

# Crunching SA's healthcare numbers paints a dismal picture

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CAPE TOWN — In 16 years of covering healthcare for the [SA Medical Journal](#), I never came across such a strong synthesis of data bolstering the contention that we get dismal bang for our public-sector healthcare buck. Here data analyst Zach de Beer, overlays the WHO country rankings with the [Heritage Foundation's Index of Economic Freedom](#), the GINI Co-efficient from the [Central Intelligence Agency's 2010 report](#), the [Freedom From Corruption Heritage Foundation Report](#) and the [World Economic Forum's global competitiveness](#) rankings. SA ranks 176th on healthcare outcomes versus per capita spending. Compare this with similar countries; Columbia, ranked 29th, and Morocco, ranked 22nd. Morocco spends four times more per capita on health than SA, yet we spend twice the WHO-recommended amount and rank close to last. The data shows that inequality has little to do with the quality/performance of national healthcare systems – and we're spending handsomely considering our tax base. Also, very few countries have good WHO rankings and bad corruption scores, (Italy, Malta and Greece). Conclusions? Our public healthcare system is inefficient and corrupt and must do more for less, while the anti-competitive private sector must learn to be less greedy. [Health Minister Dr Aaron Motsoaledi](#) would strongly argue our unique quadruple burden of disease and islands of global healthcare excellence, but the data remains telling. – Chris Bateman

**By Zach de Beer**

A short study was done to see how external factors influence the performance of a healthcare system on a country to country basis. Technically this study is not valid because statisticians will quickly point out for example that the WHO rankings are far older than the other data. On the other hand healthcare systems evolve very slowly and it is felt that the insights gained are useful and relevant.

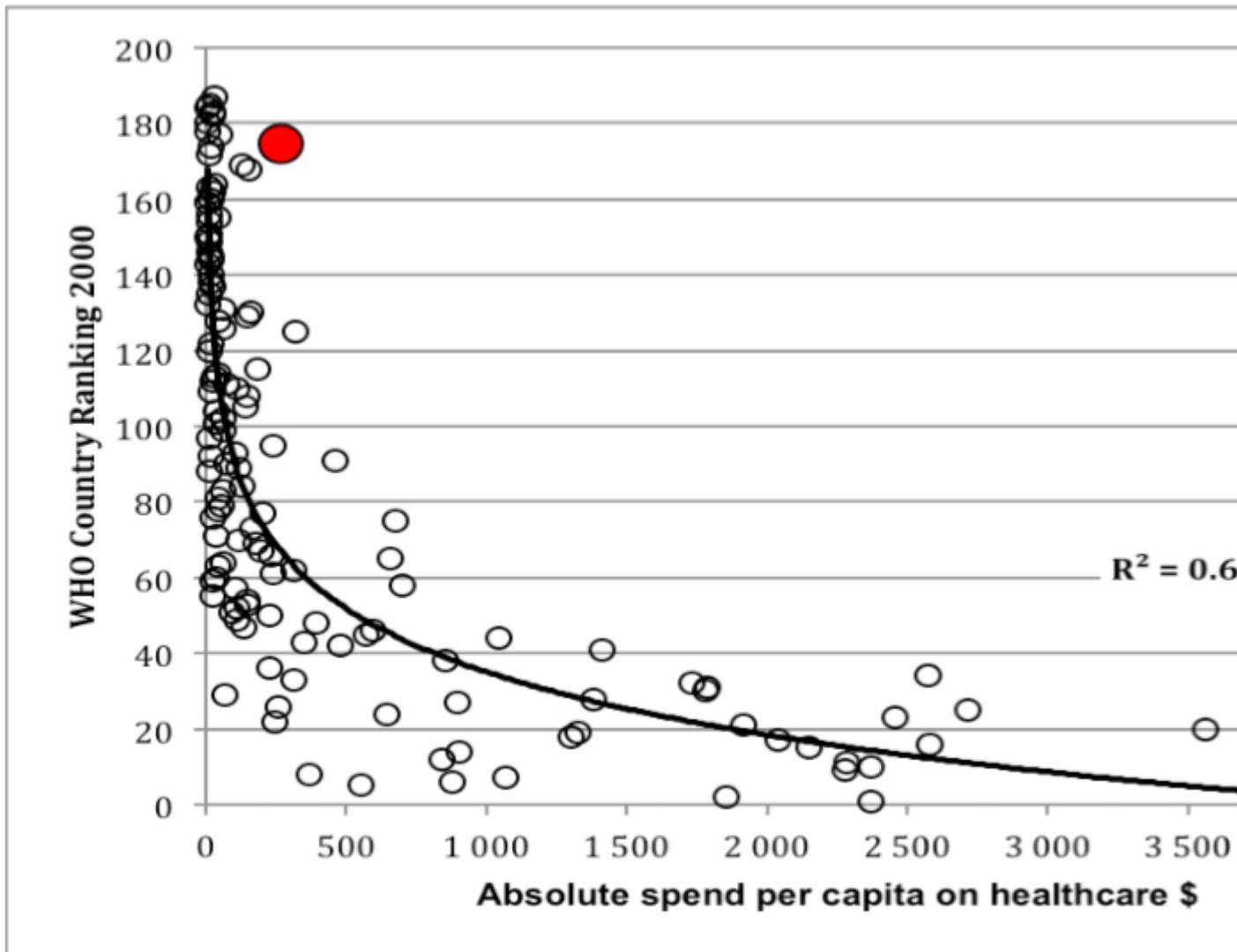
The following data sources were used:

1. The WHO Country healthcare rankings from "[The World Health Report 2000: Health Systems, improving performance](#)"
2. The 2010 Index of Economic Freedom from the Heritage Foundation
3. [GINI Coefficient from the World 2009 CIA Report](#)
4. Freedom from corruption from the 2010 Heritage Foundation Report
5. Competitiveness from the World Economic Forum 2011 Report

Combing the data into one table is quite a feat, some country names are not spelt the same way and also some countries don't appear in some of the rankings. Nonetheless all the data was available in down-loadable spread sheets and it is unlikely that errors crept in.

## The Logarithmic Relationship Between what is Spent and What the Outcome Is.

The first scatter plot sets per capita spend on healthcare on the X axis as independent variable to the WHO ranking on the vertical axis (Y).



South Africa is represented by the red dot at number 176th in the rankings. The trend line can be used to differentiate productive from unproductive healthcare systems. Countries like SA that are far above the line are unproductive whilst those below the line have more productive healthcare systems. It is a bad reflection on SA ranked 176 while for the same per capita spend Columbia is ranked 22nd.

South Africa is one of the worst performers in this case, clearly the more you spend on average the better the score but the distance between the average world wide performance and SA performance is obvious, we can do a lot better with the same money.

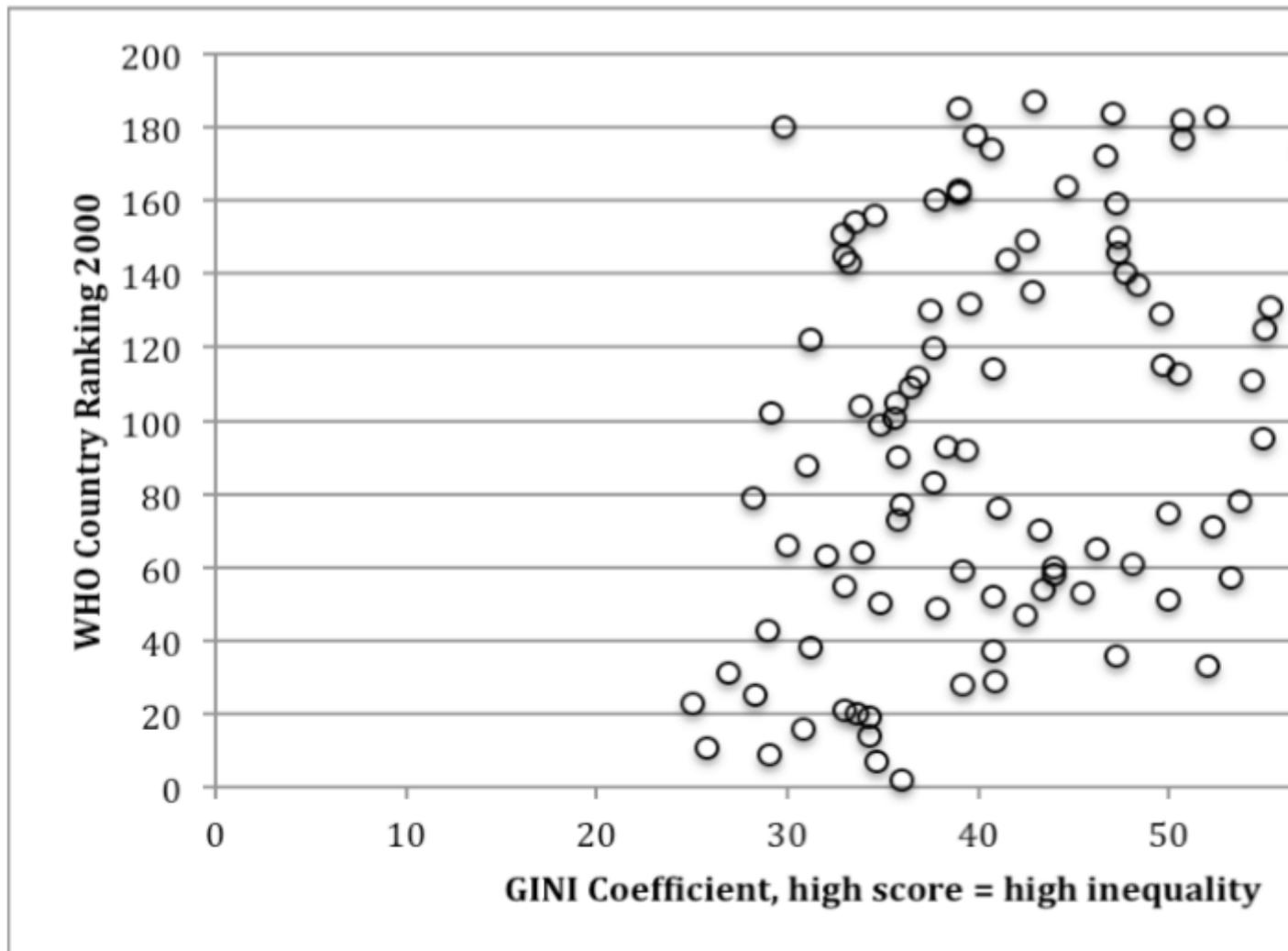
From this graph it is possible to judge what the average minimum expenditure requirement is. If the target is to be in the top 50 countries as a first goal, based on average performance the per capita cost would be about \$500 per annum. To reach the top 20 will cost maybe \$1 850 nearly four times as much as the reach the top 40. SA does not have a large enough tax base to reach these figures hence one should study more closely those healthcare systems that are leading the productivity stakes.

In the data we find the countries of Oman and Malta. They are in the top 10 spending \$400 – \$500 annual per capita spend. Affordable, quality healthcare. The trend line is also clearly showing us the law of diminishing returns and the out of control USA healthcare industry is the costliest in the world and they rank just below 40.

Clearly spending more and more on healthcare, is a case of diminishing returns.

## Equality or the Lack Thereof

Inequality is blamed for every possible ill in the Western World, capital is evil and soccer players earn more than bankers.

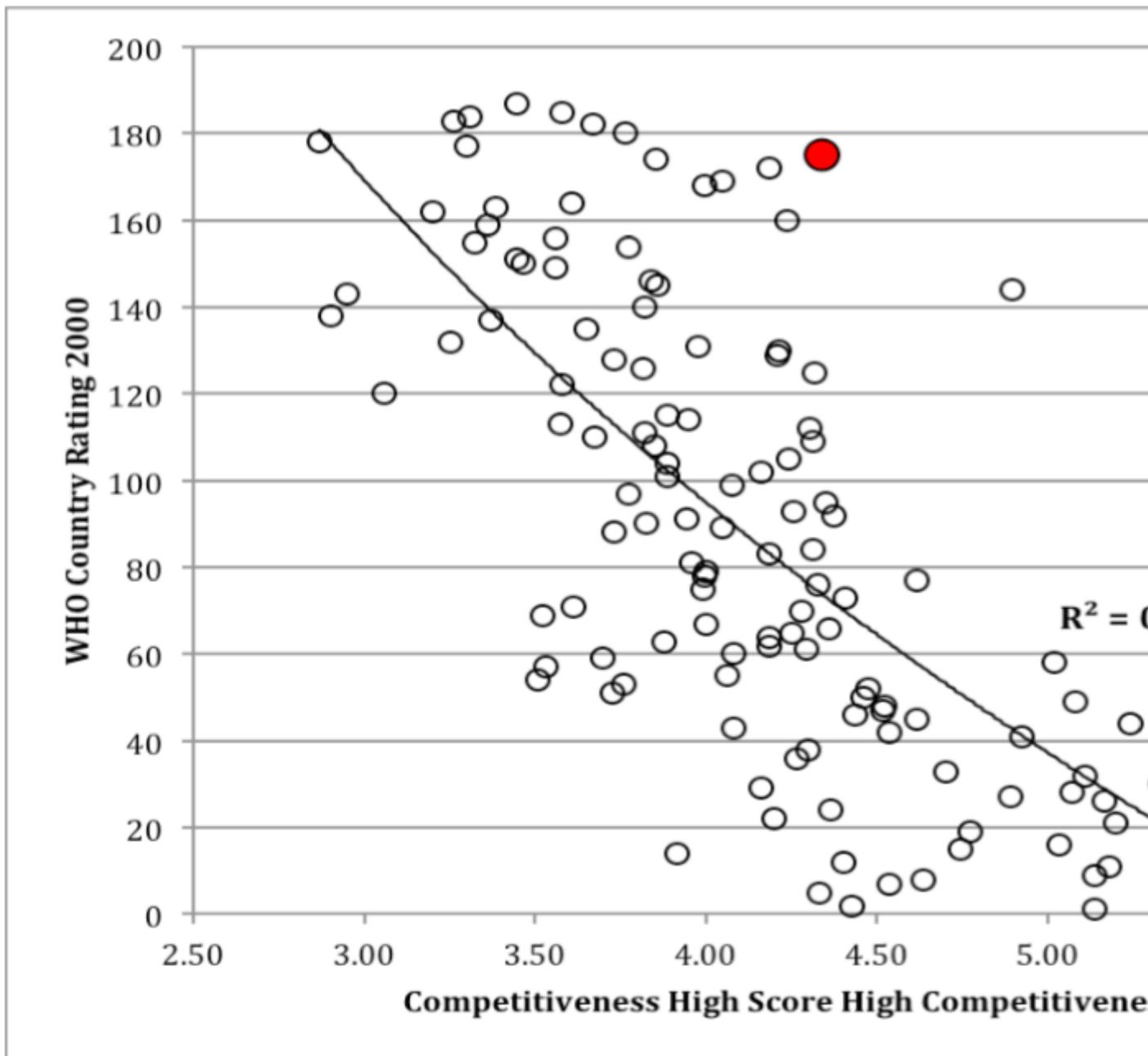


When one considers that the spread of dots resemble a rectangular shotgun it is clear that inequality has very little to do with the quality of a national healthcare system. The immediate reaction to looking at this scatter plot is “in some countries people care, and the rest don’t really care”.

## Competitiveness and the Mineworker, the Nurses, the Doctors and the Big Bad Wolf

The next question was how does a country’s competitiveness reflect in its healthcare system. The answer was not a surprise.

Considering the nature of the data we are using it is quite interesting to find a correlation coefficient as high as 0,53(R<sup>2</sup>). Clearly competitiveness improves healthcare systems but there are exceptions again. Countries like Greece and Italy rank very high in WHO but they are not competitive at all. It would be interesting to see what Greece is doing now that they are in a financial crisis. Will the austerity measures extend to the healthcare system?



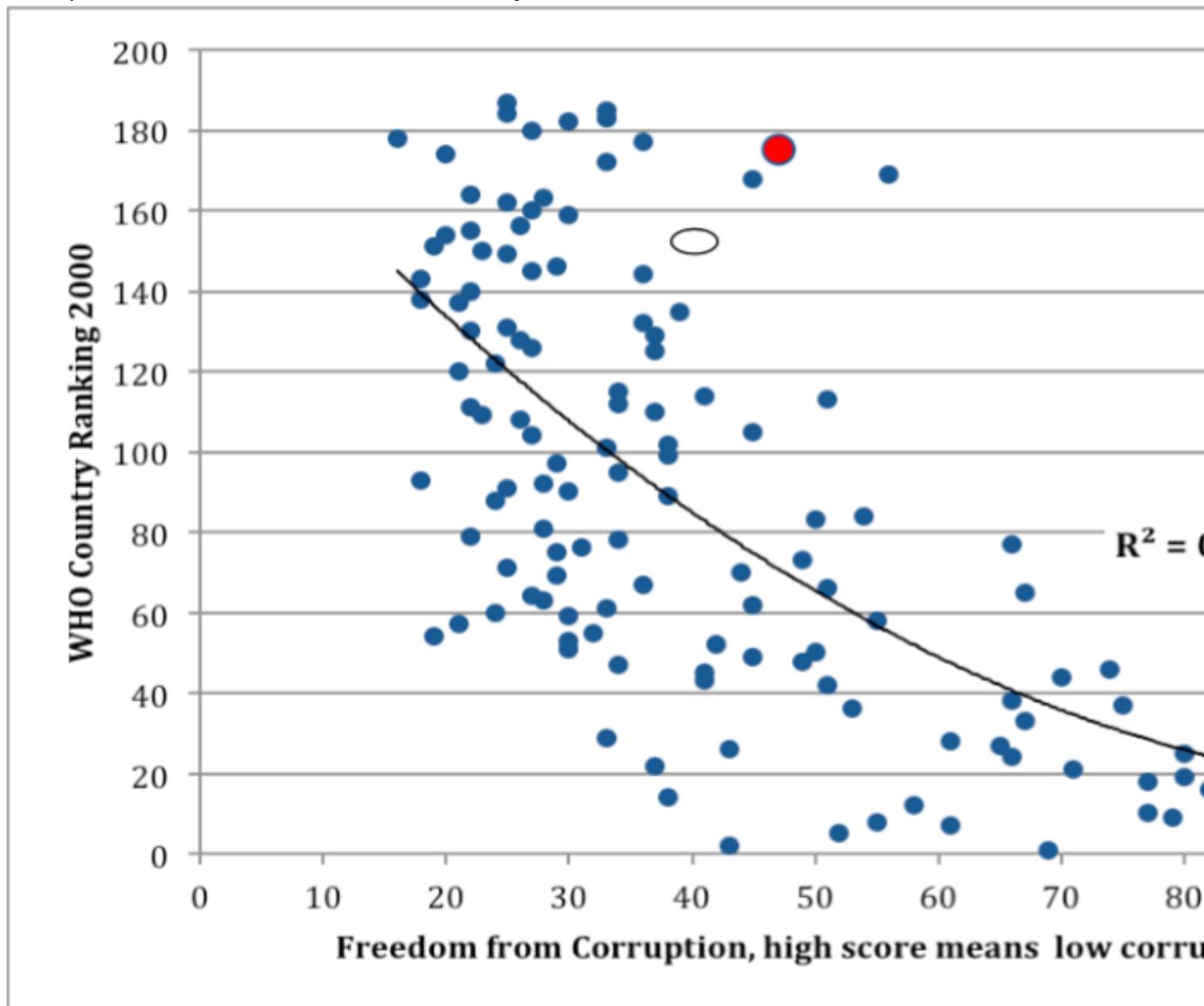
From the position of red SA dot to the trend line lies the question “ SA is not that competitive overall but the healthcare performance is shocking. It looks like a curse. Compared to countries with the same competitiveness score South Africa ranks > 170, the average score is 80 and the best score ranks close to no. 1.

Looking closely at the trend line and the scatterplot there appears to be a threshold in competitiveness where the majority of the scatter moves from the bad side of the trend line to the good side of the trend line around 4,5 on the X-axis. This represents roughly the top 60 countries. A cursory glance at the data table does not the impression that Geography has much to do with it.

### **Mr Big, Corruption**

Lastly the influence of general corruption in a society was compared to the WHO rankings. Not surprisingly there is a link between corruption and the ranking of the healthcare system. The least corrupt countries lie to the right hand side of the X-axis and

the more corrupt to the left. Again there are notable examples of how certain healthcare systems can withstand the environment. In this case it is Italy, Malta and Greece that defy the odds with good WHO rankings and pretty bad corruption scores. Corruption and healthcare correlate well, say no more.



## Summary

It is clear that external factors play a big role in the performance of a healthcare system. Some readers may argue that it is to be expected that corruption, competitiveness and unequal distribution of income will impact on the healthcare of a country. The interesting fact is that the data supports this to a large degree with the exception of the GINI coefficient that does not materially impact on the overall performance of healthcare systems.

The data also shows how wide healthcare outcomes can vary from the average.

Morocco manages to rank 29th in the world on an annual spend of \$ 66 per capita.

South Africa ranks 175th and we spend \$ 268, 4 times more.

Purely on humanitarian grounds South Africa has to take care of its people's health.

Ideologically there may be differing opinions but clearly our country cannot afford the

double-edged sword of a poorly performing public health system and a very expensive private healthcare system

The most significant finding is that in order to have a good healthcare system according to the WHO rating system does not have to cost a lot of money. Morocco is a shining example of what can be done with \$66 per annum per person.

## Summary



Flag map of South Africa

In our South African, context we have to pay attention to a number of things that affect healthcare.

The World Health Organisation recommends that a country spend 8% of GDP on healthcare. Currently the public spend on healthcare is 8% of GDP and the private spend is the same. South Africa spends double the WHO recommended spend on healthcare and ranks close to last.

The public healthcare system is grossly unproductive.

The private healthcare system is very expensive.

The public health system is entirely corrupt.

Before the government asks us to pay more tax they have to learn how to do more for less and the private medical industry has to learn how to be less greedy.

The overall conclusion of looking at worldwide survey of healthcare systems is simply that the Public SA system is inefficient and corrupt. The private healthcare is anti competitive that equates to corruption anyway.

One can say that the Sunday Papers say the same, yes of course but here is the proof.