0.000000194)	0.00000530 (0.000102)
medexp_FIN			0.000000737*** (7.80e-20)	0.000000380 (0.000000260)	0.000000938* (0.000000412)	0.000000683 (0.000000457)	0.00000534 (0.0000525)
medexp_FRA			0.000000969*** (7.80e-20)	0.000000643* (0.000000237)	0.00000128** (0.000000427)	0.00000105* (0.000000464)	0.0000175 (0.0000267)
medexp_DEU			0.000000947*** (7.80e-20)	0.000000581* (0.000000269)	0.00000101** (0.000000336)	0.000000735 (0.000000364)	-0.00000129* (0.000000553)
medexp_GRC			0.000000880*** (7.80e-20)	0.000000538* (0.000000216)	0.000000982** (0.000000316)	0.000000652 (0.000000398)	-0.0000979 (0.0000610)
medexp_HUN			-0.000000673*** (7.80e-20)	-0.000000828*** (0.000000107)	-0.000000300 (0.000000306)	-0.000000492 (0.000000341)	-0.000148 (0.0000769)
medexp_ICL			0.000000537*** (7.80e-20)	0.000000211 (0.000000195)	0.000000634* (0.000000295)	0.000000354 (0.000000331)	-0.0000538 (0.0000430)
medexp_ISR			Omitted -	Omitted -	Omitted -	Omitted -	Omitted -
medexp_ITA			0.000000493*** (7.80e-20)	0.000000187 (0.000000192)	0.000000668* (0.000000304)	0.000000411 (0.000000322)	-0.000102 (0.0000516)
medexp_LTU			0.00000155*** (7.80e-20)	0.00000138*** (0.000000131)	0.000000313 (0.000000215)	0.000000112 (0.000000214)	0.000755*** (0.0000622)
medexp_NL			0.000000812*** (7.80e-20)	0.000000382 (0.000000301)	0.000000816* (0.000000360)	0.000000592 (0.000000408)	-0.0000166 (0.0000337)
medexp_NOR			0.000000849*** (7.80e-20)	0.000000412 (0.000000310)	0.000000761* (0.000000320)	0.000000478 (0.000000325)	-0.0000299 (0.0000234)
medexp_POL			-0.000000118*** (7.80e-20)	-0.000000243* (0.000000106)	5.23e-08 (0.000000203)	-0.000000188 (0.000000214)	-0.0000541 (0.0000604)
medexp_PRT			0.000000329*** (7.80e-20)	3.87e-08 (0.000000193)	0.000000425 (0.000000275)	0.000000213 (0.000000332)	-0.0000933 (0.0000670)
medexp_SVK			0.000000312*** (7.80e-20)	5.75e-08 (0.000000246)	0.000000430 (0.000000313)	0.000000229 (0.000000272)	0.0000386 (0.0000388)
medexp_SVN			-0.000000135*** (7.80e-20)	-0.000000386* (0.000000165)	1.57e-08 (0.000000252)	-0.000000228 (0.000000276)	-0.0000487 (0.0000586)
medexp_ESP			0.000000616*** (7.80e-20)	0.000000292 (0.000000228)	0.000000757* (0.000000325)	0.000000515 (0.000000369)	-0.0000345 (0.0000541)

medexp_SWE			0.000000726***	0.000000401	0.000000692*	0.000000401	-0.0000492
			(7.80e-20)	(0.000000228)	(0.000000253)	(0.000000269)	(0.0000492)
medexp_UK			0.000000941***	0.000000595*	0.000000829**	0.000000580*	0.0000541
			(7.80e-20)	(0.000000245)	(0.000000256)	(0.000000273)	(0.0000638)
medexp_US			0.000000945***	0.000000478	0.000000727*	0.000000433	-0.0000201
			(7.80e-20)	(0.000000328)	(0.000000318)	(0.000000312)	(0.0000218)
constant	0.00407***	0.00305***	0.00428***	0.00352***	-0.0191	-0.0219	0.00869
	(0.000138)	(0.000262)	(5.57e-18)	(0.000181)	(0.0198)	(0.0207)	(0.120)
Year fixed effects[12]	No	Yes	No	Yes	Yes	Yes	Yes
Specific country-year fixed effects	No	No	No	No	No	No	Yes[13]
Trends	No	No	No	No	No	No	Yes[14]
N	483	483	483	483	476	462	462
R^2 –within	0.256	0.412	0.5309	0.5891	0.727	0.725	0.823
R^2 –between	0.301	0.345	0.0308	0.0862	0.09	0.071	0.0007
R^2 –overall	0.275	0.002	0.0014	0.0012	0.011	0.007	0.005

Source: Authors' calculations

Robust standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Country fixed effects are always included

[12] Omitted year 1995
[13] Mixed statistical significance (from not significant up to significant at 1% significance level). But quite a few of them are insignificant
[14] The vast majority is statistically insignificant