



## Health Insurance and Healthcare Costs. Re-defining the Role of the State on Healthcare Finance

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### **Summary**

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This article debates which role should the government exert on healthcare. It defends a more regulatory/arbitrary role, rather than a provider and financier of healthcare goods and services, as it does today. Health spending has grown faster than the overall economy in most countries. The issue might be related to excess use of third party payment systems (health insurance, government care) in non-catastrophic healthcare costs. This has broken the supply and demand link, as beneficiaries are not paying for these services enjoyed. The solution might be to reduce the role of government and private insurance in healthcare services. One way of doing this in a strategic manner is using a financial tool introduced in this article. MDCM, or Minimum Deductible Control Mechanism, brings data to back up these assertions and showcases this financial tool in detail.

### **Key Words**

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Healthcare, insurance, finance, expenditures, catastrophic, deductibles, MSA, MDCM.

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## **Sinopse**

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### **Planos de Saúde e o Custo da Saúde: Redefinindo o Papel do Estado no Financiamento à Saúde**

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## **Resumo**

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Esse artigo debate o papel do governo na saúde. Defende um papel mais de árbitro, regulador, do que de provedor e financiador de serviços e bens de saúde. Infelizmente, este último é a norma hoje em dia. O aumento do gasto de saúde tem superado o crescimento geral da economia em quase todos os países do mundo. A questão deve ser relacionada com o excesso de sistemas de terceiro-pagador (como por exemplo: seguro saúde, saúde pública) em gastos não catastróficos. Isso quebrou o link entre oferta e demanda – beneficiários não pagam diretamente os serviços que usam. A solução deve ser reduzir o papel do governo e de seguro privado na saúde. Uma maneira racional de fazê-lo seria usando uma ferramenta financeira apresentada neste artigo – MCFM, ou Mecanismo de Controle de Franquia mínima. MCFM é o mecanismo apresentado, baseado em dados, que defende detalhadamente o argumento apresentado neste artigo.

## **Palavras-Chave**

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Saúde, seguro, finanças, gastos, catastrófico, franquias, MSA, MCFM.

## **Sumário**

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## Sinopsis

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### Planes de Salud y el Costo de la Salud: una Redefinición del Papel del Estado en el Financiamiento de Salud

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## Resumen

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El artículo debate el papel del gobierno en la salud – defiende un rol más de árbitro, regulador, que de proveedor y financiero de los servicios y bienes de salud. Desafortunadamente, el último es la regla hoy en día. El incremento del gasto de salud es más grande que el crecimiento general de la economía en casi todos los países. La cuestión está junta con el excesivo uso de sistemas de pago indirecto (por ejemplo – seguro-salud, y la salud pública) en gastos no catastróficos. Eso disolvió el link entre la oferta y la demanda, pues beneficiarios de los servicios no lo pagan directamente, pero igual lo utilizan y disfrutan. La solución debe ser reducción del rol del gobierno y del seguro privado en la salud. Una manera racional de hacerlo sería utilizando una herramienta financiera presentada en ese artículo – MCFM, o mecanismo de control de deducible del seguro mínima. MCDM es el mecanismo presentado, basado en datos, y defiende en detalles el argumento del artículo.

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## Palabras-Clave

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Salud, seguros, finanzas, gastos, catastrófico, deducible, MSA, MCDM.

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## Sumario

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Introducción – Es la demanda por salud elástica? 1. Cual el problema? Nuestro gasto con salud creció. 1.a. Incremento de costos en el último ciclo. 1.b. Incremento de costos en los EEUU y en la CE. 1.c. Una perspectiva histórica. 2. Cual es la razón para el incremento de dispendio en salud? 2.a. El financiamiento en salud es hecho por sistemas de tercero pagador. 2.b. La velocidad de absorción de los avances en investigación de salud incrementa el dispendio en salud. 3. Como gobiernos se involucran en la cuestión? 3.a. El enfoque del gobierno en determinados grupos. 4. Estudio de caso – Los EEUU. 4.a. Los EEUU enfocan el dispendio en salud en los pobres y mayores. 4.b. La demanda privada americana incrementa el dispendio público mundial de salud. 4.c. Otras cuestiones que contribuyen para incremento de las primas de planes de salud. 4.d. Acciones judiciales y seguros de responsabilidad civil para doctores. 4.e. Riesgo moral. 5. La globalización de costos de salud 5.a. Como individuos deciden financiar sus dispendios de salud? 6. Estudio de caso – Singapur. 7. Reduciendo los costos de salud. 7.a. Deducible del seguro y atención administrada. 7.b. Sistemas de cuentas de ahorros de salud sostenibles. 8. MCDM. 8.a. Mecanismo de control de deducible mínimo. 8.b. Como funciona el mecanismo MCDM? 8.c. MCDM reduce avances y curas de enfermedad? 8.d. Cual es el argumento financiero para el MCDM? 8.e. Implementación del MCDM utilizando sistemas de cuentas de ahorros de salud – ejemplo teórico. 9. Conclusión.



### Acknowledgement

This article was written by Bernardo Weaver, International Consultant based in Washington DC. Mr. Weaver routinely consults for the World Bank Group, the Inter-American Development Bank, the United Nations and private equity firms. Mr. Weaver has an MBA in finance from Wharton, a law degree from PUC- Rio de Janeiro – Brazil and Masters in Insurance Law from the University of Connecticut School of law in the USA. Mr. Weaver has published extensively on topics related to insurance and financial markets in general. Mr. Weaver has presented and moderated debates in many countries, in English, Spanish and Portuguese. Mr. Weaver would like to thank the inspiration, support, and guidance of Mr. Vito Tanzi for this article. Mr. Tanzi holds a PHD in Economics from Harvard, and was the longest serving Director of Taxation at the International Monetary Fund, the IMF, also in Washington DC. A former minister at the first Berlusconi government in Italy, Mr. Tanzi published many books. In some of these, he has generously recognized Mr. Weaver's contribution as well.

### Introduction – Is healthcare demand elastic?

Apparently it is not. Healthcare is not associated with a single product or service but with a bundle of products and services that range from doctors' visits (generalists and specialists), the assistance of nurses and other health professional, drugs that may range from those needed to fight specific illnesses to those that extend life or make patients simply feel better, lodging in hospitals that may be austere or luxurious, use of expensive equipment, essential and elective surgery, diagnostic tests, and so on. Because of this increasing multiplicity of goods and services, the demand for healthcare tends to be very elastic with respect to the direct or immediate cost of it to the actual or potential users. This paper discusses options that can help reduce speed of growth of all healthcare costs.

Elasticity of healthcare demand is not clear at first. Healthcare should be the essentially inelastic good and service. After all, price changes should not affect people's willingness to theoretically pay any price to receive care in order to continue to fully function in society, or to merely survive. But this article studies another part of healthcare services: expensive treatments that cost way more than similar treatments with slightly less optimum results. Most individuals would choose the least expensive treatment if pay difference was large and results expected somewhat similar. But third party<sup>1</sup> payment systems trump this logic: Since someone else (a third party, be it government or insurance) is paying for the service, consumers bear little setback when choosing the most expensive service regardless of how much better it actually is.

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<sup>1</sup> A third party is someone not involved in the healthcare service. It is not the user, nor the provider. Rather it is the one who collects premiums from the user, holds the risk of sickness, and pays the insurer in the event of a loss (healthcare service) incurred by the beneficiary (user).



There are some arduous defenders of universal public healthcare free of charge for all. As data will show for most European OECD countries this scheme has led to increasing healthcare expenditures. There are others who vehemently defend private healthcare as a rational alternative for market economies. As data from the US for the last eighty years shows, this model has also led to an incredible healthcare consumption binge in the United States: Personal healthcare expenditures accounts for almost one in every 5 dollars every American worker earns in income; As national expenditure, healthcare stands for a share of GDP three times bigger than it did in the 1960's. In brief, both systems have allowed healthcare expenditures to grow very fast.

The problem with most of these public and private healthcare systems is that they are accompanied by the pre-financing scheme of choice: third party payment systems. These schemes have fueled overall healthcare expenditures growth in most OECD countries. They might also have led to significant inequality in terms of quality of services handed to the population: The poor receive abject services, while wealthy individuals are served with robotic technology. This is especially true in developing countries.

Recently, many governments have assumed large and growing financial responsibilities in protecting individuals against risks connected with their health costs. These responsibilities have varied across countries but in all of them they have required substantial and increasing public resources. There are no well-defined criteria of what the role of the state should be in healthcare. In many cases the way in which the government intervened stimulated the demand for health services and, especially, the use of medicines, services and gadgets that are expensive and supplied, by those who produce them, at rising prices. As a result, government deficits are increasing to fund healthcare costs that rise faster than the economy. This paper provides a healthcare finance tool to reduce this speed of growth, and allow governments to reduce their deficits.

## **1. What is the issue? We spend more on health than we did**

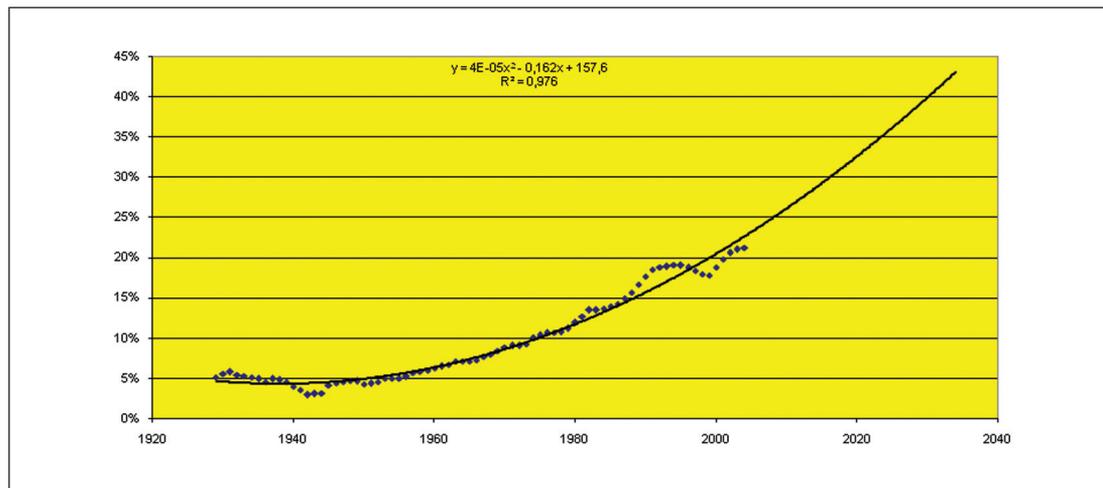
### **a. Rise in Costs during the last Century**

For the last century, the world has seen a healthcare revolution that has brought many advantages for society in general. At the same time the American worker, and people in general, has seen an increasing share of his and her earnings going to healthcare. In 1929, 3 cents of every dollar went for healthcare. Today it amounts to 20 cents per dollar. This means that 20% of peoples' salaries are directed to pay health insurance premium, to medical savings account, to fund deductibles, to purchase prescription drugs not covered by insurance, or over the counter drugs, and various treatments that fall under the umbrella of personal healthcare expenditures.



As Chart 1 shows, according to projections based on data from the *U.S. Department of Commerce: Bureau of Economic Analysis* website, of the National Income and Product Accounts tables, US citizens will be spending staggering 40% of their compensation (wages and salaries and other forms of payment for work) on healthcare. This assumes that healthcare expenditure growth pace will continue, not grow, as it has in the past.

**Chart 1** – Personal Medical Expenditures as share of Personal income in the US



Projections using more than 75 years of past data on personal healthcare expenditures and personal income show a dreadful picture of our near future. The thirty-year projection determines that healthcare expenses will reach a level of more than 40% of all income. Indeed, it is a large portion of paychecks going to healthcare. This level of healthcare expenditure growth should be curbed, or at least some governments might believe so at some point in the future. This article shows a healthcare financing tool that helps do just that: reduce healthcare expenditures.

### **b. Rise in costs in the US and the EU**

In most countries healthcare uses a large and growing share of national resources. Growing shares of public and private budgets are used to buy goods and services to protect and improve health services to individuals, extend life expectancy and the disease-free portion of their lives. Resources allocated for healthcare amount to ten percent of World income. In some countries healthcare industry is the largest sector of the economy.



In the United States spending on healthcare has exceeded significantly and continually nominal GDP growth for several decades, as shown on Table 1. Healthcare expenditures growth (NHE) was 21% faster than overall economic growth in the 1970's (as measured by GDP). In the years 2000, Healthcare expenditures growth became 43% faster than overall economic growth. Once again, it is obviously an unsustainable path<sup>2</sup>.

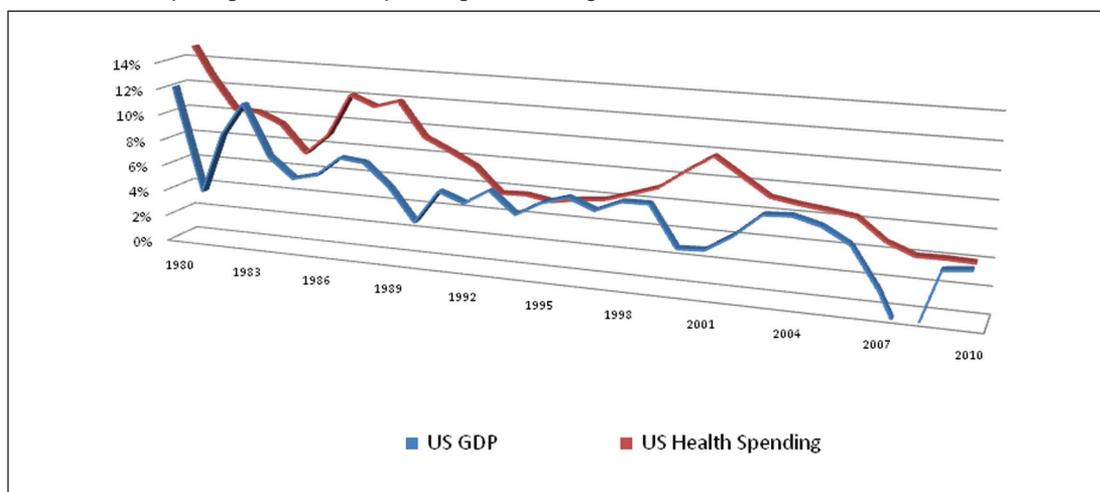
**Table 1** – United States yearly Growth Rates for National Healthcare Expenditures and GDP – divided by decades (1970 – 2010)

| Time period | 1970's | 1980's | 1990's | 2000's |
|-------------|--------|--------|--------|--------|
| GDP growth  | 10.60% | 7.80%  | 5.30%  | 4.13%  |
| NHE growth  | 12.80% | 10.80% | 6.60%  | 5.90%  |
| Difference  | 21%    | 38%    | 25%    | 43%    |

Source: US Census data on healthcare expenditures and IMF data for GDP on current US\$.

Chart 2 below makes it even easier to compare. Basically, since 1980 US healthcare spending growth rate is always above and beyond GDP growth. Even during the financial crisis of 2008, when the economy contracted by 2%, US health spending grew by 5%.

**Chart 2** – Comparing Healthcare spending and GDP growth in US\$ nominal terms 1980-2010

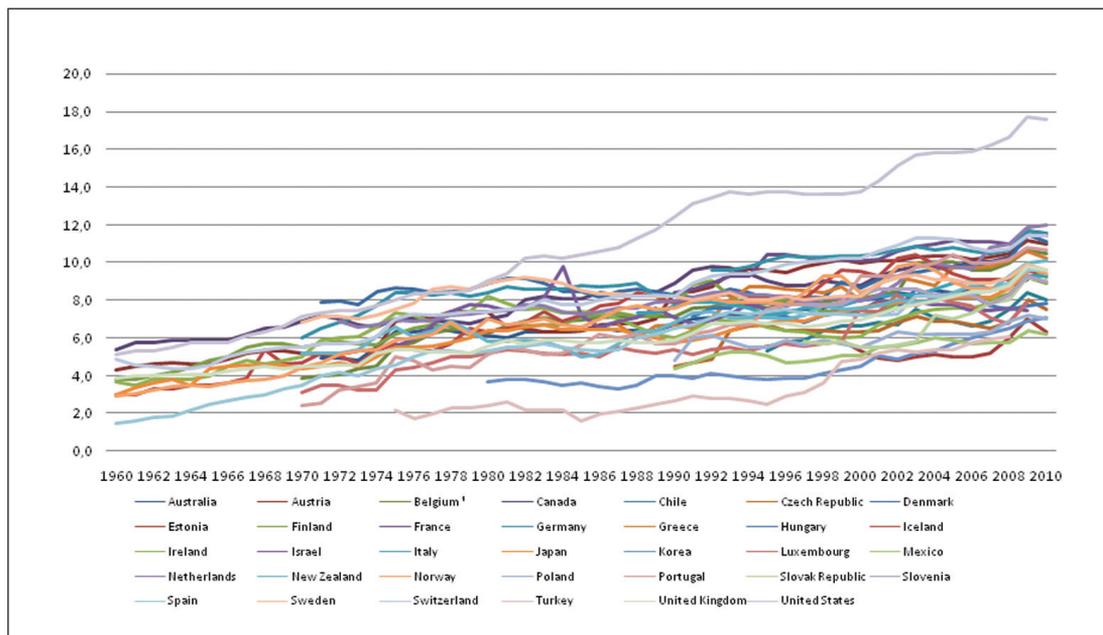


<sup>2</sup> Healthcare data available at: [http://www.census.gov/compendia/statab/cats/health\\_nutrition/health\\_expenditures.html](http://www.census.gov/compendia/statab/cats/health_nutrition/health_expenditures.html) GDP data available at: [http://www.imf.org/external/pubs/ft/weo/2013/01/weodata/weorept.aspx?pr.x=58&pr.y=9&sy=1999&ey=2009&scsm=1&ssd=1&sort=country&ds=.&br=1&c=111&s=NGDP\\_R%2CNGDP&grp=0&a=](http://www.imf.org/external/pubs/ft/weo/2013/01/weodata/weorept.aspx?pr.x=58&pr.y=9&sy=1999&ey=2009&scsm=1&ssd=1&sort=country&ds=.&br=1&c=111&s=NGDP_R%2CNGDP&grp=0&a=)



The US is not alone on this health spending binge. Most developed countries spend more today than ever before. Chart 3 shows all OECD countries' health spending moving up. The chart clearly tilts upward as it moves to the right). All countries have spent more on health in 2010, as a share of their total economy, than they did in 1960. It is also clear that the US (grey line) continues to be an outlier.

**Chart 3 – National Healthcare Expenditures as a Share of total GDP for OECD countries – 1960 – 2010**



### c. Historic perspective

A century ago healthcare was a largely private activity, although in many countries charitable institutions played a significant role in providing health services to the indigent. Most patients remained within their houses when they became ill and were attended by family members or friends and, when possible, by occasional house visits by doctors. Visits to the few available hospitals were rare. At that time, the financial cost of being ill fell directly on patients and on their families. The very poor who did not have the support of their families and who were very ill, were assisted by charitable institutions or by the local governments of the places where they lived. There was no effective demand for health unless a person was truly ill. The level of people's income or any direct payment for services was factors that kept the demand in check and the cost of health low. When health services were provided, they were very basic. A low demand produced a low supply.

When incomes started rising, as a result of the spread of the industrial revolution to more nations and of the increase in productivity that it generated, the demand for better health services also increased. It increased at a faster pace than income because the demand for health is income elastic. As people become richer, they are willing to spend proportionately more of their income to protect their health.

In spite of this elastic demand, health spending remained relatively contained for a long time (See Table 2). Among industrial countries it remained relatively low until after World War II, when (a) governments started playing a larger role; (b) individuals were able to buy private insurance for health services, either directly or through the companies they worked for; and (c) in part stimulated by these issues, there was an increasing allocation of resources for the generation of better cures for illnesses and better services for the patients. The aim was to lengthen life expectancy and to make patients more comfortable while sick. Expenditure for health would have grown anyway as a share of GDP, because of the growth in per capita income and the elasticity of the demand for health. However, the growth was undoubtedly accelerated by reforms and developments that broke the direct link between the services received and the direct payments made for the services. A major role for “third party payers” was introduced. This reduced the price (at times to zero) for specific services, thus stimulating the demand for them.

**Table 2 – Public Expenditure on Health (as % of GDP) 1910-2002**

| <b>Countries</b> | <b>1910</b> | <b>1930</b> | <b>1960</b> | <b>1980</b> | <b>1994</b> | <b>2002</b> | <b>2010</b> |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Australia        | 0.4         | 0.6         | 2.4         | 4.7         | 5.8         | 6.3         | 6.3         |
| Austria          | ...         | 0.2         | 3.1         | 4           | 6.2         | 5.1         | 8.4         |
| Belgium          | 0.2         | 0.1         | 2.1         | 5.1         | 7.2         | 6.3         | 7.9         |
| Canada           | ...         | ...         | 2.3         | 5.4         | 7           | 6.7         | 8.1         |
| France           | 0.3         | 0.3         | 2.5         | 6.1         | 7.6         | 7.4         | 8.9         |
| Germany          | 0.5         | 0.7         | 3.2         | 6.5         | 7           | 8.6         | 8.9         |
| Ireland          | ...         | 0.6         | 3           | 8.4         | 6           | 5.4         | 6.4         |
| Italy            | ...         | ...         | 3           | 6           | 5.9         | 6.3         | 7.4         |
| Japan            | 0.1         | 0.1         | 1.8         | 4.6         | 5.5         | 6.4         | 7.6         |
| Netherlands      | ...         | ...         | 1.3         | 6.5         | 6.9         | 5.8         | 10.3        |
| New Zealand      | 0.7         | 1.1         | 3.5         | 4.8         | 5.7         | 6.4         | 8.4         |
| Norway           | 0.4         | 0.6         | 2.6         | 6.5         | 6.9         | 8.3         | 8.0         |
| Spain            | ...         | ...         | 0.9         | ...         | 5.8         | 5.4         | 7.1         |
| Sweden           | 0.3         | 0.9         | 3.4         | 8.8         | 6.4         | 7.8         | 7.8         |
| Switzerland      | ...         | 0.3         | 2           | 5.4         | 6.9         | 6.4         | 7.4         |
| U. Kingdom       | 0.3         | 0.6         | 3.3         | 5.2         | 5.8         | 6.4         | 8.0         |
| USA              | 0.3         | 0.3         | 1.3         | 4.1         | 6.3         | 6.6         | 8.5         |
| Total average    | 0.3         | 0.4         | 2.4         | 5.8         | 6.4         | 6.6         | 8.0         |

Source: World Development Indicators 2012 and Tanzi and Schuknecht 2000. The data for 2012 is available at [oecd.org](http://oecd.org)



Financing the expenses of healthcare users through third party payment systems has two basic rationales: First of all, it seems reasonable and natural for many to increase health protection and social funding for healthcare when per capita income grows. The objective of such funding is to make it possible for people to meet needed payments, which may exceed the capacity of a family to meet them. Second and most important, it is wise to be prepared for potential high risks that strike different people differently and randomly and to provide the best healthcare services possible. This leads people to support pre-financing health schemes, including those for private health insurance or for public health.

When large amounts of funds are directed to health, companies that provide goods and services for the health industry may easily increase the supply of goods and services to fit demand. This appears to be a rational response to a clear need. The issue is that the growing involvement of third party payment systems reduces share of direct costs bore by health services users.

Moral hazard (Nichols, Prescott, Phua), reduces efficiency, increases room for fraud, and promotes research for drugs and procedures at high cost. In the absence of third party payment systems, these drugs and procedures would possibly not do well on a cost benefit analysis test. These third party systems bring major costs to society, costs that can, in particular situations, easily exceed the benefits that they generate. As can be seen in Table 2, the share of GDP that governments have spent on healthcare has grown tremendously in recent decades. The average share at the beginning of the century was very low. It has now reached 8 percent of GDP for the countries in the table. Nevertheless, as it can be seen below at Table 3, there is relatively little correlation between growing share of GDP spent on public healthcare and growth of life expectancy of its citizens at birth. Even after 50 years.

**Table 3** – Relation between Public health expenditures as share of GDP growth from 1960 until 2010 and gains on life expectancy (ranked by gains in life expectancy) – OECD 2012

| <b>Countries</b> | <b>Gains in years of life expectancy 1960- 2010</b> | <b>Growth in Public Health spending as share of GDP 1960-2010</b> |
|------------------|---|---|
| Japan            | 15.2  | 5.8   |
| Spain            | 12.4  | 6.2   |
| Italy            | 12.2  | 4.4   |
| Austria          | 12  | 5.3   |
| Germany          | 11.4  | 5.7   |
| Switzerland      | 11.2  | 5.4   |
| France           | 11  | 6.4   |
| Ireland          | 11  | 3.4   |



| <b>Countries</b> | <b>Gains in years of life expectancy 1960- 2010</b> | <b>Growth in Public Health spending as share of GDP 1960-2010</b> |
|------------------|---|---|
| Australia        | 10.9  | 3.9   |
| Total average    | 11.9  | 5.6   |
| Belgium          | 10.5  | 5.8   |
| New Zealand      | 9.9   | 4.9   |
| U. Kingdom       | 9.8   | 4.7   |
| Canada           | 9.5   | 5.8   |
| USA              | 8.9   | 7.2   |
| Sweden           | 8.5   | 4.4   |
| Norway           | 7.4   | 5.4   |
| Netherlands      | 7.3   | 9.0   |

OECD 2012, Tanzi and Schuknecht 2000

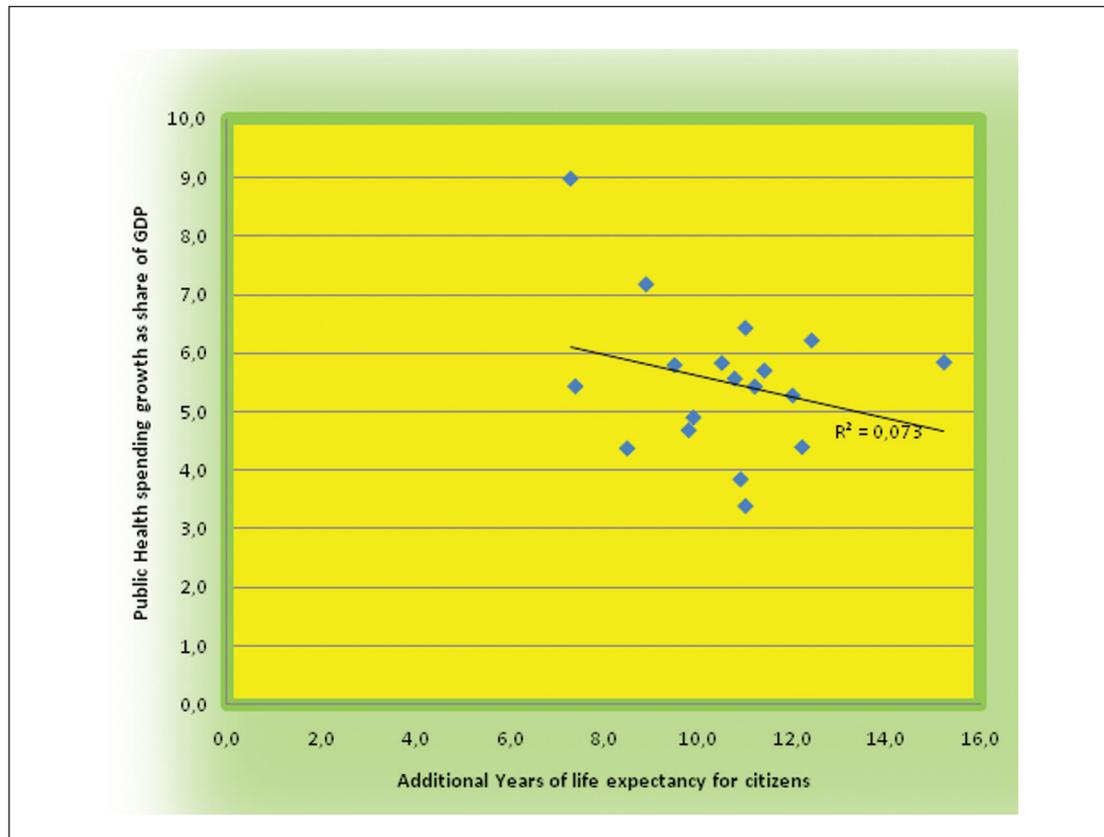
It is clear that public healthcare expenditures broadly should promote better health. But Table 3 data shows a World reality for the past fifty years with some interesting conclusions. Countries where public health spending grew less, life expectancy grew more. Specifically, Japan was the country that improved its citizens' life expectancy the most, but it was only the 5<sup>th</sup> country that grew its public health expenditures the most. The country where life expectancy grew the least, Netherlands, was the country where public expenditures grew the most. Japan increased its healthcare investment as a percentage of GDP (5.8%), on roughly the same fashion as the second-worst country in terms of life expectancy improvements (Norway). Italy was among those where public health spending grew less (13 out of 17) but life expectancy grew most (3<sup>rd</sup> place out of 17).

Finally, the USA ranks second amongst spenders but the USA was also thrifty in life expectancy gains (4<sup>th</sup> worst country) in this past half century. In brief, there are plenty of unexpected results. The more governments grow spending on public health, the less gains they have reaped from such investments.

But this is case by case evidence. The analysis should handle all these developed EU and US countries in a comparison. Chart 4 clearly shows a disturbing finding. There is a slight negative correlation between growth in health spending and higher life expectancy. The countries that have raised their citizen's life expectancy by more years are at the same level (around 4% or 5% growth) as the countries that have raised it the least. The points in the chart are concentrated in the middle, with a slight tilt on southeast direction, indicating a slightly negative correlation.



**Chart 4** – How spending more of GDP on public health impacts on life expectancy at OECD countries (1960-2010)



Source: OECD 2012.

Once it is clear that more public spending on health has not led to better results, it is important to ask: What is causing this situation? What common trait links all these countries' health systems? Some of these countries (EU countries) are public healthcare systems. Others like the US have a strong private sector insurance model. But all of them rely on third party payment systems to fund health spending.

## 2. Why healthcare costs are rising

### a. Healthcare financing through third party payment systems

Third party systems, which include public financing of healthcare and private health insurance, have played an important role in this growth. Table 4 compares growth in total health spending versus growth in patient's direct spending over the past twenty years. Direct patient payments pay for drugs and hospitals services, as opposed to third party payment systems, where the government or an insurer pays for the patient goods and services after collecting premium. Most healthcare expenditures are done through public or private insurance, and not by direct consumer payments.



Table 4 compares growth in both direct patient payments and total healthcare expenditures. One can clearly see that countries that have increased their direct patient payments as a share of their total economy have grown their total health expenditures by a lesser amount. On the other hand, countries that have decreased their share of direct payments have seen total health payments increase more. The data is actually clear cut. From all the nineteen countries on the list, a mere two have actually increased their direct payments and have grown total healthcare spending by more than 2.5%. Conversely, only one that has reduced its direct payment expenditure level has increased its total healthcare spending by less than 2.5%. This country is Mexico. Mexico is considered an outlier on this overall high income countries group.

**Table 4** – Comparison Growth in Direct payments as Share of GDP with Total Health Spending as share of GDP for the past twenty years 1990 – 2010

| <b>Selected OECD Countries</b> | <b>Growth in Total Healthcare spending 2010- 1990</b> | <b>Growth in direct Health spending 1990-2010</b> |
|--------------------------------|---|---|
| Korea                          | 3.1   | -24.9   |
| Switzerland                    | 3.2   | -10.6   |
| Mexico                         | 1.8   | -9.3  |
| United States                  | 5.2   | -7.7  |
| France                         | 3.2   | -4.1  |
| New Zealand                    | 3.3   | -4.0  |
| Denmark                        | 2.8   | -2.8  |
| United Kingdom                 | 3.7   | -1.7  |
| Canada                         | 2.5   | -0.2  |
| Norway                         | 1.8   | 0.4   |
| Italy                          | 1.6   | 0.7   |
| Ireland                        | 3.2   | 0.9   |
| Germany                        | 3.3   | 2.1   |
| Australia                      | 2.4   | 2.5   |
| Finland                        | 1.2   | 3.7   |
| Iceland                        | 1.5   | 4.8   |
| Luxembourg                     | 2.5   | 6.1   |
| Czech Republic                 | 3   | 12.3  |
| Poland                         | 2.2   | 13.8  |

Source: OECD 2012



This suggests that at least wealthy countries have a high correlation between increasing direct spending and reducing overall health spending. But Chart 5 below presents an even clearer picture than does table 4. It shows that countries that have reduced direct spending have grown overall spending. This means that policies that reduce direct spending are actually expensive!

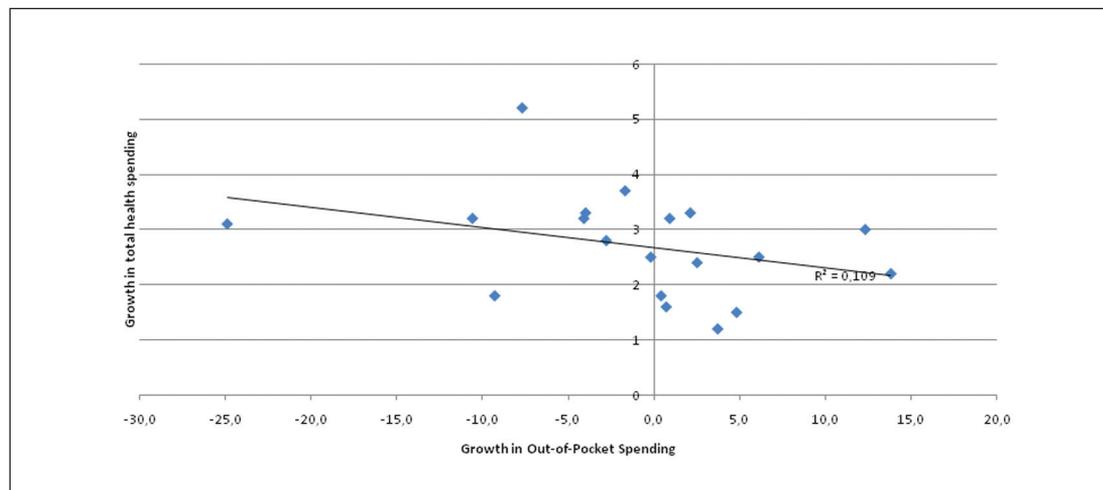
In simple terms, in order to save overall funds from the economy, developed countries need to increase direct payments and reduce the role of health plans and governments on their healthcare system.

This means that every dollar spent on direct payments for healthcare lead to fewer dollars spent on healthcare in general. It is important to understand that this is not a political argument between public or private health insurance. In France, for instance, public healthcare finance is overwhelming. In the USA private healthcare is responsible for the majority of funding. Yet, both countries have grown their health spending much faster than most peer countries have in the past two decades.

Third party payment systems eliminate the direct connection that exists between an individual buying a good and service and the payment that he or she makes for it. Economic theory says that the amount of goods bought is normally affected by the price of the good, given the income of the buyer. The higher is the price, the smaller is the quantity of the good or service that will be bought according to law of demand.

Third party payment systems eliminate or sharply reduce the direct role of prices as the regulating factor for how much of a good or service individuals will demand. If the elasticity of the demand for the service is high, as it probably is for health as a category of consumption, the implicit price reduction for the individual will significantly increase the demand leading to pressures for more supply. This is what could be called the “all-you-can-eat” syndrome.

**Chart 5** – Relationship between Out-of-Pocket Spending and total healthcare spending – Same OECD countries, 1990-2010



Source: OECD 2102 Data

Third entities make payments on public health systems. Taxes are payments for the collective expenditure on health, or with private insurance which may be linked to the places where the individuals work (companies, etc...) or may be bought directly by individuals. Both of them have the characteristic of eliminating (all or most) of the link between the use of public health services by an individual and the payments on the part of those individuals for the specific services received (Pauly 1968, Zeckhauser 1970). These third party systems have increased the availability of health services to many people and obviously the demand for those services and for better ones.

Public health systems have been introduced in many countries where health has become a civil right to which all citizens are entitled. In these systems, the state assumes the responsibility of providing health services to all citizens (or all residents) either for free, or for some direct payment that is usually a small fraction of the real cost to society of providing the services. The services are largely paid for by (general or specific) taxes. These taxes are seen as loose, indirect payment for the services. The link for the individual, between his or her use of the service and his or her payment for it, is broken. The restraint on the individual demand that would be exercised by the price of the service is no longer there. If there are no direct payments by the users, the cost of the service to them falls to zero. For some goods and services, they or those who prescribe the cures, will be wasteful in their use. This is, for example, with the use of medicines. Health largely becomes a free good. When there are some (usually small) payments, the cost does not fall to zero but it is still much below the real cost, thus stimulating use.



The stimulation in demand leads to (a) an increase in total spending for public health, as it has happened in OECD countries; (b) or a lowering of the quality of the services provided when governments try to stay within a given budget. This is typical of developing countries; or (c) to a system of rationing in which individuals are made to wait, at times for months and even years, before they can have access to some specialized services (surgery, particular tests, admission to hospitals, etc...); this has happened in the universal public health systems of most European countries where some procedures require long waits.

The United States has chosen a health system that is a mixture between a private and public health system. It is a mixture of funding schemes that is very costly and has some advantages, especially, for the wealthy, but also a lot of shortcomings. The US system is also based on third party payment systems for a large part of the population. However, about 48.6 million residents have no formal protection<sup>3</sup>. The third parties are government and private insurance companies. The system has stimulated demand for more and better health services, and has created a potential demand for new cures and new health services that a dynamic pharmaceutical and hospital industry has tried to satisfy ( with very high costs) and stimulate through very effective advertising of new drugs, procedures, and services often directed to the citizens.

More and more, new drugs and services are offered to the market providing little value, but are absorbed promptly. Some of these drugs are much more expensive than existing competitors, and bring only slight gain in terms of cure, life expectancy, and quality of life for users.

Consumers do not verify if the extra cost is worth the marginal improvement, the minimum gain in quality of life. Third party payment systems are eager to absorb new technology. Demand will come from potential beneficiaries who will not bear full cost and thus, not be deterred by higher cost. As far as the beneficiaries are concerned, third parties will often pay all or most of the cost.

### **b. R&D absorption rates fuel rise in healthcare spending**

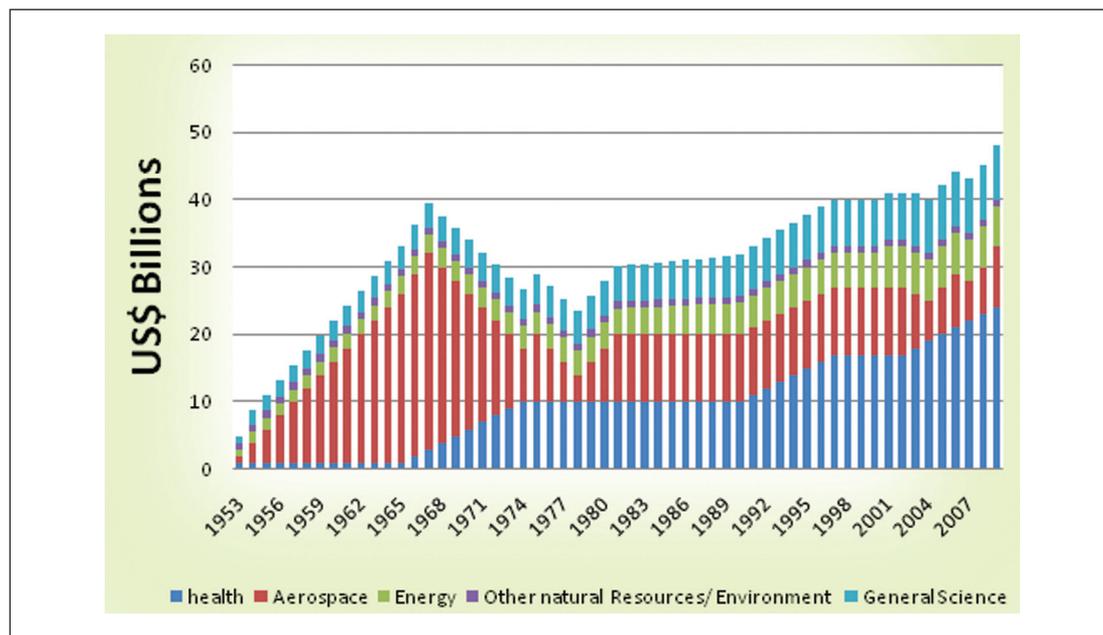
The role of the United States in healthcare research is important for the whole world. Healthcare research directly funded by the US federal government has grown dramatically in the last fifty years. During this period, it went from little over two percent of total federal research budget (which includes defense, education, aerospace, etc...) to more than half of the total budget. As Chart 6 shows, US budget allocation for healthcare research went from less than a third of a billion dollars in the year of 1955 to US\$ 24 billion in 2009. On the other hand, most other research on aerospace, general science, natural resources and energy has been basically stable or declining in the same period. This healthcare basic research provides the basic knowledge to private

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<sup>3</sup> US department of Health and Human Services, available at <http://aspe.hhs.gov/health/reports/2012/uninsuredintheus/ib.shtml>

companies (Pharmaceutical, etc...) to develop new products that become available to consumers at heavy prices. Since consumers do not have to pay these prices, (but third parties do), they are eager to request the latest invention. Thus, third parties end up fueling much of healthcare research in both public and private areas, creating a vicious (or virtuous?) cycle of production and consumption.

**Chart 6 – US R&D spending (1953-2009)**  
US\$ Billions



The cycle is simple: funds go to public R&D, and that serves as basis for private lab research on specific drugs and technologies. New drugs are discovered and immediately sold in the market. Initial drug prices are high, in order to repay pharmaceutical company R&D cost. Consumers are advised by doctors (rewarded or not by pharma-companies) to purchase new drugs and technologies for their case, even if the latest improvement is marginal. (i.e. it will reduce risk of heart attack in 38%, instead of 26%, but price per pill is U\$ 10,000, instead of U\$ 80). Most people would not buy the most expensive pill, but rather the cheap one, if they had to pay from their pockets. But the reality is that public and private third parties (insurance) pays for the drug cost. As a result, the drug becomes almost instantly the new best, new standard drug that should be used for all cases.



### 3. How did governments get involved in this issue?

#### a. Government focus health expenditures on Target groups

For the government to be better able to subsidize healthcare expenditures for the poor and the old, public funds must be used in a cost-effective manner. Universal and free-for-all schemes encourage demand for high cost, low benefit services. This leads to rising total costs, to the scarcity of public resources, and to a reduction in the quality of care for the elderly and poor. This affects less middle class and wealthy people who can buy private services when the quality of health in the public sector falls below given standards. But the poor have no alternative but to rely on public health. The issue is that since health services are rationed in terms of quality, this means that poor people will likely not be served.

In Latin America, most countries provide universal healthcare, with some private insurance. Universal healthcare ends up reaching only the wealthier people. In countries like Bolivia, Guatemala, Haiti, Paraguay and Peru, those in the two bottom quintiles of income, or those amongst the 40% poorest people in the country, have less than 50% healthcare coverage.

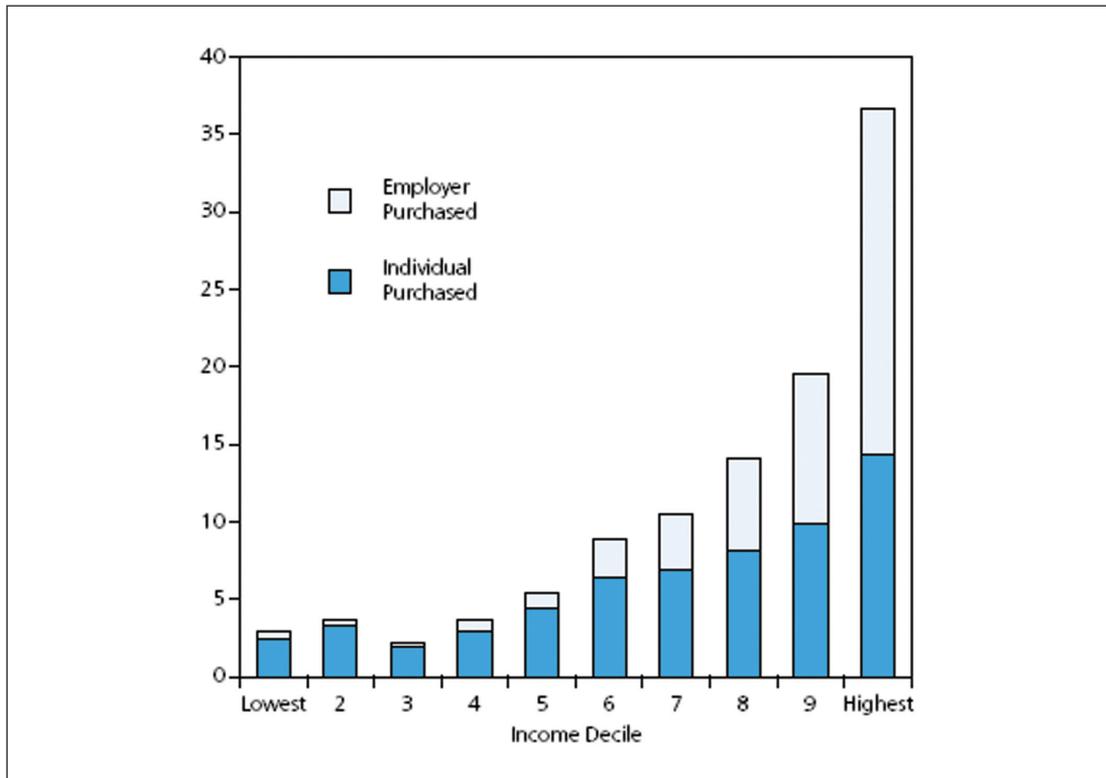
**Table 5** – Public healthcare coverage ratio by income quintiles, in Latin America 2000 (Source: IADB, MECOVI, household surveys in Latin America)

| Countries | Coverage ratio | Lower quintile | Second quintile | Third quintile | Fourth quintile | Wealthiest quintile |
|-----------|----------------|----------------|-----------------|----------------|-----------------|---------------------|
| Bolivia   | 56.7           | 19.8           | 44.8            | 67.7           | 87.9            | 97.9                |
| Brazil    | 87.7           | 71.6           | 88.7            | 95.7           | 97.7            | 98.6                |
| Colombia  | 84.5           | 60.6           | 85.2            | 92.8           | 98.9            | 98.1                |
| Guatemala | 34.8           | 9.3            | 16.1            | 31.1           | 62.8            | 91.5                |
| Haiti     | 46.3           | 24             | 37.3            | 47.4           | 60.7            | 78.2                |
| Nicaragua | 64.6           | 32.9           | 58.8            | 79.8           | 86              | 92.3                |
| Paraguay  | 66             | 41.2           | 49.9            | 69             | 87.9            | 98.1                |
| Peru      | 56.4           | 14.3           | 49.6            | 75.4           | 87.2            | 96.7                |

Specifically in Bolivia: only one in five of the poor are reached by public health, while only two in every hundred persons of the wealthiest quintile don't use that assistance. In Peru it's even worst: only 14 percent of the people on the poorest quintile receive public healthcare, while only 3 percent of those in the highest quintile do not receive public healthcare. The most unequal allocation of health services is in Guatemala, where less than 10 percent of its poor have access to public healthcare while 91.5 percent of the richest have access. In brief, healthcare services

are not available to those who need it, but rather, to the wealthiest. In order to achieve the governments' mission to reach the poor and the old universally, these countries need to rationalize care. With their current third party payment systems, this has not been possible.

**Chart 7** – Percentage of UK adults covered by private medical insurance by income deciles, 2001



Source: British Household Panel Survey, 2001; Author's calculations.

But, one could argue that the above-mentioned countries are poor and that universal healthcare systems work better for the poor in rich European countries. This is largely true. However, even there the poor are still not reached as much as needed. As one can see from Chart 7, in the United Kingdom many people have private health insurance besides paying for public health services. Quality of care and accessibility to certain services is still a problem. It is difficult to estimate healthcare quality in terms of absolute indicators. But one can assume that those who buy private insurance, when public care is available, are looking for better services. Often the difference between private and public services has to do with the waiting time need for given procedures, which are very long on public services.



In the United Kingdom, of those in the top 10 percent of the income distribution, almost 40 percent have private insurance. For 2/3 of them the employer, as part of the salary package, pays for the insurance. At the other end of the income spectrum, among the poorest 10 percent of the population one out of 20 has a private health insurance. Yet, the majority of those privately insured among this group pays individual premiums which are much more expensive than for group coverage, according to the British household panel survey. The insured poor must really need quality care that they cannot get from the public health system, since they directly pay for private insurance even though it is much more expensive for them than it is for the wealthy in comparative terms. In conclusion, at least in some countries, universal healthcare systems have let down at least some of those who need public care the most and for whom there is greater justification for state intervention, namely the poor and the old.

#### **4. Case study: The United States**

##### **a. The US focus on the poor and the old**

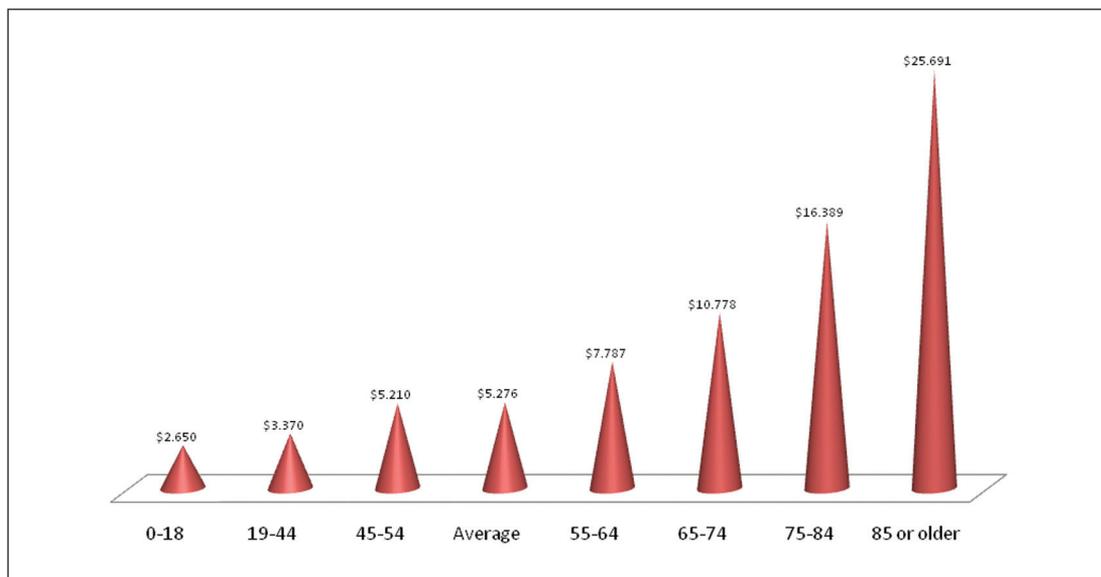
The US has focused its public healthcare expenditures on the poor and the old, through Medicare, Medicaid, and other programs. But it still faces serious healthcare expenditures problems.

15.7 percent<sup>4</sup> of the US population is totally uninsured. Because of aging baby boomers', the increase in life expectancy, and the high rate of inflation in medical services, public healthcare expenditure continues to grow. Chart 8 shows that the average per capita healthcare expenditure for those over 45 years old, but with less than 54 years of age, is 5 times less than for the eighty-five years old and older group.

Health expenditures are concentrated not only among old people but also among a few people. Seven million people, or a little over three percent of the US population, respond for half of all MEDICARE expenditures, according to estimates by the US health services department. As the US population ages, it will lead to a sharp rise in health expenditures.

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<sup>4</sup> <http://aspe.hhs.gov/health/reports/2012/uninsuredintheus/ib.shtml>

**Chart 8 – US Per Capital Health Spending by Age in US\$ – 2004**

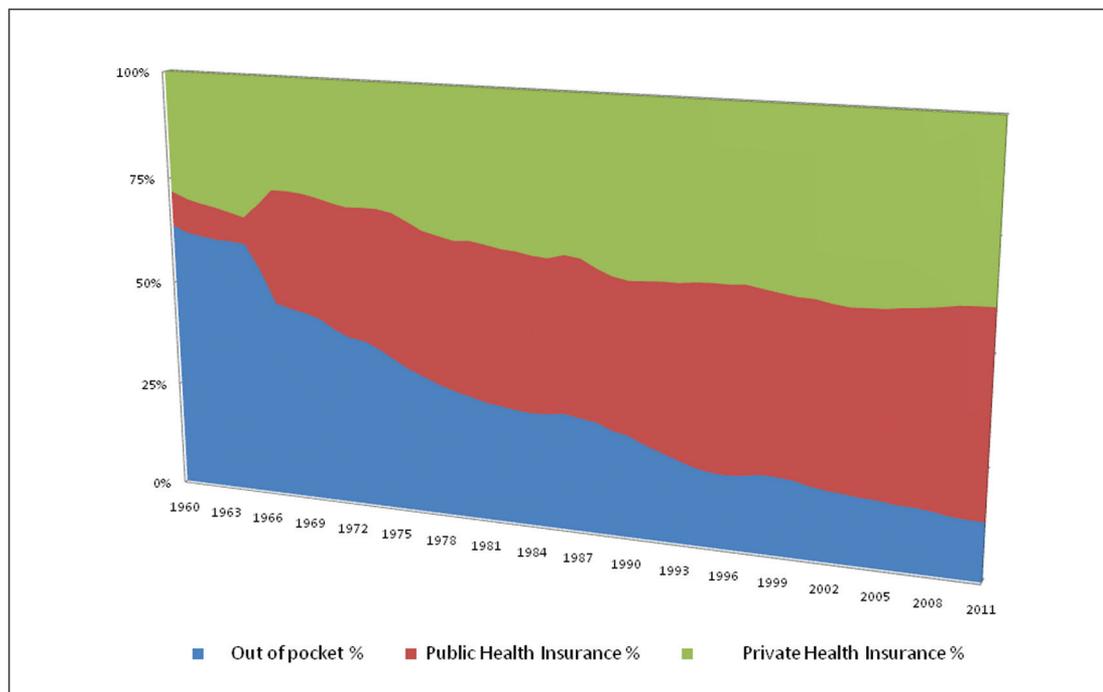
Source: Center for Medicaid and Medicare Services<sup>5</sup>

Chart 9 shows public health coverage responded for 6% of total health spending. Now it amounts to 39% in 2011. Private health insurance grew from 21% to 33% of health spending, while direct payments went down from 48% of all health spending to a mere 6%. Third party payment systems represent 82% of all health spending. As total health spending grows, the government is paying more of it. This situation will take the US government to huge budget deficits or increasing debt. This article presents a simple solution: To control the role of third party payment systems on healthcare. (Medici, 2005)

<sup>5</sup> Available at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Age-and-Gender-Items/Age2004.html?DLPage=1&DLSort=0&DLSortDir=ascending>



**Chart 9 – Us National Health Expenditures by Payment Type 1960 to 2011**



Source: Center for Medicaid and Medicare Services<sup>6</sup>

### **b. US Private sector demand fuels public expenditures**

There are several reasons for public sector increasing expenditures as a consequence of private sector new healthcare discoveries and provisions. First, the public sector is the one that approves new drugs on the market, through its regulatory agency (FDA in USA or other equivalent offices in other countries). This creates a presumption that the product is useful and, being useful, the presumption continues to assume that it should be available to all citizens, not only those with private insurance. Second, because those who use or run public insurance will pressure to get the same healthcare goods and services available through private insurance. The public sector ends up contributing and stimulating investments on R&D in the private sector. Third, legitimate political pressure contributes even further to include these services for public insurance beneficiaries. Therefore, increases in private demand, generated by enhanced R&D, third party payment systems, and low level of direct payments in OECD countries, fuel public sector spending. As a result, health spending contributes to mounting public debt.

As universal health systems are pressured to deliver the same level of expensive services and drugs available in the private sector, quality and availability of this service becomes rationed. Services and waiting lines become longer. Thus rapid new advancements in R&D and new drugs have a negative impact on the correct theoretical allocation of healthcare

<sup>6</sup> available at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>



funds and resources in developed and developing countries. Particularly in the latter, where accountability is weaker, rational service allocation is worst off.

In the US, as soon as the pharmaceutical industry develop new drugs and services, these services become available to the wider public almost instantaneously. Private insurers are glad to provide them regardless of cost. This happens because of state and federal regulations on health insurance and health plans. But this is also in the best interest of insurers. Insurers can always raise premium. Hence, premium ends up rising faster than inflation and nominal GDP growth. This comparative data was shown on table 1 and Chart 2 for the case of the US, for the past 30 years.

The US government purchases these new drugs and services for the heavy users, old age people (also called “bad risk”) because regulation imposes it. Consumer lobbies pressure the government to provide newly discovered gadgets, drugs, goods, and procedures. If one adds this circumstance to the fact that the public sector in USA is largely responsible for most of the heavy users, it is easy to understand why public healthcare expenditure increases so fast in the United States (Table 1, and Chart 1 and 2).

**c. Other Issues  
that contribute  
to health insurance  
rising premium**

There are many other issues that cause health insurance premium to rise in the US at a faster pace than it does in universal public healthcare system countries such as those in Western Europe. It does not mean that Western Europe public healthcare system does not require improvements, not only in terms of quality and amount of services delivery, but also in terms of rising costs. But the focus of the analysis is on the US system, which has notorious issues.

**d. Malpractice  
lawsuits and  
Insurance**

Malpractice insurance is something that practitioners in the USA must have to cover against lawsuits. But physicians’ requests for multiple exams and expensive drugs are not as prevalent as believed. Common Law decisions have evolved over the years in America to make doctors perform under a high standard of practice in order to avoid liability suits. In America, physicians must perform to the best of their abilities, and must deliver expected results, regardless of circumstances. In most other civil law countries, with the exception of cosmetic plastic surgery cases, physicians do not need to deliver 100% positive results. Rather the legal test is: has the professional performed according to the best of its own abilities? The obligation in civil law countries is of a good performance, rather than always-positive outcomes, as in the US. That is to say: In Civil Law countries, doctors must perform over the best of their abilities, and follow commonly accepted standards. A guaranteed result is not required, as the Medical field is not an exact science, different from Chemistry or Mathematics.



American common-law decisions rely on civil trial jurors and million dollars indemnities to victims. This creates a very large legal “grey area” where punitive damages can be imposed on doctors. Hence, US doctors spent large sums on insurance premium against liability litigation. As a result, the overall costs of medical services also rise tremendously.

As a caveat, Tillinghast Towers Perrin, a global human resources consultancy company based in Chicago, conducted a nationwide doctors’ survey. Physicians listed luck as the number two reason for not having been sued in the last five years. They presented “quality of their own work” as one of the last motives for not being sued. The issue of malpractice lawsuits is to a large extent, so far, confined to the USA and may spread to other common law nations in the future.

**e. Moral hazard**

Physicians know more about healthcare than regular people and, sometimes, they can request unnecessary or marginal exams or procedures just to profit from insurers and to protect themselves from lawsuits. Once the insured population bears a marginal cost lower than the value of the service or have much less information than the doctor on the usefulness of the procedure, the insured will not question unnecessary services or services of marginal value. In the absence of asymmetric information, demand could only be curbed if the beneficiaries paid each time for the services’ true value. A person will not repudiate an unnecessary or marginal service if the gain from the service is seen to be larger than its cost especially when a knowledgeable doctor recommends it.

Moral hazard is a phenomenon typical of the insurance business. It is the propensity that beneficiaries will have to expose themselves to a loss. The idea that a loss will not have a financial cost rules out its negative connotation almost entirely. It is the insurers’ attribution, through its claims handling personnel, to cope with moral hazard and only pay for losses that actually occurred without any careless conduct on behalf of the policyholder. The healthcare industry moral hazard is characterized by two distinct conducts. First, insured beneficiaries are more likely to use healthcare services and products than uninsured ones. Second, the former are also less likely to resist physicians’ overcharging attempts than the latter (Schieber – 2003). It is the insurance companies’ duty to control that service providers and policyholders act appropriately.

In the particular case of the health insurance business, the insurer (or eventually the government, in universal health systems) is the only party that could be interested in restricting the cost of healthcare expenditures. As the predominant payer on the healthcare trade, the insurer could have a private regulatory interest in curbing the fast development of expensive healthcare technology. The insurer could restrain access to expensive drugs or procedures with only a marginal benefit. A very expensive drug with minor health standard improvements would burden on the insured pool premia. Nevertheless, the insurer might not express much concern for various legal and financial reasons.



First of all, the statutes of most countries prohibit insurers and other third party payers from denying the financing of authorized drugs and medical procedures to their members. Statutes also impose broad minimum coverage conditions; the Brazilian Federal Act 9656, from July 4<sup>th</sup> 1998, that regulates health insurance prescribes on its Article 8<sup>th</sup> “all known diseases according to the WHO; to be treated by all accepted standards of national medical associations.”

Second and most important, insurance carriers have a real interest in covering as much care as possible if the insured can afford the premium. It is advantageous to increase the size of coverage on any market simply because it increases premium and improves financial results. The larger the amount of funds collected by the insurer; the larger is the non-operational or financial result the carrier will present on its financial statement to its shareholders. There are other forces acting on this scenario as, for instance: personal limits to fund premium and the government official policy to provide tax deduction on insurance.

## 5. Globalizing healthcare costs

### a. How individuals decide to finance healthcare losses

Health care finance theory refers to “The classic age mismatch between personal income and health care expenditure.” For most people, lifetime income peaks between the ages of 40’s to late 50’s. Up to that age, earnings generally increase much faster than the demand for health care for large groups. After that age, there is a decline in income and a steep increase in health care expenditure. Because of this mismatch there is a need to pre-finance healthcare. That is to accumulate assets for later use.

Pre-finance is interesting for the elderly. Most health care financial risks in life are incurred towards the end. Since most funds are earned before the so-called declining years, one decreases the chances of default if he or she pre-finances most of these expenditures. There are two sorts of health care pre-finance schemes: collective repartition and individual capitalization. They generally correspond to health insurance and medical savings account, respectively. All contributors to the pool will share all losses in a repartition scheme. Capitalization demands each contributor to keep separate accounts, in order to fund his or her own personal losses. An old person needs to organize its health spending financing structure (pre-finance) throughout her own work life to face her worst losses in the end of her lifetime; the repartition system represents some additional help to fund any losses that a personal capitalization program might not be able to fund.

Healthcare expenditures can be practically unlimited for a person. To benefit from the certainty that the pool will fund any personal expenditure is priceless. Therefore it is interesting for the elderly to join a pre-finance program, with a repartition scheme.



**Table 6** – Share of wages spent on Private Health Insurance in the USA 1960- 2002 (in US\$ Billions)

| <b>Expenditure by decade</b> | <b>1960</b> | <b>1970</b> | <b>1980</b> | <b>1990</b> | <b>2002</b> |
|------------------------------|-------------|-------------|-------------|-------------|-------------|
| Wages and salaries           | 272.8       | 551.5       | 1377.4      | 2754        | 4974.6      |
| Group health insurance       | 3.4         | 12.1        | 61.4        | 176.9       | 379.3       |
| Percentage                   | 1.25        | 2.19        | 4.42        | 6.42        | 7.62        |

Source: Employee Benefit Research Institute tabulations of data from the US department of commerce, Bureau of Economic Analysis, National Income and Product Accounts of the United States. (Wages and salaries includes paid holidays, vacations, and sick leave)

On the other hand, it is reasonable to assume that some pool members will resent joining a particular program if the heaviest and lightest users can be identified. Insurance doctrine refers to this as self-selection of risk. As a matter of fact, these are easily identifiable as an age group. They are, respectively, the senior contributors and the youngest ones. For the young, pre-finance is a nuisance in terms of income allocation. The young has a lower probability of facing losses, and usually of low impact, due to health reasons. Repartition schemes are the least attractive programs for young adult workers, because they allocate costs equally regardless of the probability of use. For them, capitalization is more attractive. In conclusion, health insurance and all other repartition schemes is the least attractive finance program for younger workers.

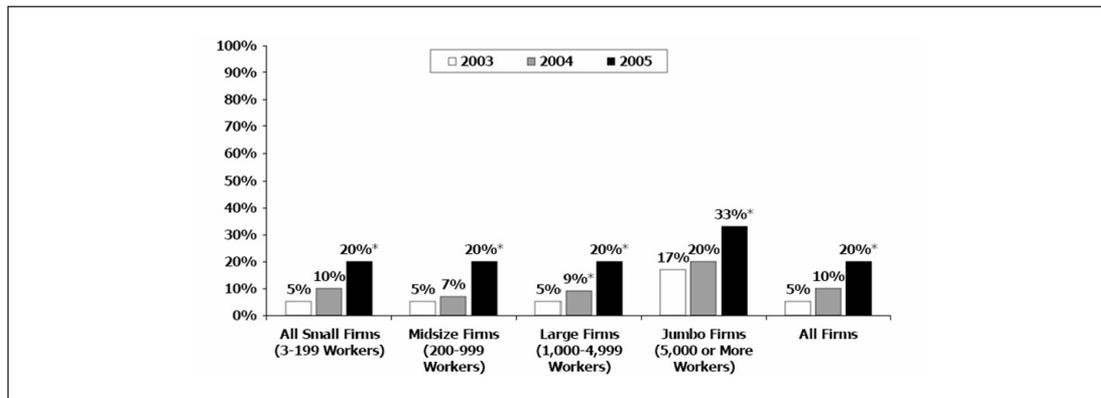
These systems have become expensive in the last forty years, and they have eaten a larger and larger share of workers' salaries. As seen over table 6, private health insurance use to represent a little over one percent on average for wages in America. Now it almost takes out 8% of salaries. When will governments consider that private health insurance costs are high enough, to justify a change in model and financial concepts? Working young people has already come to that point of making a radical change, but on an individual basis. For them, Medical Savings Accounts, (MSA), which are also called high deductible health insurance schemes, are far more attractive.

**b. Globalization helps individuals and countries take health finance decisions**

In a globalized world health financing system of choice should place the least burden on productive workers. If post-finance of health care expenditures would not affect young workers in the future, it would be their scheme of choice. The second best solution is a capitalization system, where young workers will pre-finance their own expenses through medical savings accounts. Medical savings accounts are capitalization schemes that are mostly like large deductibles on a health insurance scheme that one needs to pre-finance (Gottret, Schieber – 2006). Capitalization system is the health financing program most likely to prevail in the world in the future. Chart 10 shows a current trend in the USA with regard to high deductibles and schemes to pre-finance it as MSA in companies. Large companies are more likely to provide this option. 33% of them already provide it for employees.

The country has taken a clear move to reduce third party payments systems. This happened as this option was offered and turned available in the market (2003).

**Chart 10** – Percentage of firms that offer employees a high-deductible health plan, by firm size, 2003-2005



\* Estimate is statistically different from previous year shown at  $p < .05$ .

High-deductible health plan (HDHP): A plan with an annual deductible of at least \$1,000 for single coverage and \$2,000 for family coverage. In 2003 and 2004, the survey used a different definition and asked if firms offered a health plan with a deductible of more than \$1,000 for single coverage. The survey did not specify a minimum deductible for family coverage. The prevalence shown is for all HDHPs, regardless of whether they are offered with an HRA, are HSA qualified, or neither.

Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 2003-2005.

On the other hand, there are some problems related to adverse selection and bad risk. Basically, introducing MSA in the market creates a process of de-creaming risks and worsens the situation of private insurers and the government. Both these systems will end up having to cut more and more benefits from its beneficiaries. As fewer funds enter the contribution pool and more losses are concentrated on their balance sheet, insurers have to raise premia. But there are other places where capitalization or MSA schemes are used on a national level. A case that merits study is medical savings accounts in Singapore. It managed to curb expenditures growth while maintaining very good results.

## 6. Case Study: Singapore

Singapore implemented a medical savings account scheme in 1984. It was the first country to implement it as mandatory. The structure of the program was more or less as follows: Workers deposit a share of their paychecks on a government fund that allocates part of the money to the Medical Savings Accounts, and some other part to a catastrophic insurance program. The Medical Savings Accounts pays for all expenditures up to a financial limit. After this limit is reached, the catastrophic insurance program kicks in to pay all large expenditures. The coverage of the poor and the old is done through two different programs, like in the USA with its Medicare and Medicaid. The catastrophic insurance program is called Medishield (started in 1990), which caters to losses which are concentrated, but not only to old age people.

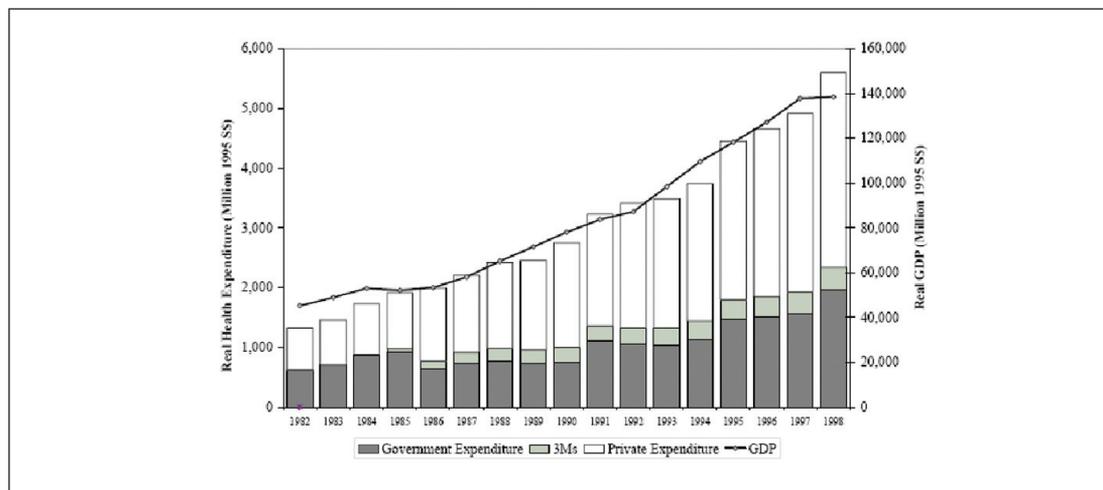


There is also a means-tested safety net for the poor called Medifund (started in 1993). The workers' medical savings account payroll contribution is 6 to 8 percent of the beneficiaries' salary. The maximum amount of funds saved on any account is S\$ 19.000 (Singapore dollar).

MSA coverage has several restrictions in terms of amount of funds and type of procedure. First, primary care is not covered. MSA scheme usually covers only hospital procedures. Second, each procedure has a charging limit. For instance: the hospital daily rate is capped at S\$ 300, and several procedures inside the hospital are not covered. The catastrophic program Medishield has a high deductible, mounting to S\$ 1,000 per year. It also demands large co-participation of 20% for the beneficiary to pay, as a share of the bill. There is also a ceiling for that catastrophic coverage, which rises to S\$ 20.000 per year and S\$ 80.000 per lifetime. Finally, and most important, the very expensive bad risk is uninsured as well.

Those above 75 years old are not covered. If those on that category cannot fund their own bills, they can point the public safety net from their local Hospital Medifund committee. Only the population on the lower 1/3 of income group can collect from that fund. Even though the scheme presents very restrictive coverage, it is clear that its financial performance is excellent.

**Chart 11 – Ratio GDP to health spending in Singapore (1995 S\$)**



Source: GDP from IMF, Total health expenditure from WHO National Health Account.

As Chart 8 shows, according to WHO data, the level of healthcare expenditures growth has been parallel to the pace of GDP. This is very different from the rest of OECD countries, USA and Brazil in particular. The results are clearly favorable to this sustainable healthcare finance program. In 1995, total public and private healthcare expenditures in the country were only 2.7% of GDP, of which the government had to finance



less than 1 percent of GDP. In comparison, Brazil spends over 7 percent of its GDP, the average OECD country spends around 9 percent, and the USA spends a staggering 15 percent of all its wealth on health. Singapore seems outstanding in its results. Remarkably, its life expectancy at birth is simply higher than in any OECD country. Its infant mortality rate of 2.28 per thousand births is the lowest in the world, ranked last among all 228 countries and territories listed at the CIA world fact book. That is the positive side of the story.

The negative aspect of this scheme is that it leaves too many people and too many expenses uncovered. It would be desirable to extend this system to more senior people, and to be more flexible in increasing the number and types of procedures that are eligible for medical savings account deduction. The goal of healthcare finance is to finance the necessary expenses of those that cannot find finance elsewhere. The Singapore model not only turns its back on some of the seniors who definitely need public finance, but also increases the amount of people who cannot fund their healthcare expenditures themselves. Generally, people above 75 years old concentrate a large number of very expensive losses. Even if they are not among the poorest third, they are still unlikely to be able to fund their own health costs. After all, catastrophic losses predominate in this age group. A healthcare system that covers only part of the poor and the old is insufficient. It must cover the whole population with appropriated financial schemes, public or private.

## 7. Curbing healthcare costs

### a. Deductibles and managed care

It is important to realize that medical savings accounts are not a revolutionary product. They are just a way to pre finance (finance beforehand) deductibles on health insurance contracts. Extremely large deductibles require a pre finance vehicle. There is, in fact, another way of reducing moral hazard on insurance. It is managed care. Managed care is a system that became very popular in the late eighties in the United States. Health plans would pay hospitals and clinics a lump sum amount (this form of payment is also referred in the literature as capitation payment) in order to finance all losses related to a certain group of people defined by geographical area (town, city, county or state) or sort of treatment. This way the insurer would transfer the moral hazard and the risk to the healthcare provider hospital, or group of physicians, and therefore would control costs.

Yet, managed care means basically that healthcare risk is transferred from the insurer to a provider or physician. It is very efficient but it has a couple issues: First, it does not eliminate moral hazard the way MSA<sup>7</sup> does. It just transfers part of the moral hazard, which is information asymmetry, to the person who evaluates the amount of funds that will be allocated to each provider.

<sup>7</sup> Medical Savings Accounts



Consumers still handle information asymmetry issues. Finally, if the funds that are allocated to the provider are not enough, the provider is more likely to reduce costs and quality of services. Providers are usually privately held, and yield profits to fewer owners. Thus, corporate governance issues do affect healthcare finance planning. Therefore, MSA is better equipped to curb moral hazard and rising healthcare costs than is managed care.

#### **b. Sustainable MSA schemes**

Even though it has serious downsides on equity grounds, the experience in Singapore proves that Medical Savings Accounts MSA can control demand for healthcare and its rising costs. It adds to theory a practical example that supports the ideas presented on this paper. The Singapore experience resulted in a lower level of medical costs growth. As cost increases affect sustainability of public healthcare finance, it would be reasonable to create in a financial product that could allow government to have some control over private demand.

### **8. MDCM**

Minimum Deductible Control Mechanism is the product featured in this article to allow governments to decide how to affect demand for latest technology and most expensive services and drugs, in order to control how much of overall wealth produced in the country remunerates healthcare services.

#### **a. Minimum Deductible Control Mechanism**

Minimum Deductible Control Mechanism, or MDCM is an insurance contract with a large deductible. This deductible would be pre-financed through MSA. Above that level, private and public insurers can sell, or give away, respectively, catastrophic insurance coverage. The percentage of the population who will enjoy free or low-deductible catastrophic insurance will depend on the number of people who were assumed not to be able to afford private catastrophic insurance. It would include the poor and the old poor.

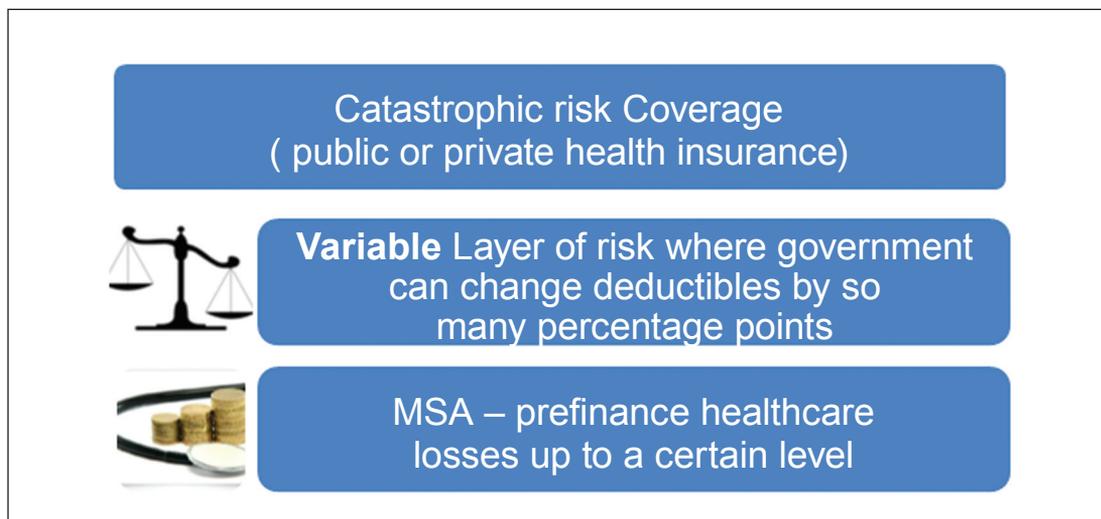
There would be some transitional phase of growing deductibles until consumers reach a proper level of personal reserves considered appropriated to face adversities, not covered by the catastrophic insurance layer. The background model is sensible to other issues as well in order to ease a transition from universal healthcare system to this radical and cost restrictive MSA system that might be particular to each country.

As a Central Bank governor (or Federal Reserve in the USA) decides the right level of interest rates; an independent government body could decide whether the level of domestic healthcare demand is adequate or not. This is the MDCM model.

**b. How does MDCM work?**

Citizens would purchase catastrophic insurance according to their own risk appetite. Some would buy too much insurance and pay too much premium. Others would buy too little insurance and allocate their income on the medical saving account to fund the deductible. By increasing or decreasing the deductible (in percentage points) the commissioner would encourage or hold back people from demanding healthcare. People would still use healthcare, simply because illness is not predictable. But they might need to withdraw more funds from their personal account, and would be more resistant to using expensive procedures or services that have a low-cost benefit relationship.

Catastrophic losses would always be covered by insurance. But the high frequency, low severity, losses would experience a reduction in demand, especially the part of demand that buys non-urgent exams and expensive drugs. The MDCM model could lead to cheaper drugs and procedures. If large amounts of people start having to contract personal debt to fund part of their deductible, the government can reduce again the deductible to allow more insurance coverage. The insurer, of course, would increase or decrease premium annually, and would need to allocate for lower or higher exposure. Here is an example of a given contract where MDCM would work increasing or decreasing the deductible level, by percentage values:

**Figure 1** – Healthcare finance structure

There is a line that separates the deductible level controlled by the state. The state raises and reduces the line according to demand. If deductibles are too high and people cannot save enough funds on their personal MSA, then the state must reduce the threshold a couple percentage points per month. If deductible is too low and people is using too much healthcare the government can start to increase its level to see results over the short-medium term. This device will allow the government to restrain some of this growth.



It is clear that governments are in need to have a tool such as the MDCM to control public expenditures on the long run, on a sustainable manner, without penalizing the poor and the old, restraining quality of public care. The MDCM financial tool has effects on overall health expenditure, allowing for better public healthcare financing and planning.

MDCM would be a tool for the government to fight this particular inflation, which does not seem to react to ordinary inflation control tools, as other markets do. Usually, when the government (through its independent central bank) raises interest rates, demand and inflation are reduced in the marketplace. But healthcare demand has continuously grown above and beyond the economy (inflation discounted) in the last forty years, as seen over on table 1. MDCM needs the healthcare finance commissioner to be an independent official responsible for controlling deductible levels. He will determine whether and when they reach a good point according to the particular conditions of the market, the budget for the public health system, and the amount of funds it believes both the private sector and the public sector can allocate to fund healthcare.

**c. MDCM delays  
cure for diseases?**

This financial tool is not intended to reduce healthcare consumption, or to slow research and development of new drugs and vaccines. It is only a tool that can be used to reduce the speed of healthcare expenditures growth on the private sector that affect public healthcare. It is not about curbing development. It is about giving the possibility of controlling it if necessary to achieve more sustainable economic growth, and address more pressing issues. Issues like providing healthcare finance for the poor and the old, instead of funding more and more expensive drugs with dubious value and impact on people's overall health. It could be argued that government should foster technological development regardless of reaching the poor and the old with basic health services. This issue is beyond the scope of this article.

**d. What is the  
finance argument  
for MDCM?**

Hedging healthcare risk: For the last forty years health finance costs have been rising through the roof. It is important to be able to hedge against such risks and the threat of budget disequilibrium, or a surge in government debt. One way of doing so is by taking control of most healthcare finance and delivery, while controlling public expenditure. This sends down quality levels. That is what "universal healthcare" has in fact delivered in most, if not all countries. The issue is that poor quality affects poor and old age citizens the most. Besides, poor quality does not address rising healthcare costs in a strategic manner.

Data over Table 1, 2, and 3 has clearly shown medical inflation consistently outperforming economic growth on the developed world. Hence, public or private third party payment systems have not succeeded in addressing cost control. MDCM is an alternative way to hedge health costs. Instead of taking all health costs rise risk, governments should share it with individuals, fine-tuning market demand. The State can restrain how much risk private third party payers' purchase and how much risk citizens retain exposure to themselves. The result would eventually lead to lower health costs.



#### **e. Implementing MDCM model using MSA – Theoretical example**

MSA's are financed mostly by citizens on the upper income quintiles. The population on the lowest 40% income level would be awarded with low or nil deductible and free health insurance. Those on the upper 60% income bracket would be able to purchase insurance coverage on the private market. In the transition from universal healthcare (Brazil and EU) or subsidized low deductible insurance (USA, for instance) the population would start facing larger and larger deductibles and lower and lower premiums for catastrophic losses. Once a level of balance is reached, the government would only increase deductibles on the market in general by a few percentage points, until deemed necessary. These percentages of income distribution groups would vary according to each particular country social economic situation.

### **9. Conclusion**

The amount of wealth and economic growth in society does not keep up with the pace of healthcare expenditures growth and R&D of the past Thirty years (Chart 2), Fifty years (Table 3), and even Century (Table 2). Public healthcare expenditures surged from 0.3 percent of the GDP to 7 percent of GDP in developed nations in the past 50 years. R&D grows even faster than expenditures as a whole. Together with changing demographics in the US, EU, China and Brazil, it is clear that future costs will speed up even more in the coming years.

If current global levels of healthcare spending are not worrisome for now, they are likely to become more so in the near future. In order to equip country governments with the ability to reduce spending on healthcare, or at least reduce speed of growth of said spending, the author presents the financial tool MDCM, or Minimum Deductible Control Mechanism.

As a financial tool, MDCM is based on two core principles: On one hand, consumers will absorb healthcare goods and services technology at a slower pace if confronted with a larger slice of direct payment. On the other hand, insurers (both public and private) do not have an interest in reducing overall spending on healthcare, since they are in fact on the business of providing financing for health. More health spending justifies larger premium revenues for insurers. More government health spending justifies higher taxes and debt. Besides, more political clout to those managing government funds in such an important realm of voters' interests: their very lives.

Governments need to intervene on both public and private insurance similarly to a central bank establishing basic interest rate in a country. Raising the percentage of self-exposure would raise deductibles. Higher deductibles would lead to less demand for expensive care. Lower deductibles should lead to higher demand.

In brief, there is an inherited rate of growth in healthcare spending. While this is a problem, few professionals debate on how to reduce healthcare spending growth pace in the developed world. Most would rather debate if universal or private healthcare is better, more often than not along political lines.



This article presents a clear tool that can be used to address this issue in a more sophisticated manner. It will continue to protect the poorest and those in need of the most expensive procedures. But at the same time will allow governments to control spending growth. Singapore has used a similar model and that has caused impressive results. High income developed countries that are reducing direct payments as an overall share of total spending on health (e.g.) USA and France, have increased overall health spending. Countries that are increasing citizens' direct payments for health services (e.g.) Poland and Finland, have found a slower pace of healthcare spending growth. This seems to be a clear path, backed by data (Table 4), and supported by evidence for the past twenty years.

In times of financial crisis, European Debt Crisis, and US slow economic growth, high debt and across the board spending cuts, it might be good to aggressively reduce spending on healthcare in general. The financial tool MDCM is a strategic product that reduces health spending on a structured and rational manner. It reduces social impact on those who need health services coverage the most: the poor and senior citizens.