DEVPOLICYBLOG

A policy to boost PNG's rural economy

By Rohan Fox
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Agriculture is vital to the Papua New Guinea (PNG) economy. Agriculture provides 22% of PNG's GDP, accounts for 11% of its exports and supports over 80% of the population. When inflows from the resource sector weaken it is time for the agriculture sector to strengthen. This is particularly true for exports, which have been shown to be a pathway for many economies to sustained development.

If people are going to continue to eat, earn a living and survive, agriculture is extremely important – more so during these difficult COVID-19 times. This blog looks at agriculture, and in particular the flows of income that would enter the export sector as revenues based on exchange rate policy.

Exchange rate policy impacts people's day-to-day lives through their earnings, particularly those involved in agricultural exports. As will be demonstrated in this blog, if the local currency unit real exchange rate (LRER) was allowed to increase in value, the last few years could have been a boon to agricultural exporters in PNG.

The basic math of this is simple. If the kina rate increases from 3 kina to 4 kina per dollar, then, if the price of a bag of coffee beans is US$100, before the appreciation coffee growers would get 300 kina per bag; after the appreciation, they would get 400 kina per bag. This policy to increase the LRER is commonly called an exchange rate devaluation because an *increase* of 3 to 4 kina per dollar is equivalent to a *decrease* from 33 cents to 25 cents per kina. But the word "devaluation" clearly emphasises the downside and misses the upside. As described in a prior blog here, "appreciation" is equally valid to describe this policy.

This blog makes an estimate of how much extra revenue would have been made from agricultural exports if the LRER had not been kept low through foreign exchange rationing. This figure is not meant to be exact, but rather is used to demonstrate the importance of exchange rate policy to this vital industry.

To do this, first, I calculated the revenues in kina from cocoa, coffee and palm oil exporters

by taking yearly data from 2015 to 2019 on export volumes and multiplying by the average price of the goods for each of those years and converted these amounts into kina based on the nominal exchange rate. Then I adjusted the figure based on an estimate of the misalignment of the real exchange rate. For 2015 to 2017 I used estimates based on previous research, while from 2018 to 2021 I made an estimate based on what the nominal exchange rate would have been had the LRER moved up after the resource boom at the same rate as the nominal exchange rate. In summary, I compared an average LRER appreciation of 23% to the approximately 1% of appreciation that has actually taken place. I then calculated the difference between the original and new revenue figures and adjusted for inflation to convert to 2020 prices.

The yearly results are shown in Table 1 below. The suggested increase in revenues across the five years in question would have been K305.6 million for the cocoa industry, K518 million for the coffee industry, and K1.44 billion for the palm oil industry. This is an average improvement in revenues per year of around K61 million, K104 million and K288 million, respectively. While it is difficult to know what the profit increase would be once various costs are taken into account, it is clear that significantly more kina could have been entering rural and remote economies in PNG since 2015.

Table 1: Extra kina revenues earned by key agricultural export industries with an LRER appreciation (2020 prices)

	Cocoa	Coffee	Palm Oil
2015	74,474,246	96,326,933	247,799,671
2016	66,417,815	117,708,055	228,074,407
2017	46,881,699	101,468,325	336,720,018
2018	65,719,971	112,908,826	338,323,012
2019	52,137,593	89,579,307	289,780,990
Total	305,631,324	517,991,447	1,440,698,097
% of total revenues	22%	21%	22%

Source: author's calculations using data from Bank of Papua New Guinea, PNG budget database, World Bank, www.statista.com and www.macrotrends.net. Calculations can be downloaded here.

The profitability of the agricultural businesses would depend on the rate at which they use imported machinery and other inputs versus employees and domestic inputs. Those who used more domestic inputs would have a higher rate of profitability. However, all profitable agricultural export businesses would be more profitable with a higher LRER. This analysis also assumes that there is no supply response to the increased revenues. If the sector

produces more in response to the better conditions, then the revenues would be higher still. These estimates also ignore the increased opportunities for vegetable farmers, who would be better positioned to compete with imports with an appreciation. Of course too, any agricultural export, even those not mentioned, vanilla for example, would also benefit. So, in other words, these estimates are conservative.

This demonstration of potential gains is also a demonstration of opportunities lost, but it is not too late. There are current and future benefits to be had. Agricultural export revenues can still be increased, if the PNG government makes it a priority, limits the rationing of foreign exchange and allows the exchange rate to adjust to its market level. If and when a resource boom ends, agriculture can take its place as the major engine of growth and employment.

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About the author/s

Rohan Fox

Rohan Fox was a Research Officer at the Development Policy Centre. He lectured in the economics program at the University of Papua New Guinea in 2015, 2016 and 2020.

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