

[South China Morning Post](#)

Singapore and baby economics

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19 June 2007

Having children may enrich your life, but most parents would surely agree that the little darlings leave you financially poorer.

Now, if the Singapore press is to be believed, having too few babies rather than too many can impoverish whole economies. "Having fewer babies may lead to a depreciation of a country's currency," warned the republic's Business Times newspaper last week, citing a research paper from the Monetary Authority of Singapore.

Well, not exactly. The MAS economists did not mean that if Singaporeans fail in their national duty to procreate, the Singapore dollar will crash in the foreign exchange market. The paper's authors were not talking about ordinary, everyday market exchange rates. They were examining the effect of falling fertility on something called the real effective exchange rate, an altogether slipperier concept.

The first thing to understand about a country's real effective exchange rate is that it is not real at all. It is a theoretical indicator used by economists to measure an economy's international competitiveness; an index compiled by taking the weighted average of a currency's exchange rates against the currencies of its trading partners, adjusted for differences in inflation.

This can lead to some strange effects. Hong Kong has a fixed exchange rate but has suffered from a wildly swinging real effective exchange rate (see chart). During the late 1990s, our inflation rate outstripped that of our trading partners which meant we underwent a real effective exchange rate appreciation. In other words, Hong Kong became more expensive than other places, so we became less competitive.

After the Asian crisis, however, Hong Kong endured a long period of falling prices. As a result, our real effective exchange rate dropped by 30 per cent and we regained our lost competitiveness.

Babies can make a big difference. If people have fewer kids, they spend less and save more. But a country with fewer children has less need to invest domestically. The excess savings must be exported which means - because the balance of payments always balances - the country has to run a current account surplus. And according to economists, as a country moves into surplus, its real effective exchange rate depreciates.

No one has fewer children than Hongkongers. According to the latest estimates, each woman in Hong Kong will have on average just 0.98 of a baby. That places Hong Kong

217th and bottom of the global fertility ranking. Even frigid Singapore looks frisky in comparison, coming in at 215th place with on average 1.07 babies per woman. (The mainland ranks a lowly 158, with 1.75 children per woman. Macau is 216th, between Hong Kong and Singapore.)

If the Monetary Authority of Singapore is right, this low birth rate means we should expect more real effective exchange rate depreciation in the future. With our fixed currency, that means we could be in for another bout of deflation but at least our competitiveness will get a boost.

Making babies might be fun but as any parent will tell you, it is also economically challenging.

Having fewer babies hits exchange rates: study

Nande Khin

531 words

13 June 2007

[Business Times Singapore](#)

English

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Fall in fertility rate of one child per woman sees a depreciation of 0.15%

(SINGAPORE) Thinking of not having children? While this would of course save you money, it might also have the unexpected effect of hitting the Singapore dollar.

Related article: [Click here to view the MAS staff paper](#)

A paper released yesterday by the **Monetary Authority of Singapore** (MAS) has found real evidence that a decline in a country's fertility rate of one child per woman leads to a depreciation of about 0.15 per cent in the real effective exchange rate of the country's currency.

This effect is 'of plausible economic size, being neither trivial nor incredibly large', observed the authors of the paper, Andrew K Rose and Saktiandi Supaat.

Their paper comes at a time when governments in developed countries, including Singapore, are worrying about how to boost declining birth rates. United Nations data show that the average world fertility rate has fallen dramatically - declining some 48 per cent from 3.92 in 1970-85 to 2.65 25 years later. This still means a rising world population, but in Singapore, the fertility rate is at an even lower 1.26 and well below the 2.1 replacement level.

This new study examines the consequences of such demographic changes on international finance, particularly on the real exchange rate for national currencies.

It was based on data for 87 countries (including Singapore and other developed nations as well as developing countries) between 1975 and 2005. The authors described this as a 'sample of great demographic change and cross-country heterogeneity'. They cut the sample up in a number of different ways, such as by dropping observations for developing countries or those for high-income countries, to test whether the linkage between fertility and the real exchange rate held.

'None of these checks shake our confidence in the basic result. The effect of the fertility rate on the log of the real effective exchange rate is always estimated to be positive, with a semi-elasticity of around 0.15,' the authors said in their paper.

They had also accounted for a number of other reasons why exchange rates adjust, including deviations from Purchasing Power Parity, the effects of trade liberalisation, government spending, net foreign assets, and so on. But they still found that one fewer child per woman on average is associated with a real effective depreciation of around 0.15 per cent. 'This result seems sensible and plausible; it is also quite robust,' they said.

The empirical evidence supports the intuitive theoretical linkage between the fertility rate and the real exchange rate. The Life-Cycle theory argues that raising children will lead to increased consumption and thus reduced savings, as children tend to consume more than they produce.

Therefore, if a country has fewer babies, savings are expected to increase. Investment may also drop if there is a decline in the future equilibrium capital stock resulting from a smaller populace. If savings rise and investment falls, the current account improves and a real depreciation of the exchange rate is required to deliver this current account response.

BZC

More babies, stronger currency; MAS analysts find strong link between birth rate and currency strength

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421 words

14 June 2007

[TODAY \(Singapore\)](#)

AM N PM

36

English

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The number of children you have buoys or dampens the Singapore dollar.

Sounds far-fetched? Not according to a breakthrough study by the local central bank and an American professor.

They have found that when a country's fertility rate falls by one child per woman, the real exchange rate depreciates by 0.15 per cent.

With less child-rearing to do, people consume less and save more; investment also tends to drop due to a smaller population. When a country saves more than it invests, the current account improves and the exchange rate weakens in response.

This was the "life-cycle theory" that academia has speculated about for years, without testing the idea. Now there is strong evidence to back it up.

By analysing data of 87 countries between 1975 and 2005, researchers at the **Monetary Authority of Singapore** (MAS) arrived at the figure of 0.15 per cent.

This is "of plausible economic size" and "great statistical significance", according to a staff paper by Professor Andrew Rose of the Haas School of Business at University of California, Berkeley, and MAS' senior economist Saktiandi Supaat.

"There's a completely standard hypothesis that we know of that no one has investigated. We're the first people to investigate and it works well. And that's rare in economics. Almost no economic theoretical models work well in practice," Prof Rose told Today.

He said however that the impact on Singapore policies would be "very, very small".

This is because MAS keeps inflation in check by targeting the Singapore dollar's nominal exchange rate, not the real exchange rate. If anything, the analysis "may give the MAS a slightly more accurate view of the target that they can reasonably expect to hit", said Prof Rose.

Singapore's fertility rate is currently at a dismal 1.26, which is under the replacement level of 2.1 and lower than the global average of 2.65 in 2000.

As the world struggles to find solutions for a fast-ageing population, studies such as the latest one contribute to the ongoing analysis of fertility and demographic changes.

Said Prof Rose: "In many rich countries, there's this enormous burden on the public sector imposed by the growing numbers of old people and from the declining willingness of young people to have kids. Changes in fertility and demography are going to have profound social implications