CDE INSIGHT

Is South Africa about to make an historic mistake?

A presentation by Professor Ricardo Hausmann

Ricardo Hausmann is one of the world's leading experts on what drives economic growth, especially in developing countries. A former minister of national planning in Venezuela, he is now director of the Center for International Development, which is a university-wide centre housed at Harvard University's Kennedy School of Government. Between 2004 and 2008, Professor Hausmann led a group of 28 local and international economists advising President Thabo Mbeki on the economic policies needed to unlock the "binding constraints" on faster economic growth. The resulting reports (all available here) are among the most rigorous and compelling analyses of South African economic challenges, though most of their recommendations have not been implemented.

Professor Hausmann was in South Africa in February/March 2017 at the invitation of the Centre for Development and Enterprise, giving a series of lectures to various audiences both in government and out. This report distils some of the key insights offered in those lectures. The first few entries set out how Professor Hausmann thinks development happens; the last set out his concerns about the deep, historical mistakes South Africa could be making.

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Know-how is the secret sauce of productivity and prosperity

A fundamental question economists ask is why people in some parts of the world are able to produce so much more value than people in other places or in the same place at earlier times.

A key part of the answer economists usually give is 'technology'. But what is this? Economists do not define technology and many of them treat it almost like magic. For this reason they can't tell you how it comes into existence and changes, how it moves from one place to another. Why is there good technology here and not there? How does technology determine what you can and can't do?

The best way to think about what we call 'technology' is that it is an amalgam of three very different things, each of which exists in a different way. One of these is the set of physical tools available to workers. Tools exist in three-dimensional space, you can see and feel them, you can move them around the country or the world. The second is recipes, codes, and blueprints. These are rules and procedures for how you do things to achieve a particular result. These exist as ideas, and, in principle, they can be available to everyone, anywhere; in the age of the internet, they can be shipped instantly around the world at no cost.

Tools can be put in a container and shipped; codes can be put on the web and can move even faster. So if this is all there was to technology, then there should be no underdeveloped countries: all you have to do is put one kind of technology in a container or put another kind of technology on the web, and the problem of poverty should go away.

Know-how is key to developing complex goods and services

The reason this doesn't happen is that tools and codes are only two of the three elements of technology. The third is know-how. This is the ability to use tools and codes properly. And the critical point about know-how is that it manifests in this world and develops only through the wiring and rewiring of human brains that comes of imitation and repetition of tasks.

Think, for example, about how we teach children to walk. Do we actually know how to walk? What do we mean when we say that we know how to walk? In fact, we do not have a clue what muscles we are moving. We do not have a clue how we keep our balance. Our brain knows these things because of the way it has been wired, but we do not really know what our brains are making our muscles do when we walk. So, when we teach a child to walk, we do not transmit that knowledge by explaining conceptually what it means to walk. Children take 14 months or so to learn how to walk, and in that time, what we are doing is wiring the child's brain. And that is what know-how is: the particular wiring of a particular brain, and it does not exist in any other fashion. It is neurons making connections and so on.

So, if all you are going to do to promote economic development is move modern tools to poor places and try to apply the codes and recipes that work elsewhere, you will not succeed. Poorer places also need the people whose brains contain the necessary know-how to know which tools and codes to use and to use them properly.

In addition, a lot of modern technology requires more than one brain. Complex goods and services need teams of people with different pieces of know-how. We can call this 'collective know-how' and it's essential if you want to produce complex goods and services for which no one person could possibly have all the required know-how. Acquiring and using all those different pieces of know-how together is the essence of development.

The education myth

Although there is wide consensus that broadening access to and improving the quality of education is the key to development, the empirical data show this is not actually true. In fact, across the globe, the long-term payoff of expanding schooling has been surprisingly disappointing.

In the 50 years from 1960 to 2010, the global labour force's average time in school tripled, from 2.8 years to 8.3 years. This means that the typical worker in a typical country now has finished primary school and has done a few years of high school, compared to having completed only half of her primary schooling 50 years ago.

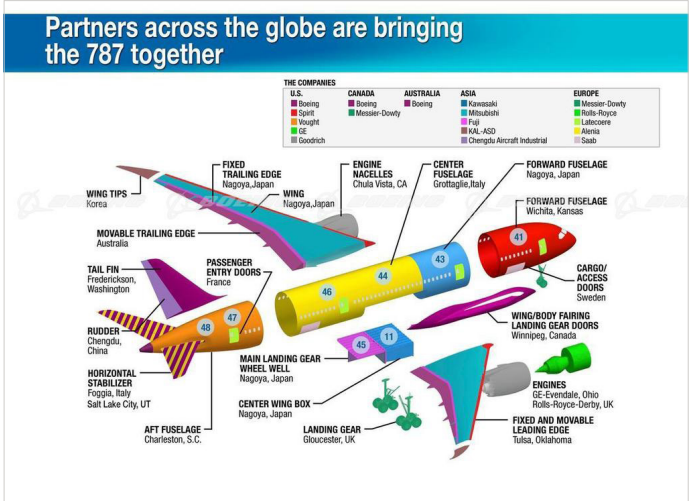
You can see this by comparing how rich different countries are at the point when the average person has a certain number of years of education. In 1998, Ghana's workforce had an average of about seven years of education and its per capita income was about $1 000. When Mexico's workforce first achieved an average of seven years of education – in 1993 – its income was over $10 000, while France's per capita income when its workforce first got to an average of seven years of education (in 1985), was over $20 000.

These figures tell us that rich countries are rich not just because of education, and, conversely, that investing in education alone won't make you rich.

You can see this another way, too: in 1960, Chinese workers had less education than Tunisians, Mexicans, Kenyans and Iranians. The same can be said of Thailand and Indonesia compared to the Philippines, Cameroon, Ghana, or Panama. It is not true, in other words, that countries with the best initial endowment of education grew the fastest. So fast-growing countries must be doing something in addition to providing education.

Confronted with these facts, many people's first response is that education is a necessary but not a sufficient condition for growth. What that really means is that investment in education won't deliver much if the other conditions are missing. Besides, if more or better education is the sum total of your growth strategy, it means that you are giving up on everyone who has already gone through the school system – most people over 18, and almost everyone over 25. It is a strategy that ignores the potential that is in 100% of today's labour force, 98% of next year's, and a huge number of people who will be around for the next half-century. An education-only strategy is bound to make all of them regret having been born too soon.

Economic development is like Scrabble™



Source: The Boeing Company

The key point to understand is that rich societies are not made up of geniuses each of whom has more know-how than people in poor societies. What separates rich and poor societies is that in poor societies everyone knows more or less how to do the same things: to farm, hunt, fish, build, trade with neighbours. In rich countries lots of people know nothing about any of these things, but collectively they know a great many different things. So a society has more know-how, not because it is a society of geniuses. It has more know-how, not because everybody knows more, but because everybody knows something different. When everyone knows different things, society as a whole has more collective know-how than the individual. This means that the growth of social know-how, of collective know-how, is related to the breadth of collective know-how, not how much each individual knows.

Consider a Boeing 787: Boeing, the company, with 165 000 employees makes less than 15 per cent of the parts that go into this aeroplane (purple in the graphic), the rest are made by a vast range of firms all around the world.

To make this aeroplane, you need all of these companies that span all of these countries to contribute their collective know-how. A turbine has nothing to do with landing gear, that has nothing to do with avionics or the toilets in the aeroplane or the seats or the fuselage. And that is before we even think about the accountants, lawyers, logistics experts, and sales force that Boeing needs. So in order to make this thing, you have to bring together a vast network of humans that have to collaborate in production.

One way to think about all of this is what I call the Scrabble™ theory of development which says that products are like words: they are made by stringing letters together. This captures the idea that individual capabilities complement each other because to make most words, you need to be able to combine letters – one letter isn't going to be enough. It also captures the idea that the more letters you have access to, the more words you can make. If you have one kind of letters (an A, say), then you can only make one word and it is one letter long; if you have three letters (an A, C and T) you can make a total of five words, two of them using all three letters. The more letters you have, the more words you can make: when you have 26 letters, you can make every word in the English language.

Every letter represents a kind of know-how, and the more know-how (letters) your society has, the wider the range of goods it will be able to make. In addition, when you have lots of different letters, you are able to make everything that people with fewer letters can also make, but you can also make products that no-one else will be able to make – products with lots of letters. That is the fundamental reason why some countries are richer than others.

Firms are vehicles for doing great things

Because complex goods/services need diverse skills, the principal vehicle for creating them are teams of people. We call these teams 'firms'. And if economic development is understood as being driven by the acquisition of know-how which is akin to the accumulation of letters, then a country could be understood as a collection of teams (i.e. firms) that know how to make certain products. Those teams have people with diverse kinds of know-how (letters) which they combine to make goods and services (words) of different kinds and of different levels of complexity.

Those teams need all kinds of know-how, but they also need other things. If they don't have a certain raw material, they can import it, but then they need to have a logistics system to bring those raw materials in. They need to have power and water. They need to be able to access and buy some services that they might need. They need, in other words, an ecosystem, and that ecosystem is what will determine how firms stretch their capabilities and whether new firms can be developed.

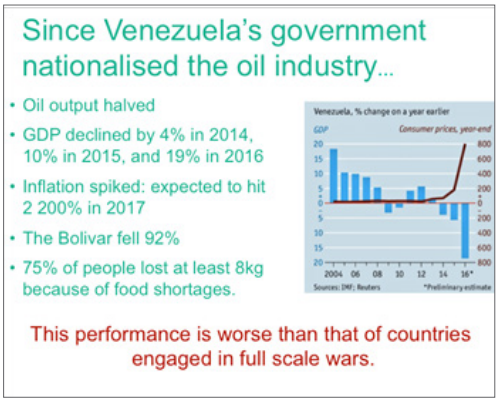
What does this mean for policy? It means that you need an ecosystem that allows more people to come in, develop new capabilities or start putting existing capabilities together in new ways.

Brains move much more easily than know-how

Know-how is transmitted and accumulated slowly, mostly on the job, through a protracted process of imitation and repetition that we call learning by doing. Malcolm Gladwell claims it takes 10 000 hours of imitation and repetition to master something. That's 10 000 hours spent wiring a brain so that it does something well. This is why a large proportion of job adverts require applicants to have experience: workplace experience builds know-how that people can't get by acquiring qualifications.

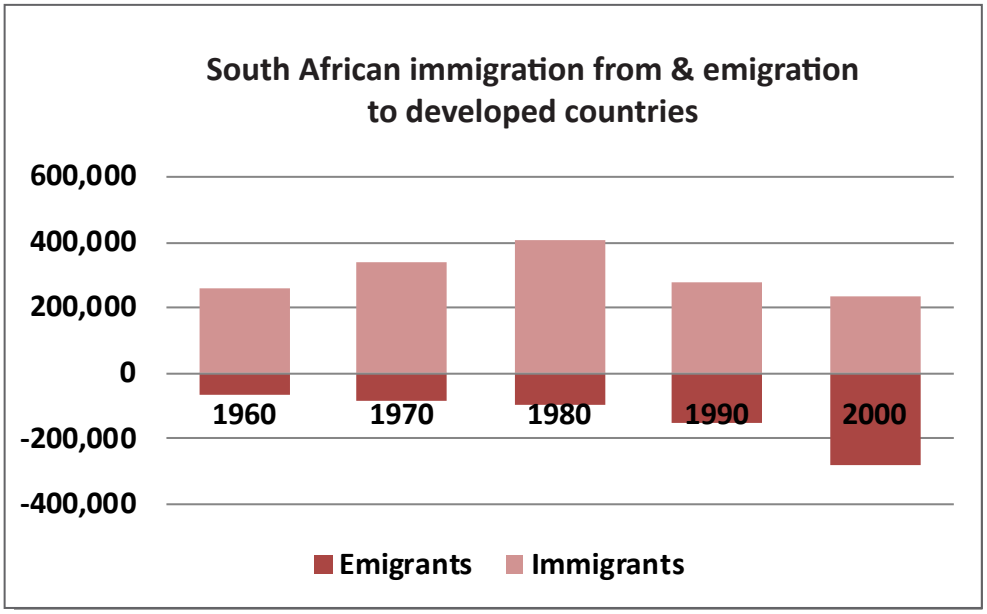
Know-how exists as a wiring of the brain therefore it can't be transferred easily. Know-how can be quickly hired, but it can't be quickly transferred from one person to another. It certainly can't be confiscated; know-how cannot be extracted, like teeth, from the brains that possess it.

Know-how can, however, be gotten rid of, or fired. This happened in Venezuela in 2003 when President Hugo Chávez fired people who had collectively accumulated 300 000 years of experience from the oil industry. The result? The industry's output has halved, and the national oil company is drowning in debt. The cement industry also saw its accumulated know-how decimated, and, as a result, it now produces a fifth of what it did before it was nationalised.



Source: CDE 2017

Firing people is how firms lose know-how; emigration is how countries lose it. Know-how can be scared off, and that is something that has been happening in South Africa. Know-how can also be impeded from entering a country if its immigration policies are restrictive. Again, this is happening in South Africa, with its tight immigration and labour policies, which make it difficult for those with skills to come into the country. In the 1970s, when South Africa had a net gain of people moving here from industrialised countries compared to those who were emigrating to industrialised countries, it was an importer of know-how. This has now become a net loss, with more skilled South Africans moving to industrialised countries than those coming to this country. This shows that, whereas in the past South Africa was acquiring know-how from the developed world, South Africa is now a net exporter of know-how.



Source: Estimates based on data from the United Nations

South Africa risks following countries like Zimbabwe, Venezuela, and Algeria, where post independence or revolutionary governments inherited a stock of know-how located in the brains of people the new leaders may not have liked. "Radical transformation" may lead to the loss of know-how vital to the development of South Africa, through emigration and exclusion.

Ultimately, the question is whether South Africa, like Zimbabwe, sees itself as a black African nation with a few unfortunate impurities, or as the "rainbow nation" promoted by Nelson Mandela, a country that is stronger because it builds on its existing know-how for the whole country and celebrates its diversity.

How South Africa is getting growth policy badly wrong

Historically, there have been two broad ways of interpreting life. One is epitomised by Karl Marx, who said that the history of all hitherto existing societies is the history of class struggle where progress requires the success of one class at the expense of another. The other is to say that the history of humanity is the history of expanding forms of co-operation, and that progress has expanded that co-operation from families to bands and then to tribes and then to whole nations, to international co-operation and so on. All of this has been about expanding forms of co-operation.

Now, if your policies are based on Marx's ideas about class struggle then they will leave out enormous opportunities for co-operation. The gains from co-operation are hugely important: firms work only to the extent that they are able to get their employees to co-operate with each other and to work with other firms;' diverse know-how needs to be put together in ways that create value. However if firms are seen as the enemy (as when they are perceived/described as manifestations of "white monopoly capital"), then the way forward might be to destroy these firms because it is the firms we have that are causing the problem.

The truth, of course, is the opposite: South Africa's problems don't come from the firms that exist, but from the firms that do not exist. That is where South Africa should focus your collective attention.

By failing to do that, by setting up existing firms with their know-how and capabilities as the enemies of its people, South Africa risks making a historically calamitous mistake.

Narratives matter. South Africans need to tell themselves a new story about what is going wrong and what needs to be fixed, because the 'white monopoly capital' narrative, which proposes 'radical economic transformation' as its solution is a recipe for failure.

The logic of radical economic transformation sets SA up for failure

There is no doubt that South Africa needs economic transformation because there are too many unemployed people, and too many people living in poverty. However, the creation of this enemy

of 'white monopoly capital' is based on a lie, and is very counter-productive. In fact, even if you accepted that firms were doing bad things and were the enemy, South Africa's deep capital markets and billion-dollar companies means that it is not even literally true that firms are owned by white people — 30% to 40% of them are probably owned by foreigners and a similar ratio is owned by domestic pension funds.

Besides, making the firms that exist, whoever owns them, the scapegoats for current problems is dangerous. It puts the accent on the firms that exist when the problem for South Africa is the firms that do not yet exist, and that need to be created in order to employ the nine million people who don't work.

BEE is necessary to tackle the inequities of the past, but it has been implemented in a way that is biased towards making the top of society blacker, rather than helping the bottom of society get better. Too many BEE incentives were about shares, about board positions, and about senior management, with very little emphasis on generating entry level jobs. BEE policy has probably accentuated your skill constraints by scaring off white people and by increasing the premium paid for skilled black people. What is needed is a rebalancing of the score card to give more credit to companies that generate opportunities at the bottom, mostly by creating the kinds of low-skill jobs that will make inroads into South Africa's employment crisis.

BEE is a partial correction for past sins, but growth comes from start-ups, from new firms. Start-ups in any country typically face high death rates. By diverting attention away from creating new firms and imposing costs on existing firms, BEE is probably causing fewer of these firms to be created, and making sure that more of the firms that do get off the ground die. This is a very serious problem in a country where unemployment is the biggest challenge.

Of course, whether a particular set of policies sound crazy or sensible depends on the conceptual paradigm, or belief system, that we use to interpret the nature of the world we inhabit. And it's easy to see why this story about 'white monopoly capital' is politically attractive. Countries can take wrong turns and get into dead-end streets, and if your policies are based on these false narratives, you will make historic mistakes.

There is a similarity here with Venezuela, where the ideology of Chavismo has blamed inflation and recession on devious business behaviour that had to be controlled through more regulation, more expropriations, and more managers in jail. The destruction of people and organizations was perceived as a step in the right direction. By getting rid of those villains, the country would be healed.

While the particular Chavista creed that destroyed Venezuela will most likely end up collapsing under the weight of its own cataclysmic failure, the lesson others should learn is how costly it is to embrace a dysfunctional belief system, and how costly an experiment in dysfunctional belief systems can be. In the quest to "return" the wealth to the people, you may end up impoverishing them.

SA's greatest strength is its capacity to resist those who will make it fail

South Africa's system of checks and balances is still robust, and its institutions – the judiciary, the press, opposition parties, the Public Protector, the National Treasury, and a range of others inside and outside government – remain strong. Countries stand or fall by the strength of their institutions, and this is one of South Africa's greatest strengths compared to many of its peers. These are like an immune system to fight the disease of corruption and poor governance.

South Africa is also moving into a period of greater political competition. The country is moving away from a dominant-party system to a much more competitive multi-party environment. This, too, will strengthen South African's immune system.

Corruption in South Africa has created these antibodies; other countries are not as lucky. Venezuela is, once again, a good example. The first lady of Venezuela, Cilia Flores (who styles herself as the 'first combatant'), has two nephews who were caught trying to smuggle 800kg of cocaine into the United States. They were travelling on Venezuelan diplomatic passports. They are now in custody in New York, having been found guilty, and are awaiting sentencing. In Venezuela the only people who have been punished for this, or been sent to jail over this scandal, are journalists who have written about it. In addition, the vice president of Venezuela, Tareck El Aissami, has been declared a drug kingpin by the United States, and a number of his assets in that country have been seized. The Venezuelan National Assembly may not discuss the topic.

This is what happens in a country when there is grand theft and no immune system. South Africans should cherish the immune system that they have and work to strengthen it. It is this immune system which will protect you from what is happening in Venezuela.

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