PNG's Economy 2018– past, present and future prospects

By Paul Barker, Executive Director, Institute of National Affairs

Overview

Economic Performance and Issues: Papua New Guinea is now in its sixteenth year of (virtually) uninterrupted economic growth. During that period the country has experienced several years of strong GDP growth, but it has been erratic, and since 2016 has declined heavily, remaining below the reported population growth rate. Growth in the non-mining sector has been subdued in recent years, particularly since 2015. Overall economic activity remains weak during 2018, although there are signs of some recovery in the non-mineral sector, and firm restoration of mineral production since the devastating earthquake in February 2018.

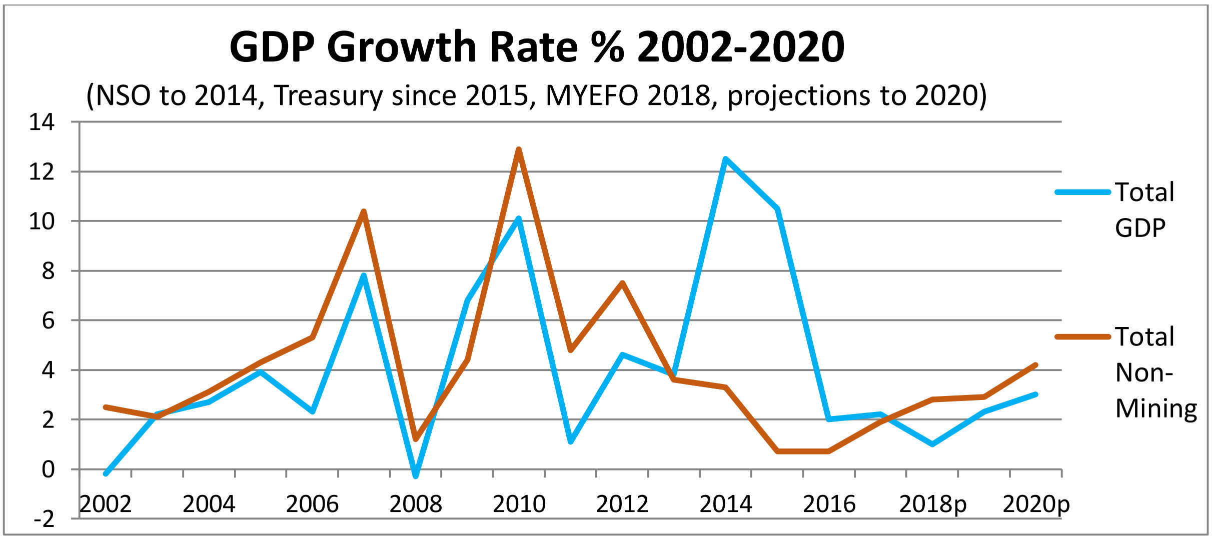
After the relative economic turbulence of the 1990s, associated with poor fiscal and resource management, market and political instability, the 2000s experienced steadier economic recovery. This came on the back of strengthening commodity prices, some governance and economic reforms at the beginning of the decade, combined with fiscal restraint, and associated reduced public debt, inflation and interest rates, plus the opening up of some markets, notably for telecommunications (initially mobile phones) to greater competition from 2007.

Urban real estate prices, but also living costs, were rising fast later in the decade, and with high liquidity in the banking system, buoyant demand and improved business confidence, the long-subdued office and upmarket residential construction industry took off. PNG was not severely impacted by the Global Financial Crisis of 2008/9, although prices of some commodities dropped back, and it was unfortunate that PNG hadn't established its Sovereign Wealth Fund in the earlier 2000s, prior to the commodity boom from 2005, to help smooth subsequent revenue instability and restrain poor expenditure in the buoyant years. High expectations had focused on the proposed gas to

Queensland project in the early 2000s, which was shelved in the face of rising costs and relatively low gas prices in Australia. The surprisingly quick transition from gas pipeline planning to the Exxon-led PNG LNG project, and optimistic economic forecasts (in 2008-2009) of its prospective impact, even with the scenario of lower gas prices, helped stimulate investment, including the urban real estate market and construction boom, when other countries were facing the financial and economic crisis.

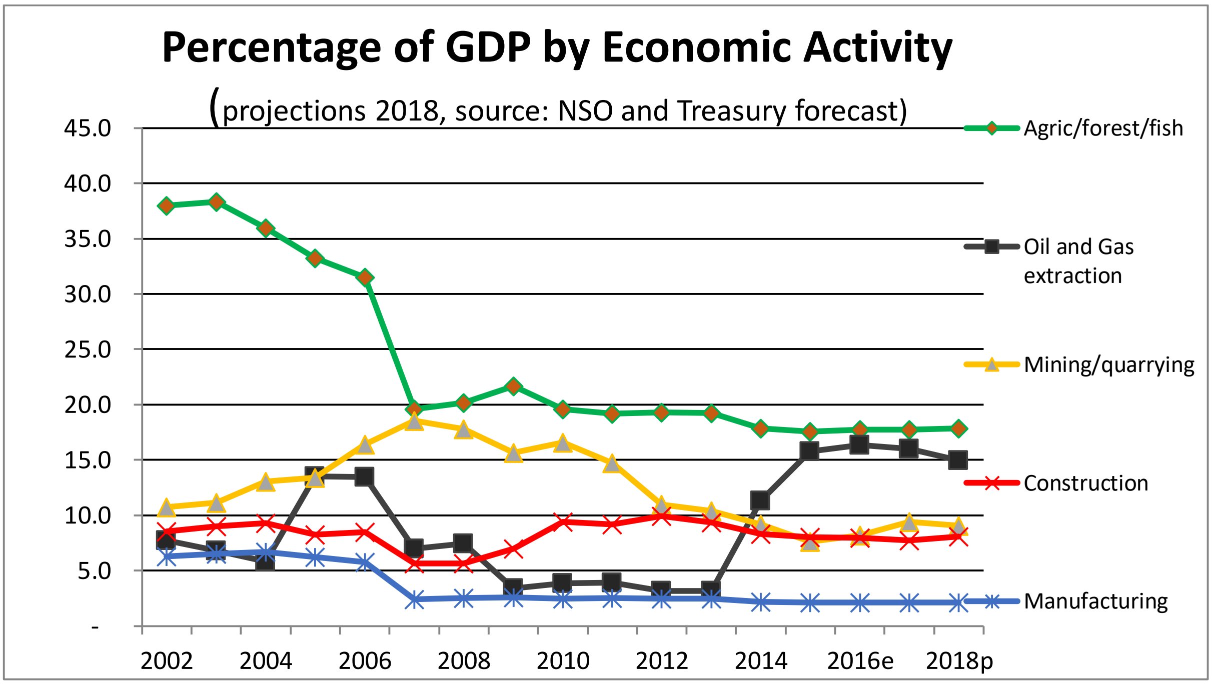
The conclusion of the LNG construction phase, combined with a severe fall in commodity prices from mid-2014, including hydrocarbons, and the El Nino induced drought and frosts in 2015/early 2016, which subdued agricultural and some mineral production, restrained the growth rates predicted with the commencement of LNG production, and brought real economic growth down to 2% in 2016 (below the population growth rate) and non-mineral growth to barely into positive territory. (Demographic and economic data is problematic in PNG, and statistics should be treated with caution.)

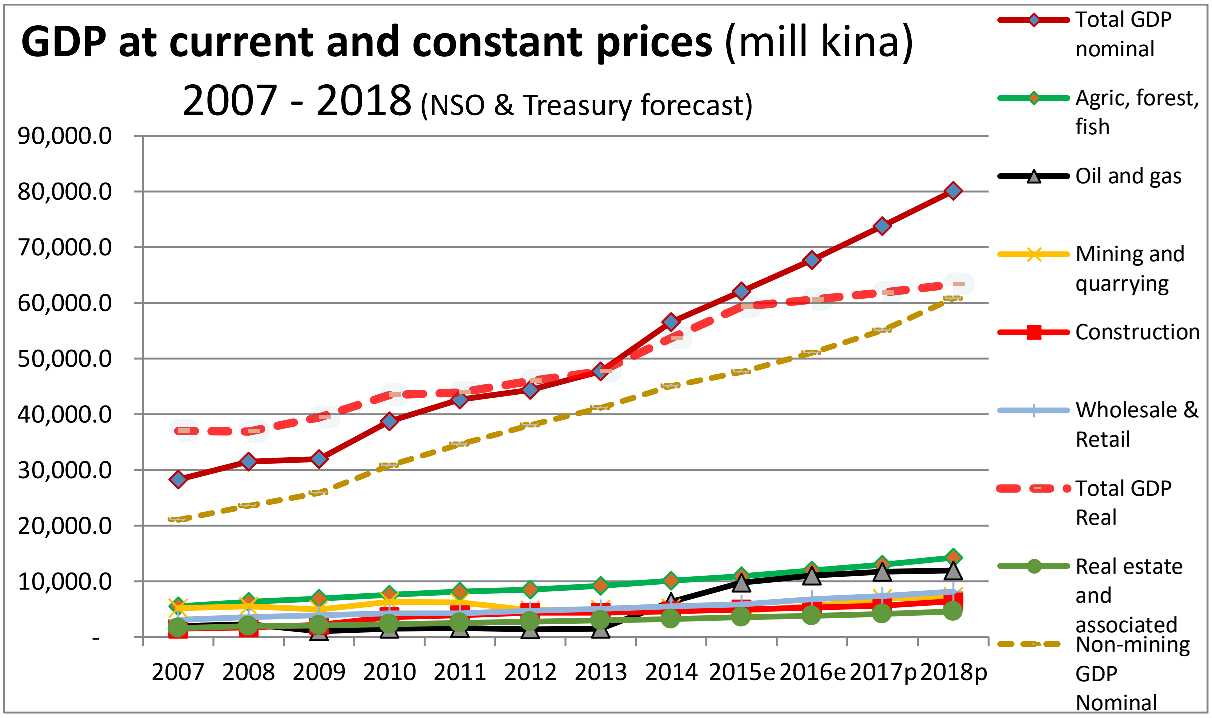
The growth rate for 2015, the first full year of LNG production, was calculated (by NSO) at 10.5%, well below forecast, largely owing to the lower commodity prices and the El Nino, and as the LNG's impact was substantially incorporated into 2014 figures (12.5%), but it also highlighted the wider downturn in business activity. With no new major resource projects commencing and weak non-mining activity, including as a result of shortage of foreign exchange, GDP growth was recorded at a mere 2% for 2016, and has remained low since then. Apart from its devastating social impact locally, the major earthquake in February 2018 undermined production from four of the country's major resource projects for varying durations, and (despite prompt recommencement of production in most projects) contributed to a low growth rate for 2018 projected at 1%. The non-mining growth rate had been declining since 2011, and was recorded as 0.7% for both 2015 and 2016, picking up to 1.9% and a projected 2.8% for 2017 and 2018, although some economists argue that even these rates exceed the reality on the ground.

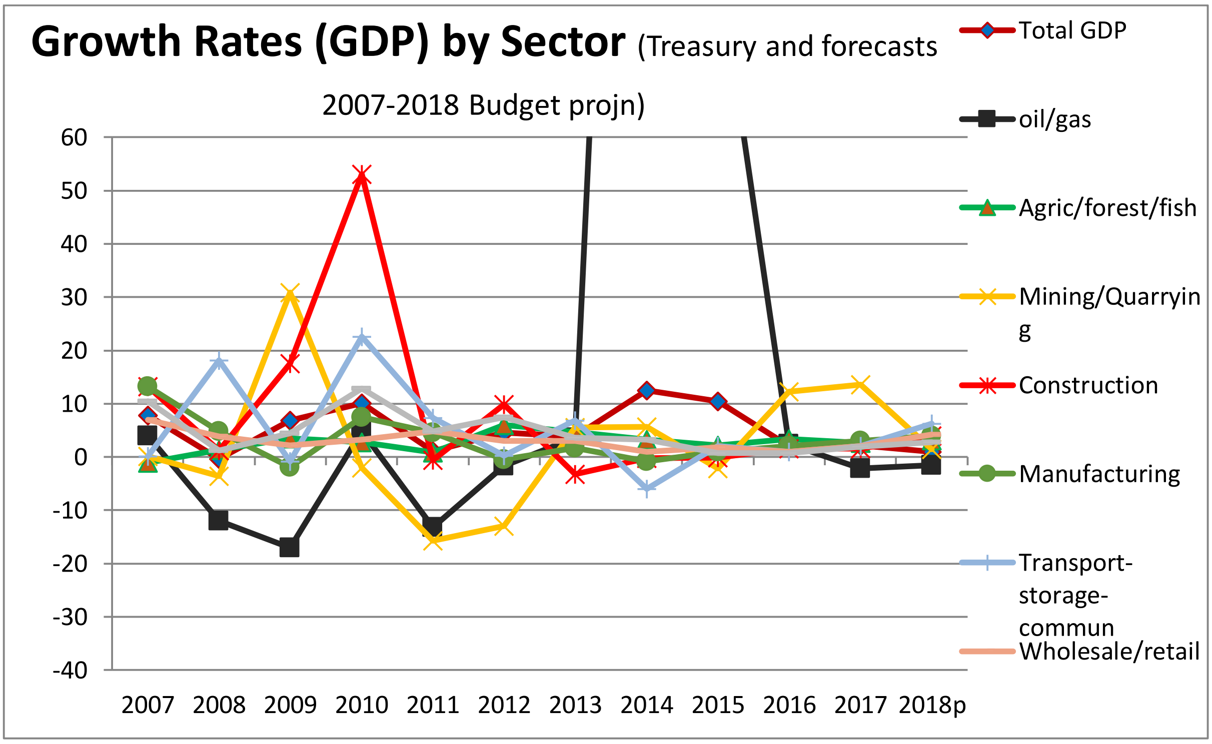


The fiscal stimulus from major government construction projects, notably in NCD, helped cushion the downturn, but, with the severe fall in revenue since 2014 (at least until 2017) and the growing debt and associated rising debt servicing costs, the government had to restrain its levels of expenditure. Expenditure was reduced through 2015 until 2017, further restraining household incomes and spending and business activity, and with certain major expenditure protected (including District grants, 2017 Election and APEC) funding for some priorities were cut. In 2018 public expenditure was restored almost back to 2014 levels, although still well below in real terms, and some unbudgeted project expenditure was provided by certain development partners, notably in NCD. The balance of payments deficits from 2012 until 2017, caused by the low export values and lack of further major foreign investment, and the non-remission of export earnings into the local market put downward pressure on the kina, and, when combined with foreign exchange market interventions, resulted in a shortfall in available foreign exchange from mid-2015, impeding trade, and in turn restraining wider economic activity, not just of exporters, but manufacturers and others needing imported goods and services. Indeed, shortfall of foreign exchange was widely highlighted as the main impediment to business and investment in 2017. During 2018, with general improvement in commodity prices, and an additional international borrowing by the Government, the level of reserves is reported to have recovered somewhat.

Oil and gas made the greatest gain as a portion of GDP, rising from 3% in 2013 to 17% in 2016 on the back of LNG production, before settling back in 2018, owing to the earthquake and as other economic activities, particularly in the non-mining sector picked up. Mining's proportion has fallen from 18% in 2007 to barely 8% in 2015, with low prices (except for gold) and production, but recovering slightly since 2016, with restoration at Ok Tedi, some additional smaller operations (notably K92), despite earthquake disruption in 2018. Agriculture has slipped from 38% in 2001 to about 18% in 2015, although it must be recognised these figures are relative, with other sectors all declining relatively to the major increase in petroleum/gas since 2013. Construction reached 10% of GDP in 2010, but has subsequently sipped back after the completion of the PNGLNG project, although continued, largely donor funded, projects and urban real estate have sustained activity.







Although well below recent or historic peaks, 2018 has seen improvements in the prices of a few of PNG's major export commodities, notably oil and LNG, gold remains firm, others remain well above recent lows, including copper, but others, including many agricultural commodities and nickel, have seen falls in 2017 and 2018 or remain in extended lows. The weaker kina has provided a valuable interim safeguard for agricultural exporters and tourism operators trading in US dollars.

The major and unexpected earthquake at the end of February 2018, centred near the Southern Highlands/Hela and Western Province borders, which shifted whole mountain ridges, caused extensive injury and loss of life, and wider social impact, with loss of homes, gardens and infrastructure. It also damaged facilities to different degrees at PNG LNG, Kutubu Oil, Porgera mine (notably its power provision from Hides) and Ok Tedi, and disrupting production and exports, or levels of production from a few weeks to months. All projects restored production in a relatively short period, although in some cases initially at substantially reduced levels or graduated recovery. The improved oil and gas prices would have largely covered the reduced production and the Ok Tedi damage was light and production recommenced quickly.

PNG continues to demonstrate a development paradox. Regularly referred to as resource rich, it exhibits amongst the worst social indicators in the Asia-Pacific region and has seen limited benefits from extractive industries in terms of revenue in recent years, or employment beyond brief project construction phases. Ensuring that the benefits from extractive industries are extensive, reasonable and timely is critical, but also that the country develops a strong and sustains a dynamic non-mineral sector, providing broad–based economic and employment opportunities and livelihoods.

This requires effective reinvestment, notably by the State, of the proceeds from the extractive sector into suitable and reliable infrastructure and services that will be enable the rest of the economy to develop, including by reducing production and marketing costs and improving skills, health and capacity and public safety. It also requires suitable macro-economic and monetary conditions, including availability of foreign exchange and suitable exchange rate. Although aspects of the so-called 'resource curse' have been prevalent over the past 10 years, the 'Dutch Disease' characteristics, associated with appreciating exchange rate undermining prospects for other sectors has not materialised, largely in view of the lower commodity prices and non-remittance of proceeds from major resource projects. That issue will remain an issue to prepare for in the future, including during major project construction phases, but in the meantime tackling constraints and sustaining and developing agricultural and other livelihoods must be a priority, including for extractive industries, productive and harmonious local communities.

Palm oil and other vegetable oil prices have fallen during 2018 and during recent years; coffee and cocoa prices are also weak, and rubber, the main cash crop on the doorstep of the Ok Tedi mine, is facing very low world market prices.

Global markets into 2019 entail not only uncertainty around supply and demand trends, but also the prospects for trade and economic activity associated with ongoing threats to world trade and the prevailing systems-based trade and economic order, notably with the two big players, the US and China squaring off. With the US now the major hydro-carbon producer, on the back of fracking, and threats of sanctions over Iran and other Middle-Eastern despite, but a continued drive towards renewable energy sources as costs fall and , even with reactions from populist leaders to the Paris Accord, the general prospect is for oil prices to weaken, while demand for LNG strengthens over time. Gold prices are likely to remain steady, particularly in the face of uncertainty and perhaps weakening markets, but remaining the commodity for safety with a possible global downturn. Other energy resources, including cobalt and bio-fuels are likely to remain buoyant, and other agricultural crops face mixed performance, but are liable to strengthen, particularly in the face of any further El-Nino effect, as forecast as a medium possibility by meteorological offices. Such a scenario in 2019, and its intensity, should be closely monitored by government, agricultural and relief agencies, but also resources companies, invariably impacted directly and indirectly from such natural occurrences.

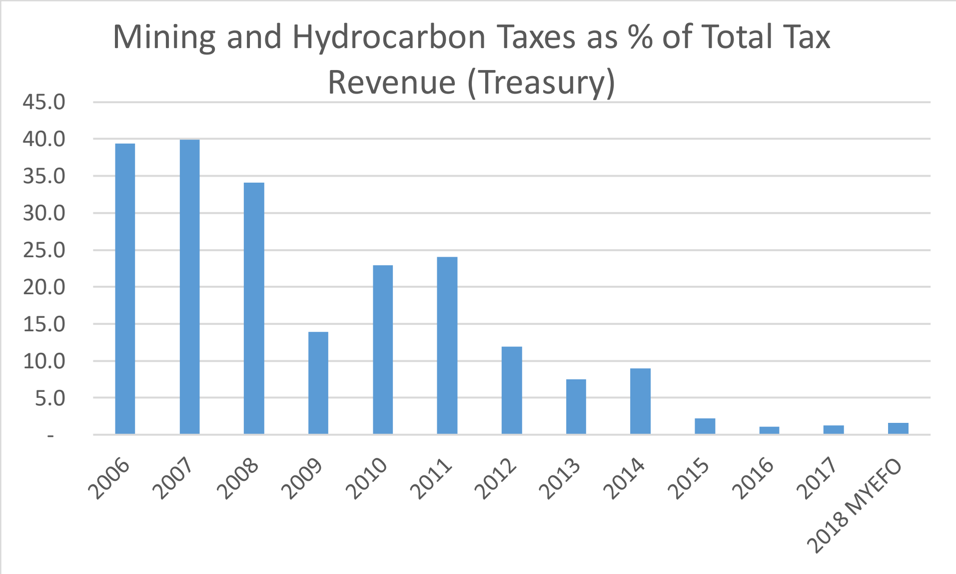
The Treasury's forecasts (2018 MYEFO) were a recovery of growth to 2.3% in 2019 and 3% in 2020 and 2.9 and 4.2% for non-mining. Weak non-mining corporate profitability is likely to continue restraining government revenue and hence expenditure, although progressive restoration of the Highlands Highway, improved foreign exchange availability and more responsive payments of debt by Government should stimulate economic activity.

If any major resource projects (notably Papua LNG, P'nyang or Wafi Golpu) are given approval in the near future to proceed, there would clearly be an impact on the growth and formal sector employment notably from 2020, particularly during construction phases. With the successful development of PNG LNG at competitive cost for production from 2014, substantial known additional gas resources available, and a growing East Asian LNG market, the prospects for further developments commencing in the near future are strong, and various resource projects have now reached negotiation phase, but the impact of such projects on the economy will substantially depend on the outcome of those negotiations, and further LNG developments will no longer be classed as green-field, and liable to be subject to less concessional conditions.

The extractive industries overtook agriculture in 1984 in terms of export value, and have become dominant in export earnings; however, non-mining activities remain fundamental to the economy, in terms of overall GDP (projected at 76% for 2018). In terms of more useful measures of economic benefit for PNG, including GNI (which measures economic flows retained within PNG), and household income and employment, the renewable resources sector remains even more critical to the economy. The severe fall in mining and oil/gas taxation paid since 2007, and particularly since 2015, highlights the need for both a diversified economy and more reasonable fiscal conditions in the extractive sector, to ensure fairer and timely share of benefits.

Apart from export earnings and the employment creation and multiplier effect particularly during project construction phase, the major benefit to the PNG economy from extractives, is the revenue for the State from the resource (which it owns) to provide needed public goods at national and local levels, to enable broader-based and sustainable economic activities to proceed, including through reliable access and human resource development, including health and education service provision.

The revenue accrued from extractive projects, plus other local benefits, including to local resource owners, clearly provides the project and its investors their social mandate to operate. Ensuring fair, transparent and equitable investment benefits are incorporated in mandated investment conditions, and in project agreements and their application, must be in the best interests of the Government, PNG society and local customary landowners, as well as the investors. Fair and transparent transactions, including project agreements, subnational transfers, compliant social and environmental conditions, awareness of beneficial ownership, all form the basis for the Extractive Industries Transparency Initiative (EITI), to which PNG is now a validated member, based upon its 2016 report. The report, however, highlights extensive deficiencies in reporting by some government and private organisations, recognising progressive improvements since the first report for 2013. It also highlights the diminutive revenue from the sector, with over K25 billion of mineral exports reported for 2017, generating a mere K114 in mining/petroleum taxes (plus K562 in dividends, based upon purchased equity).



The relatively poor performance in translating resource wealth into broader-based social and economic opportunities over the past decades can be attributed particularly to weak capacity and poor governance of public institutions, inconsistent and some unsuitable policies (undermining responsible business and investment) and poor adherence to policies and laws. In recent years the Government has introduced further policies, plans and legislation, including the National Planning Framework, PNG Planning, Monitoring and Responsibility Act, amended public finance and procurement legislation, the National Strategy for Responsible Sustainable Development (STARS) and (following extensive consultation) the Medium Term Development Plan 3 (2018-22) aimed at improving the consistency and accountability of public financial management including compliance of expenditure with agreed priorities. In October 2018 the Government also approved the Open Government Partnership National Action Plan (2018-2020) to reinforce EITI, fiscal transparency, freedom of information and wider accountability mechanisms. Hopefully, these commitments and effort will convert into some practical outcomes.

The increased budget allocations since 2012 focused upon upgrading infrastructure, particularly in NCD and certain other centres, education and health services (including tuition free education), district grants and some major projects (notably 2015 Pacific Games) and police support, however some of this had to be curtailed since 2015 in the face of revenue falls and the growing debt servicing costs. In 2018, with increased recovery from other tax and grant sources, plus external financing, increases were budgeted again for education, health and transport, although law and order suffered further major cuts. The hosting of APEC in 2018 imposed a further major budget burden, even though much of the security cost and some of the infrastructure cost was assumed as grants by development partners.

The tuition free education program (TFF) and rolling out of elementary education has increased school intake and retention rates, albeit in the face of incessant increased numbers from the high population growth rate. However, the quality of the education is highly variable, and severely undermined by impossibly high student to staff ratios, poor class and teachers' facilities and undelivered materials, weak teacher training and skills and low staff attendance rates, although standards vary heavily between provinces. Some positive progress had been achieved in health, in partnership with the private sector, churches and CSOs, in restoring and upgrading facilities, from hospitals to nursing and teaching colleges, reducing malaria and some other disease rates, but these outcomes seem to have been in doubt more recently, with tight and inconsistent funding, major delays in procurement of essential drugs, vaccines and other materials, over-priced pharmaceuticals, and lack of focus on some key priorities for positive health outcomes, although some tremendous progress has been achieved in some districts and programs, including for training specialist rural doctors.

The 2014/15 Tax Review provided extensive recommendations for more consistent and broader-based revenue collection and greater equitability and less dependency on the resource sector, but including fairer collection of resource rental, without needing to pursue the State equity option with all its upfront costs, and potential conflicts of interest. This is consistent with the recommendations of the Natural |resource Governance Institute on suitable investment and benefit sharing from resource projects. The Government initially made little use of the Tax Review recommendations, partly on the basis of prospective unpopularity of major reforms, including to GST rates, but in the light of tight revenue and need to broaden the tax base, the Treasury has been examining the recommendations more closely, with some consistent advice from IMF and other international parties. The increased debt to GDP initially triggered an amendment to the *Fiscal Responsibility Act* to permit higher rates in the interim, but the Treasury will need to convince its financiers and other stakeholders, that liabilities are fully presented and that expenditure is within limits and sustainable.

The prospects for diversifying economic activities in Papua New Guinea are constrained by the high costs of doing business. This is partly determined by geographical, demographic and historic factors, but also relates to human factors, such as weak governance and capacity, poor application of the law, some malpractice, high illiteracy and innumeracy rates, and unreliable standards. Poor adherence to Land and in certain other resource management laws have advantaged certain interests, but undermined investment by responsible businesses, as well as rights of customary owners, so recent measures to improve governance processes are welcome but must be applied consistently.

Undercapitalised and under-performing state-owned monopolies, raise costs and undermine prospects for business and investment. Maladministration of public procurement is highlighted in the INA Business Survey as a severe impediments to prospective investment and business. The new legislation for procurement, to improve transparency and consistency at National and local levels is welcome, but doesn't go far enough (in terms of transparency) but needs close oversight. Law and order problems and corruption, together with poor transport and power infrastructure were considered the worst business impediments, followed by ICT infrastructure and cost. Although lack of foreign exchange and exchange rate have risen as major concerns in the 2017 survey, tackling corruption was highlighted as the priority action required by business respondents. Access to a larger skilled workforce was another priority, and with 50,000 grade 12 leavers a year unable to find places in tertiary institutions, it is critical to provide more accessible and affordable skills development options, in partnership with private sector, churches and other partners.

Employment: Papua New Guinea's formal sector workforce remains less that 500,000 (estimated at 465,000 in 2014[1]) out of a population of 8 million+ (or 10 million now according to Prof Glen Mola), with an economically active workforce of 3+ million. That leaves approximately 2.5 million in the

[1] L Jones and P McGavin - Grappling afresh with labour resource challenges in Papua New Guinea: a framework for moving forward. Institute of National Affairs, 2015

informal sector, and nearly 100,000 also 'inactive' but seeking employment. Education was the largest single formal sector employer (15%), followed by agriculture/forestry and urban real estate/business services (each 13%) and then construction. However for men, construction took the lead space (14%), followed closely by services and then agriculture (13%), whereas for women, education dominated (23%), followed by agriculture and retail/wholesale (each 13%).

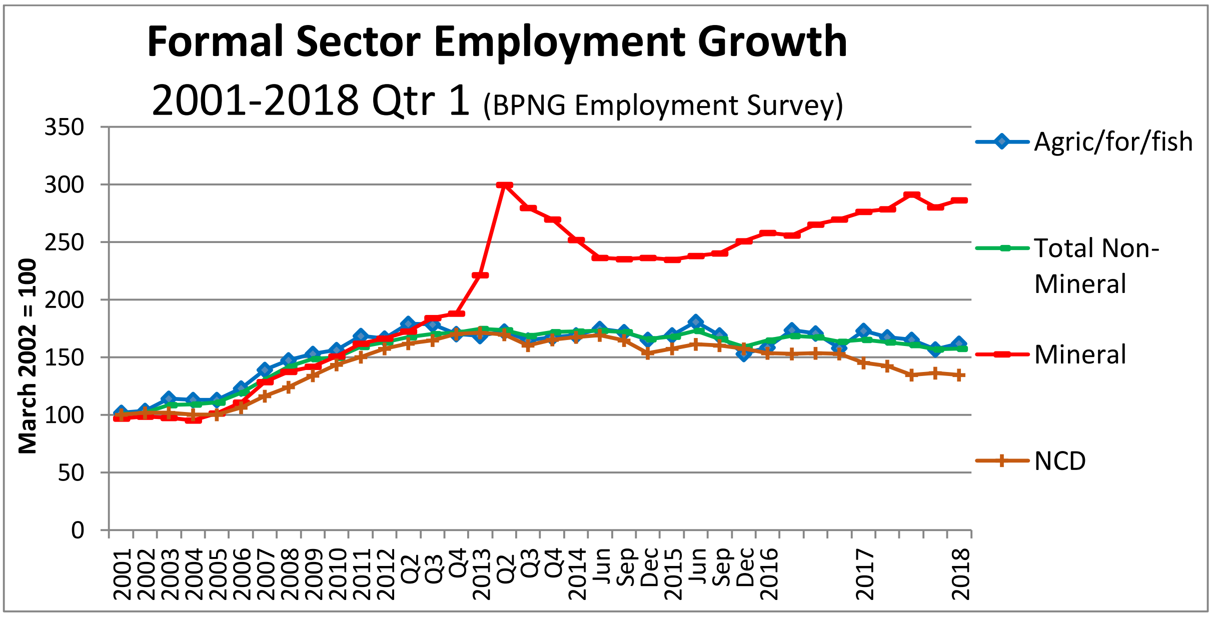
In 2014, 17,345 works permits were issued (down from 23,409 in 2013, late in PNGLNG construction). The largest number of overseas work permits in 2014 were issued to person from Philippines (36%), followed by Australia (16%) and China (13%), The main single job description in 2014 was for 'Technicians and Trade Coordinators and Supervisors', followed by 'Specialist Heavy Machinery Mechanic or Technician' and 'Operations Manager'. If a further LNG development with extensive welding requirements is forthcoming, hopefully records have been kept of those trained in recent years at PomTech and other technical colleges and far more of the workforce for the construction phase will be local.

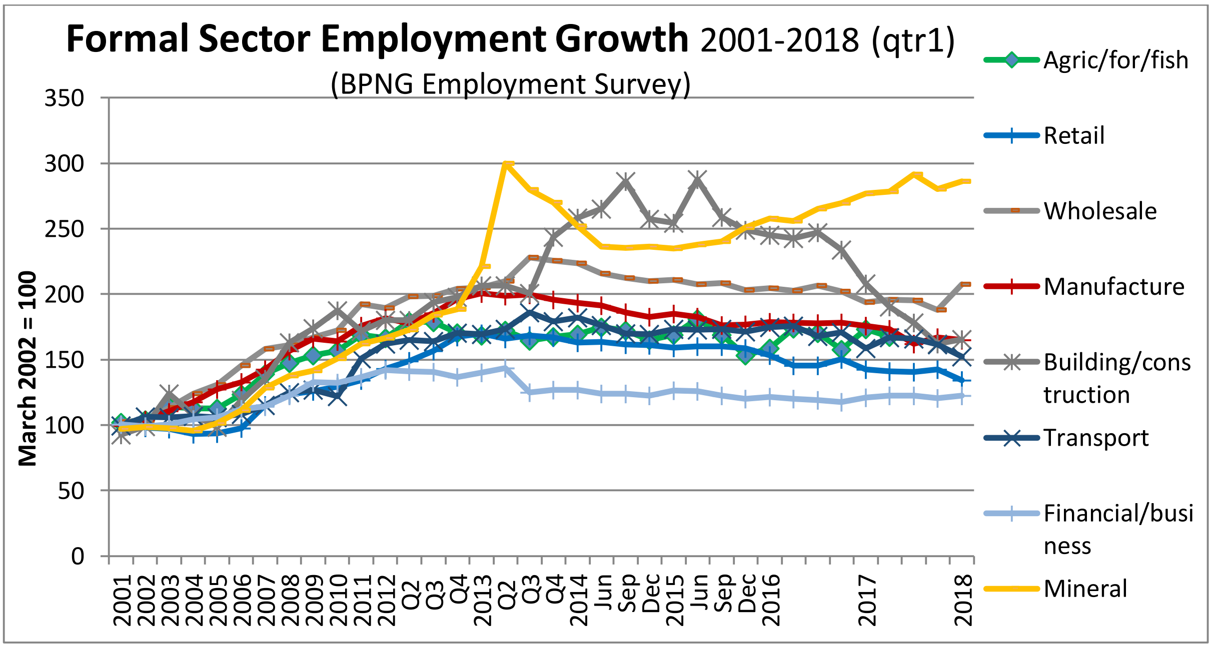
According to the Bank of PNG's survey of employment trends, after a decade of steady increase , non-mining formal employment was static from 2012 to 2015 and since then has been on the decline, whereas mineral-related work grew rapidly until early 2013 but declined for the next 18 months, before recovering slowly. Their survey indicates that since 2013 all industries exhibited this slide in employment, particularly construction since 2015, but this applied also to most regions, including NCD. While NCD has enjoyed most of the recent urban infrastructure construction, it had also enjoyed much of the LNG construction activity prior to 2014, with the associated major loss when that task was concluded. With every employee in PNG supporting his or her own family of 5+, plus usually several more, all loss or shortfall of employment has extensive economic and welfare effects, and also undermines wider business activity.

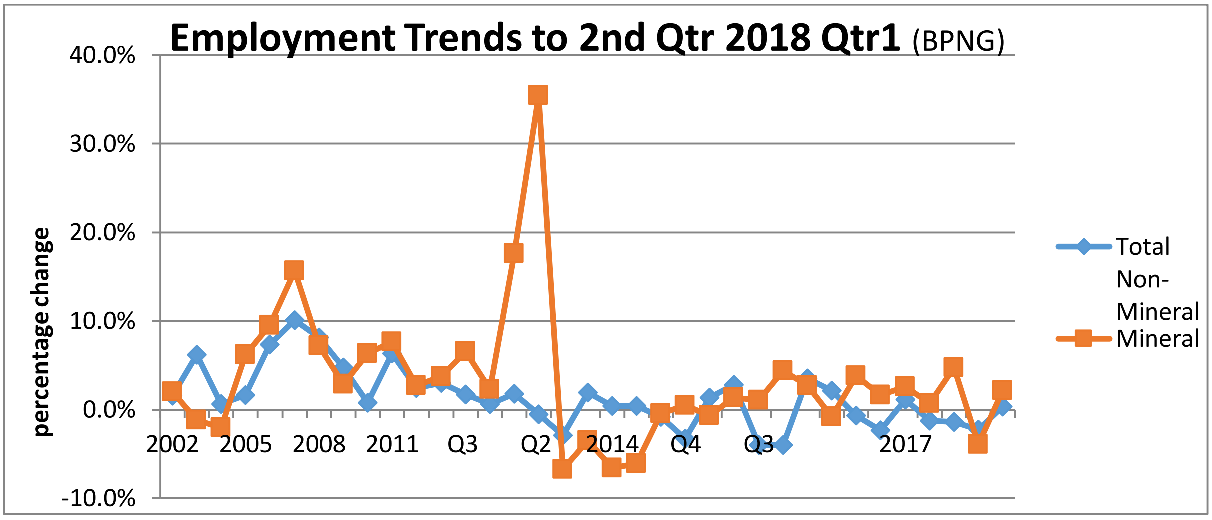
Further major LNG construction projects may proceed in 2020, again providing extensive, but relatively brief employment for 2-3 years. As with PNGLNG, they may also stimulate extensive small and micro-enterprises, albeit with a high subsequent failure rate. Sustained employment generation in the formal and informal sectors depends upon ensuring people have suitable and adaptable skills and that suitable investment and business conditions prevail, particularly for viable agriculture and other economic activities, which generate extensive employment, including through infrastructure development and public and private support for education and appropriate skills development.

A new minimum wages determination was introduced in 2014. The final adjustment for unskilled workers from mid-2016 to 3.50 kina per hour. A case has been made by unions for a further round of Minimum Wages hearings and determination. Employers are not in a hurry and point out that there are other ways to address this issue without needing costly and demanding hearings, including using the National Tripartite Council.

Demographic, including employment data is generally deficient, sometimes unreliable and outdated in PNG. It is costly collecting data in PNG, but the provision of timely and accurate demographic and economic data is crucial, both at national and sub-national levels. This has been recognised by the National Planning Minister who's urged much earlier preparation for key surveys, and active engagement with UNFPA, and other international and local stakeholders, to ensure reliable output. The 10 yearly Demographic and Health Survey in 2016 is currently still being concluded, and preparation of the next Household Income and Expenditure Survey (HIES) and 2021 National Census are currently being rolled out..

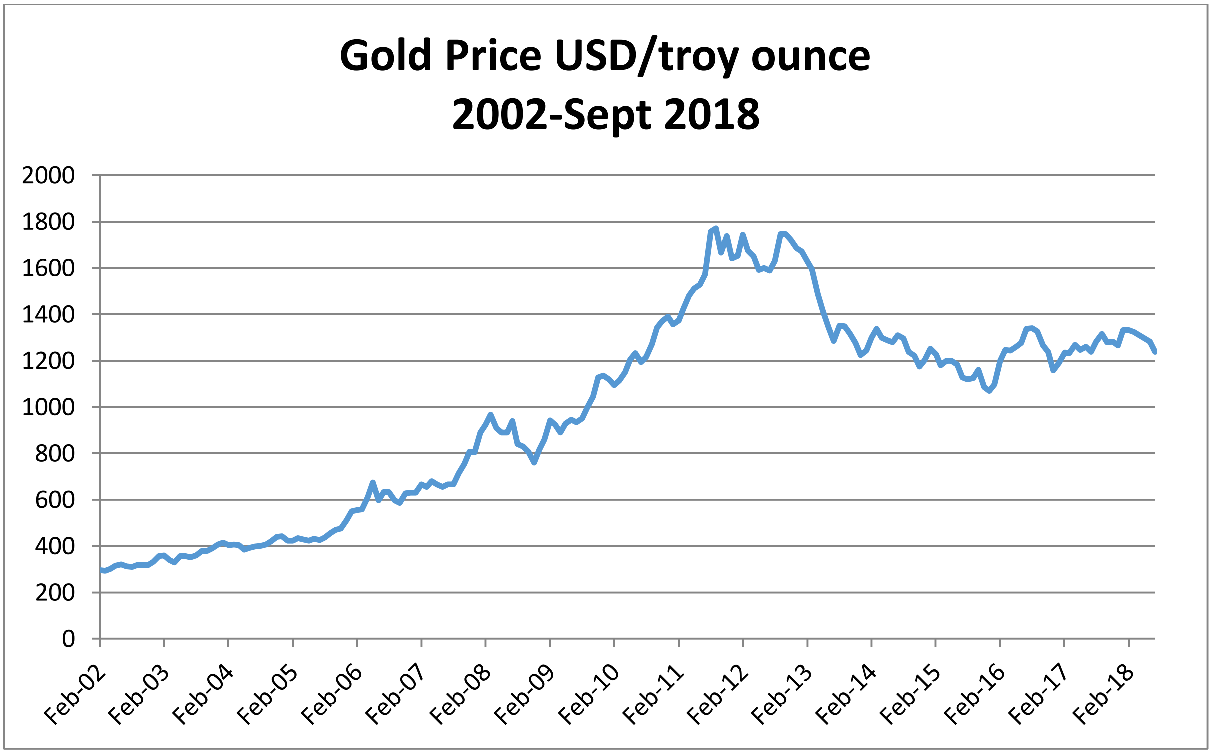


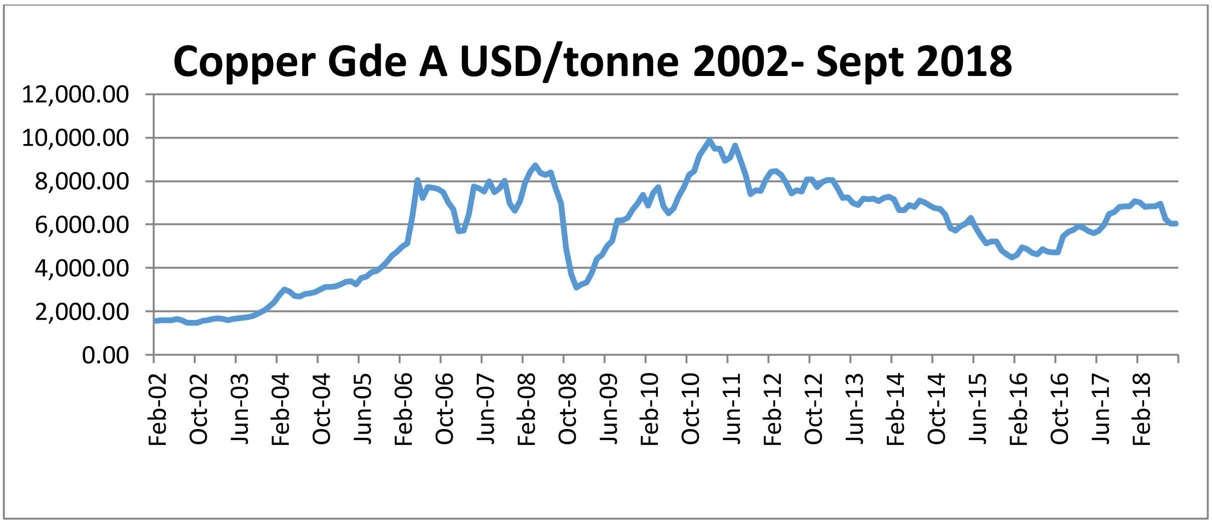


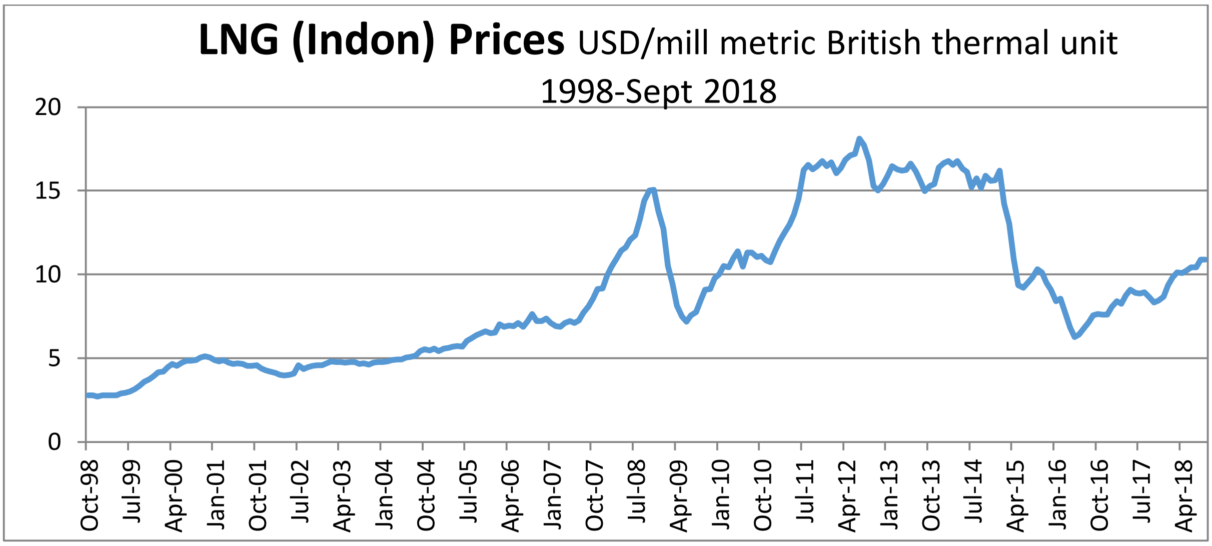


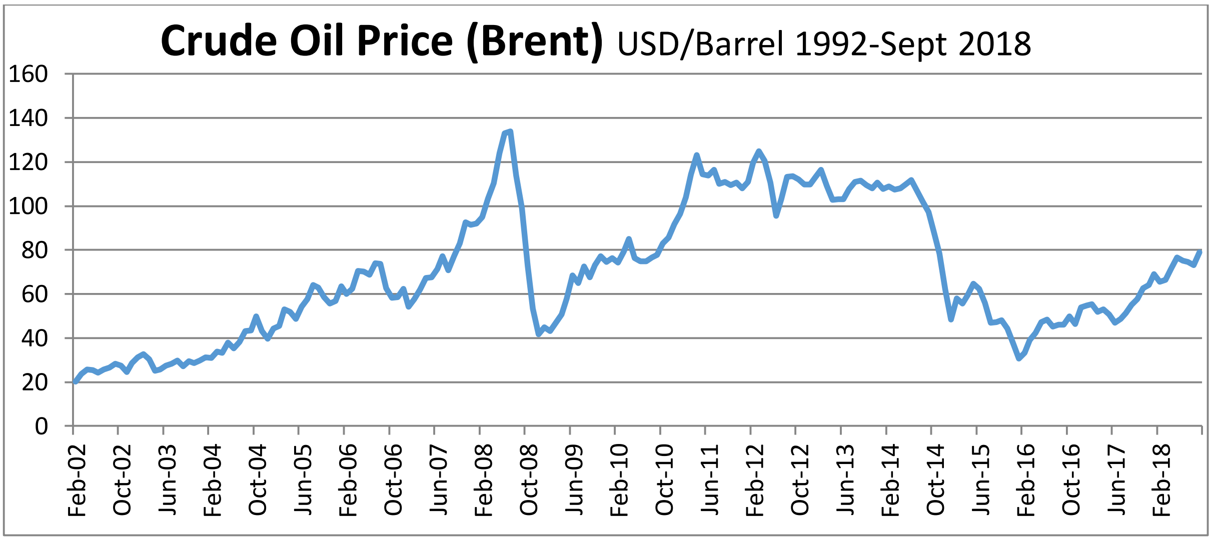
Commodities and Markets: oil and gas have steadily recovered through 2017 and 2018 from their lows of early 2016. Global demand remains strong, and particularly for gas and other cleaner energy sources in the heavily coal dependent East Asian markets. With the major shift in global supply away from the dominance of the main traditional suppliers in the Middle East and elsewhere, to the US and other producers of gas and unconventional oil/gas sources, and with fracking in the US reportedly breaking even at USD 45/barrel, few envisage the return to the pre-2014 prices, or for prices to drop back to below $40 again, as the major traditional suppliers have little capacity to turn up production. But, as proven in the past, the world of energy can be unpredictable, with major shifts in short periods, based upon geopolitical factors, as well as technology change, as much simple supply and demand. Gold has remained firm, well below the peak years, but still three, and more, times the price pre-2007, when current PNG major gold projects commenced. Forecasts for gold remain firm, if perhaps weakening somewhat, but depending upon the vagaries of an uncertain global economy, dominated by superpower rivalry, trade conflict and potential unravelling on the post-war global institutions. Copper prices have also risen firmly, if inconsistently since early 2016, with some slippage in 2018; as with other commodity markets demand will be partly driven by the velocity of the Chinese economy, which is showing slower growth rates than hitherto, with apparent over-capitalisation in some domestic markets, and some stalling of efforts to develop business activities overseas. Nickel prices have been steady, somewhat recovered from early 2016, but also having retreated during 2018. Cobalt prices are expected to gain into the future on the back of the shift from hydrocarbon to electrical and battery-powered Most of the agricultural commodities have experienced declines in prices during 2018, and although generally experiencing stronger prices than pre-2007, it is not by much. The safeguard has really been that the kina has been steadily weakening against the US dollars in recent years, safeguarding earnings when converted into kina, but this would be jeopardised if the kina were to strengthen again as revenue flows finally return to PNG from LNG sales and tax/dividend revenue, in the absence of an active Sovereign Wealth Fund, or any strong rallying of agricultural prices.

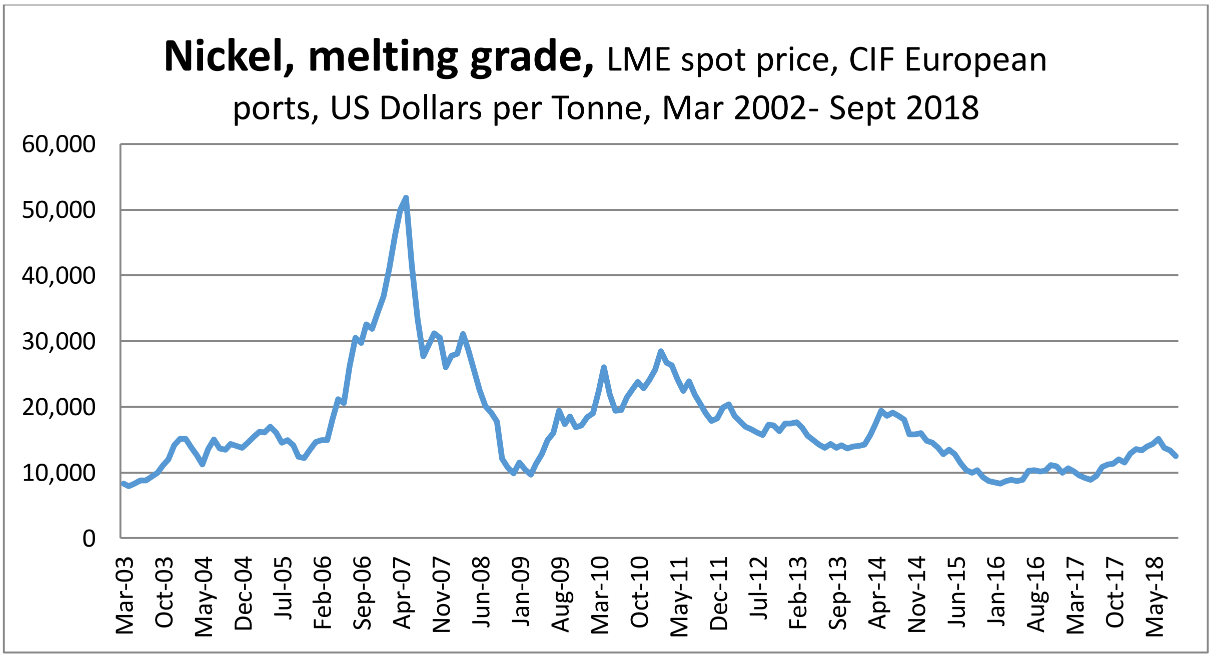
In agriculture, the prices of PNG's major commodities are mostly down to levels last seen before 2008, notably the export crops: palm oil, coffee, cocoa, rubber, and also the import replacement crops, notably: rice and sugar. Tea, now a relatively minor crop, has been tracking marginally better and vanilla has been experiencing better prices on the back of a cyclone affecting Madagascan production. As indicated, the weaker kina over the past 18 months has provided some essential relief to producers, but any appreciation of the kina in the absence of any rallying of agricultural commodity prices would place a heavy burden on the industries, which provide so much of PNG's formal and informal sector employment and livelihood, and which in recent months has also been providing much of PNG's foreign exchange.

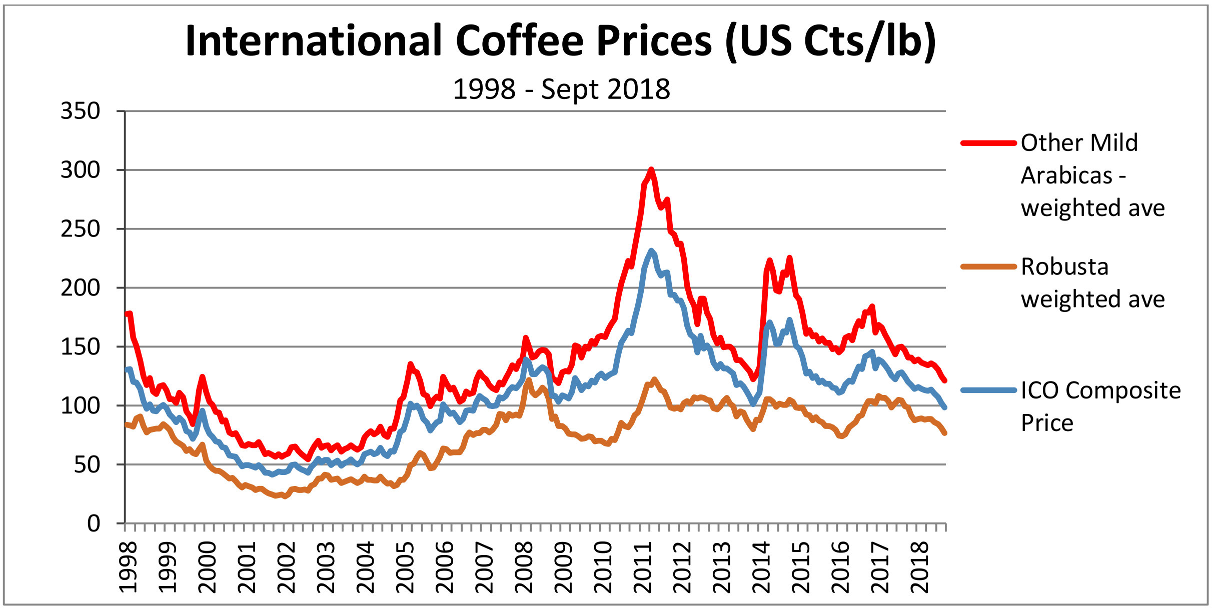


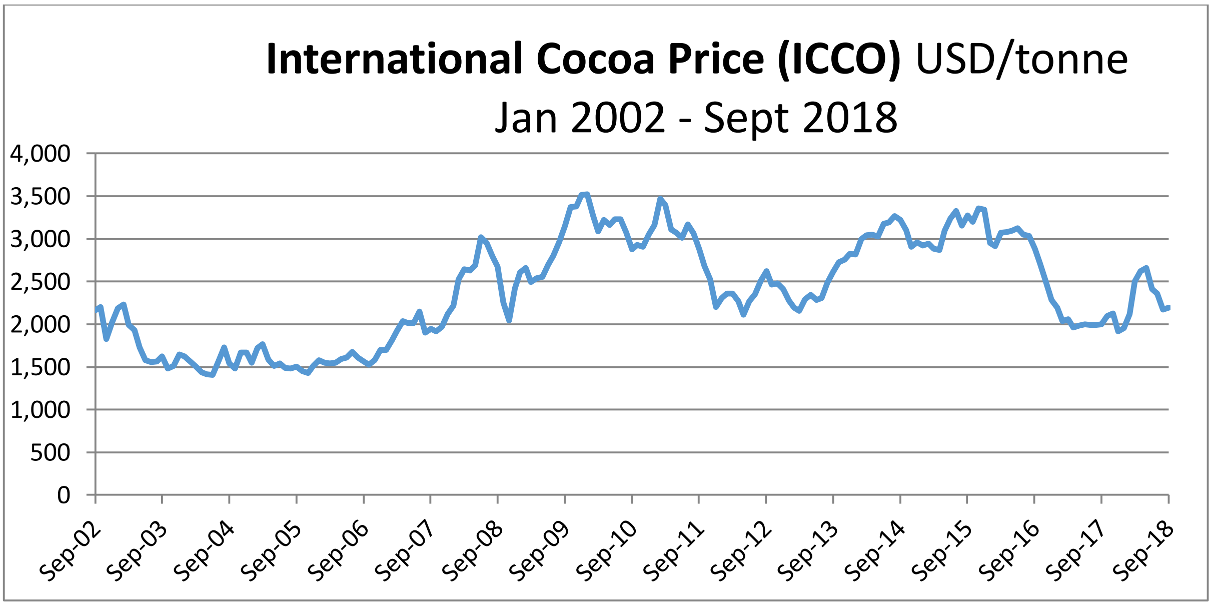


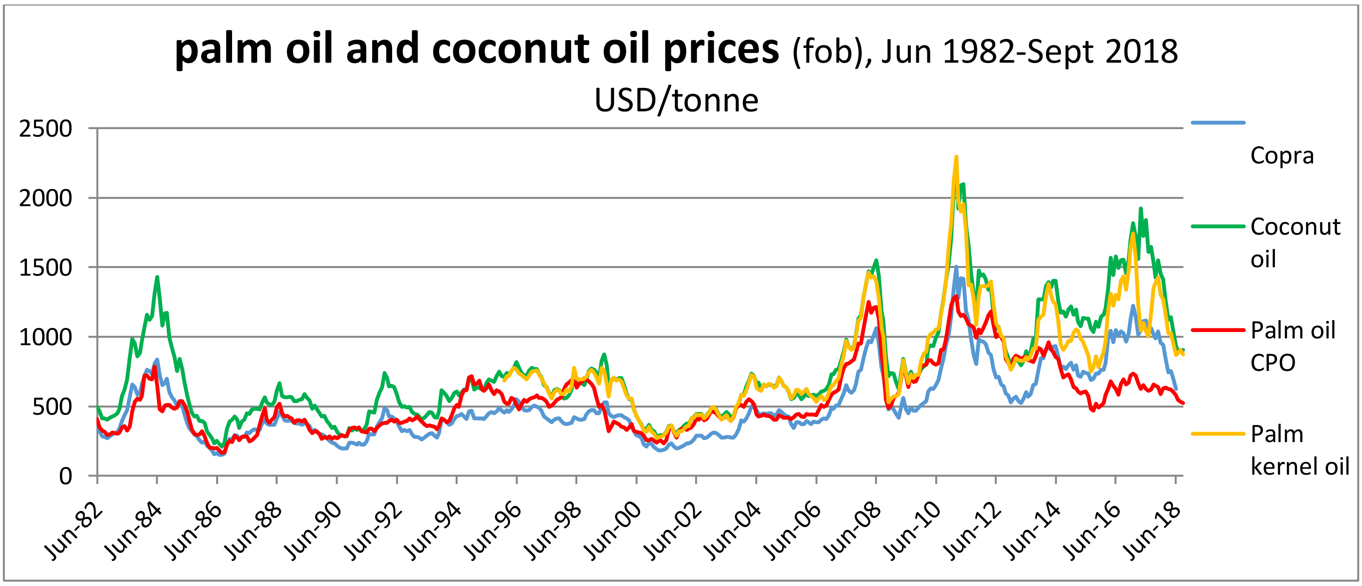

LNG (Indon) Prices USD/mill metric British thermal unit 1998-Sept 2018
20
15
10
5
0
Oct-98
Jul-99
Apr-00
Jan-01
Oct-01
Jul-02
Apr-03
Jan-04
Oct-04
Jul-05
Apr-06
Jan-07
Oct-07
Jul-08
Apr-09
Jan-10
Oct-10
Jul-11
Apr-12
Jan-13
Oct-13
Jul-14
Apr-15
Jan-16
Oct-16
Jul-17
Apr-18

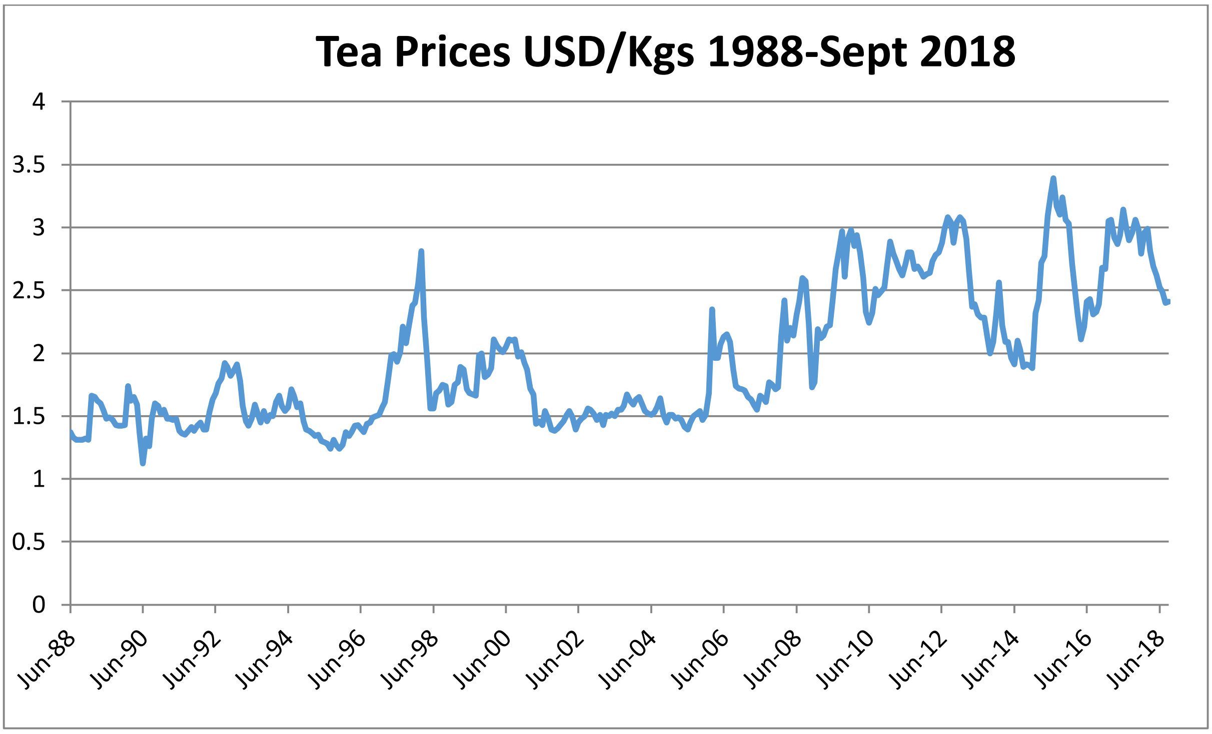

Crude Oil Price (Brent) USD/Barrel 1992-Sept 2018
160
140
120
100
80
60
40
20
0
Feb-02
Oct-02
Jun-03
Feb-04
Oct-04
Jun-05
Feb-06
Oct-06
Jun-07
Feb-08
Oct-08
Jun-09
Feb-10
Oct-10
Jun-11
Feb-12
Oct-12
Jun-13
Feb-14
Oct-14
Jun-15
Feb-16
Oct-16
Jun-17
Feb-18

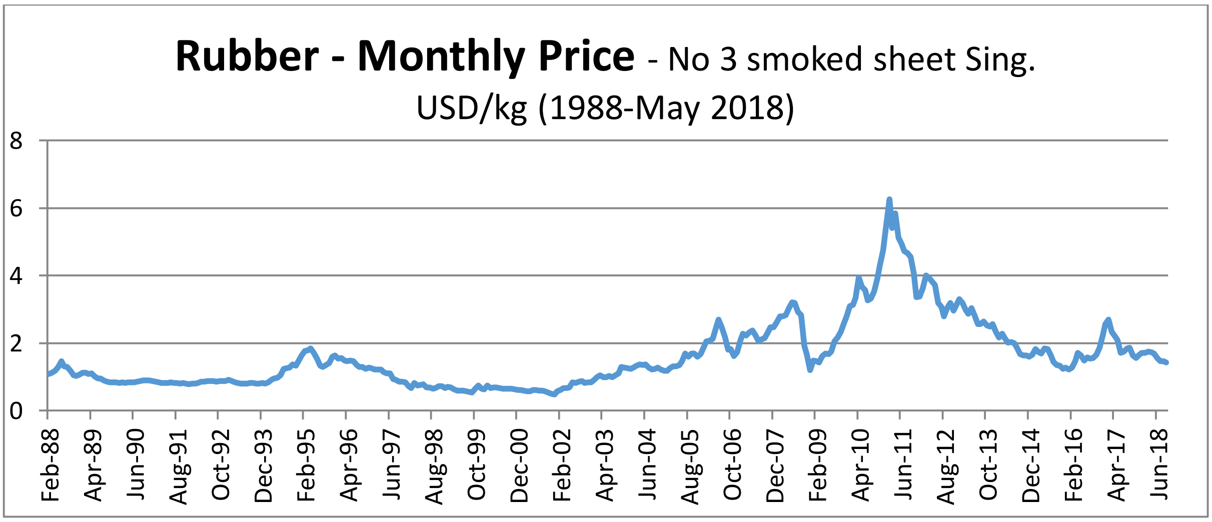

Nickel, melting grade, LME spot price, CIF European ports, US Dollars per Tonne, Mar 2002- Sept 2018
60,000
50,000
40,000
30,000
20,000
10,000
0
Mar-03
Oct-03
May-04
Dec-04
Jul-05
Feb-06
Sep-06
Apr-07
Nov-07
Jun-08
Jan-09
Aug-09
Mar-10
Oct-10
May-11
Dec-11
Jul-12
Feb-13
Sep-13
Apr-14
Nov-14
Jun-15
Jan-16
Aug-16
Mar-17
Oct-17
May-18

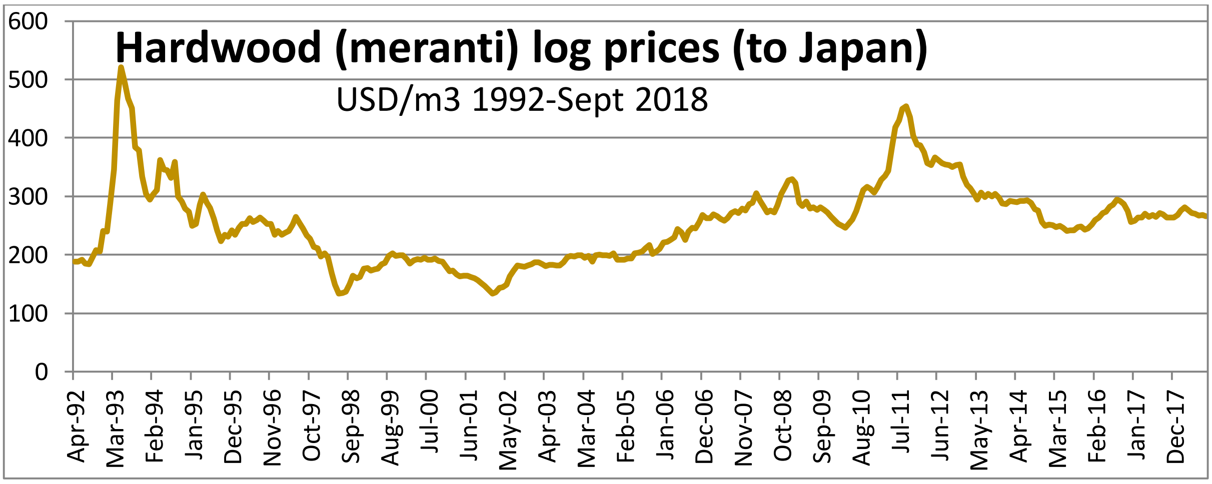

International Coffee Prices (US Cts/lb)
1998 - Sept 2018
350
300
250
200
150
100
50
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Other Mild Arabicas - weighted ave
Robusta weighted ave
ICO Composite Price

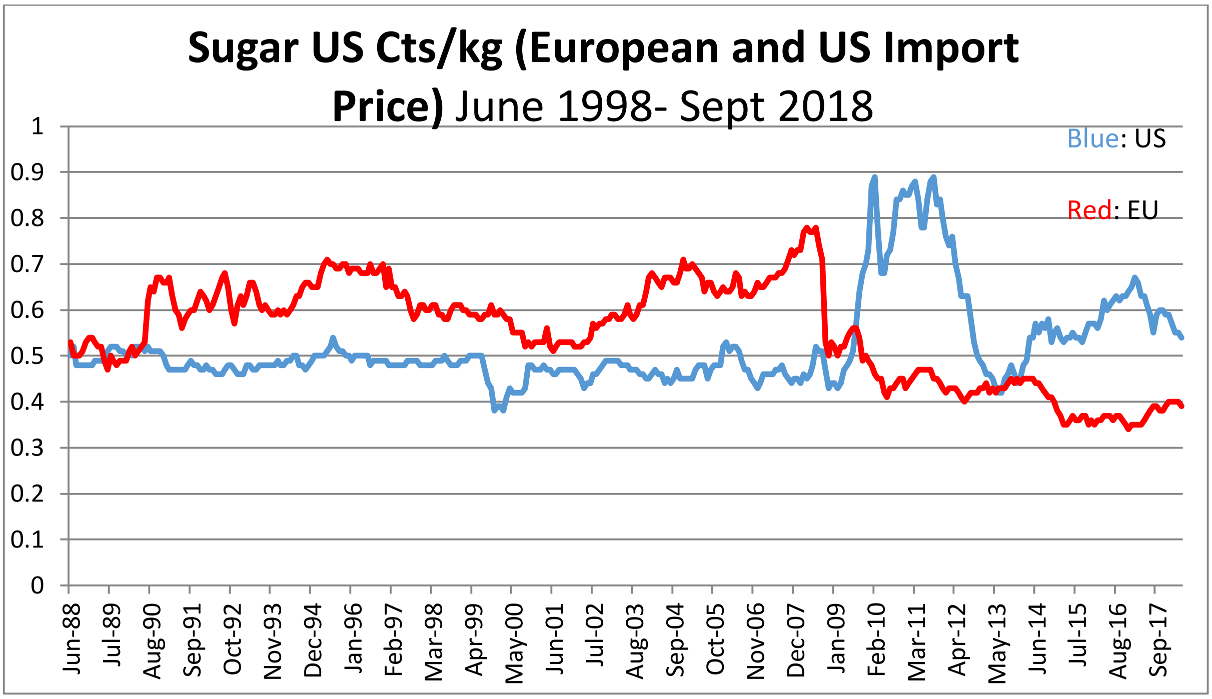

International Cocoa Price (ICCO) USD/tonne
Jan 2002 - Sept 2018
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Sep-10
Sep-11
Sep-12
Sep-13
Sep-14
Sep-15
Sep-16
Sep-17
Sep-18

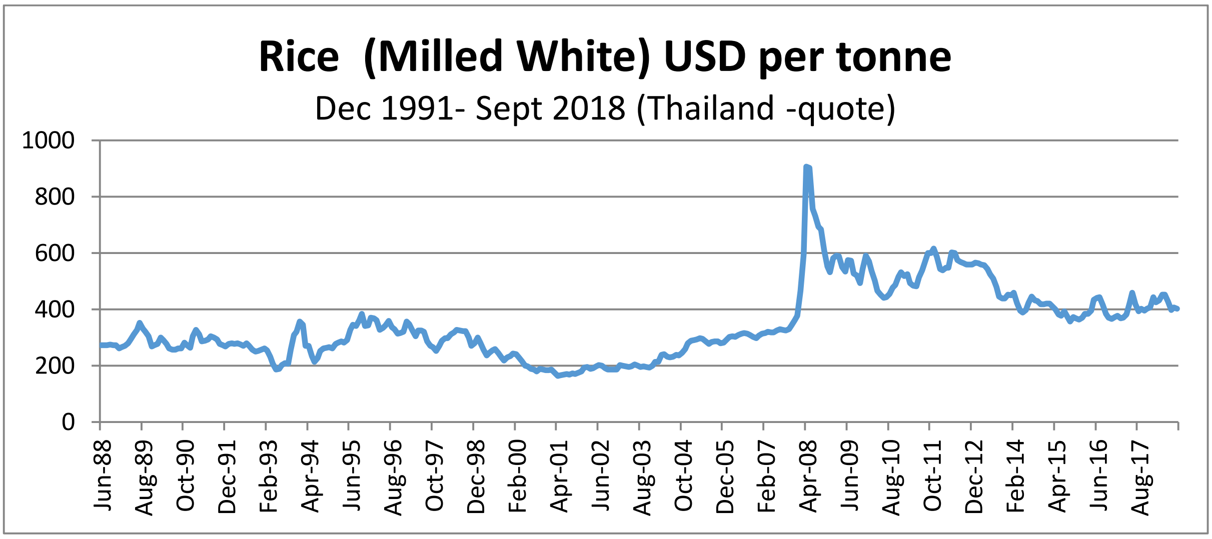

palm oil and coconut oil prices (fob), Jun 1982-Sept 2018
USD/tonne
2500
2000
1500
1000
500
0
Jun-82
Jun-84
Jun-86
Jun-88
Jun-90
Jun-92
Jun-94
Jun-96
Jun-98
Jun-00
Jun-02
Jun-04
Jun-06
Jun-08
Jun-10
Jun-12
Jun-14
Jun-16
Jun-18
Copra
Coconut oil
Palm oil CPO
Palm kernel oil

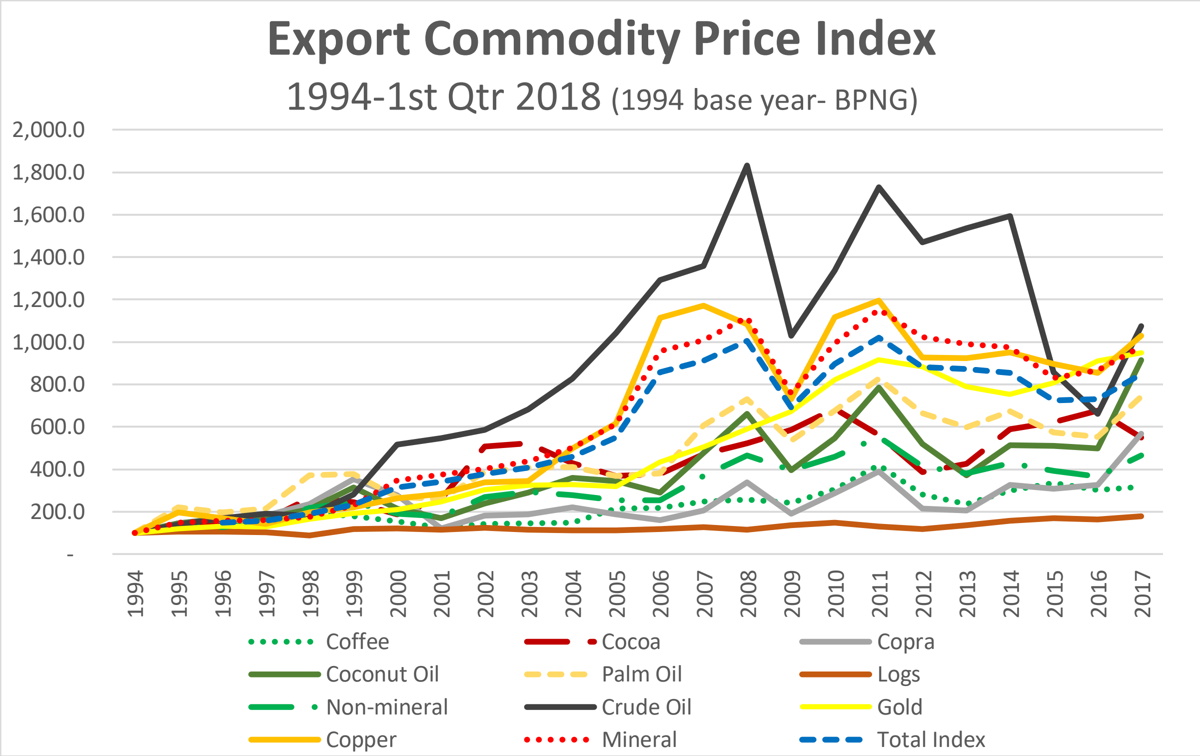

Tea Prices USD/Kgs 1988-Sept 2018
4
3.5
3
2.5
2
1.5
1
0.5
0
Jun-88
Jun-90
Jun-92
Jun-94
Jun-96
Jun-98
Jun-00
Jun-02
Jun-04
Jun-06
Jun-08
Jun-10
Jun-12
Jun-14
Jun-16
Jun-18

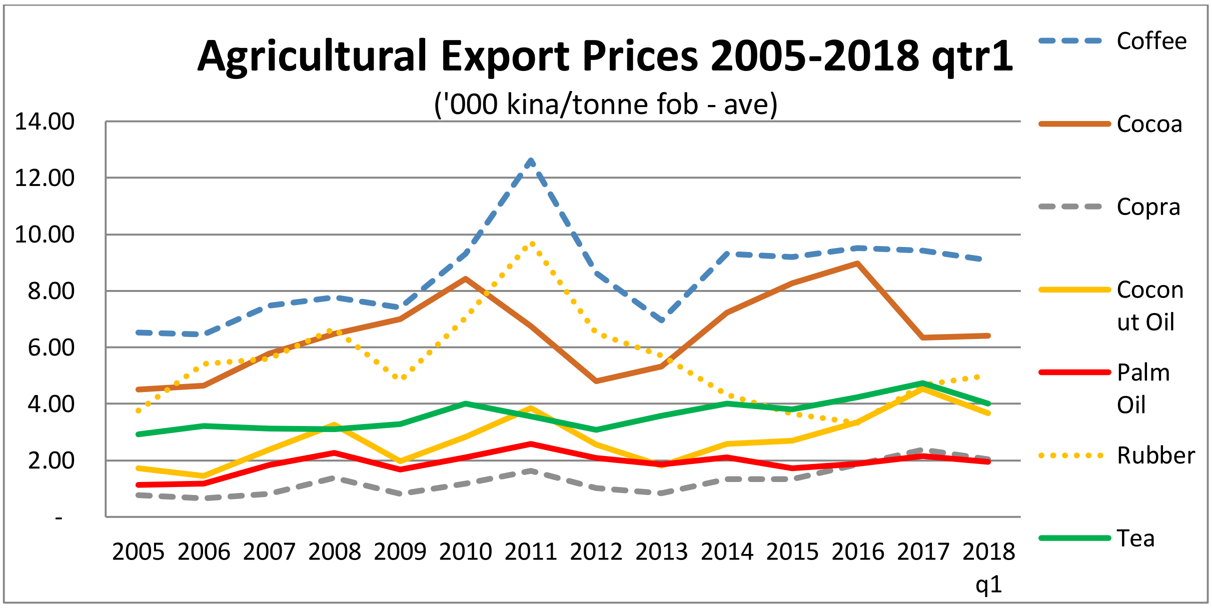

Rubber - Monthly Price - No 3 smoked sheet Sing.
USD/kg (1988-May 2018)
8
6
4
2
0
Feb-88
Apr-89
Jun-90
Aug-91
Oct-92
Dec-93
Feb-95
Apr-96
Jun-97
Aug-98
Oct-99
Dec-00
Feb-02
Apr-03
Jun-04
Aug-05
Oct-06
Dec-07
Feb-09
Apr-10
Jun-11
Aug-12
Oct-13
Dec-14
Feb-16
Apr-17
Jun-18

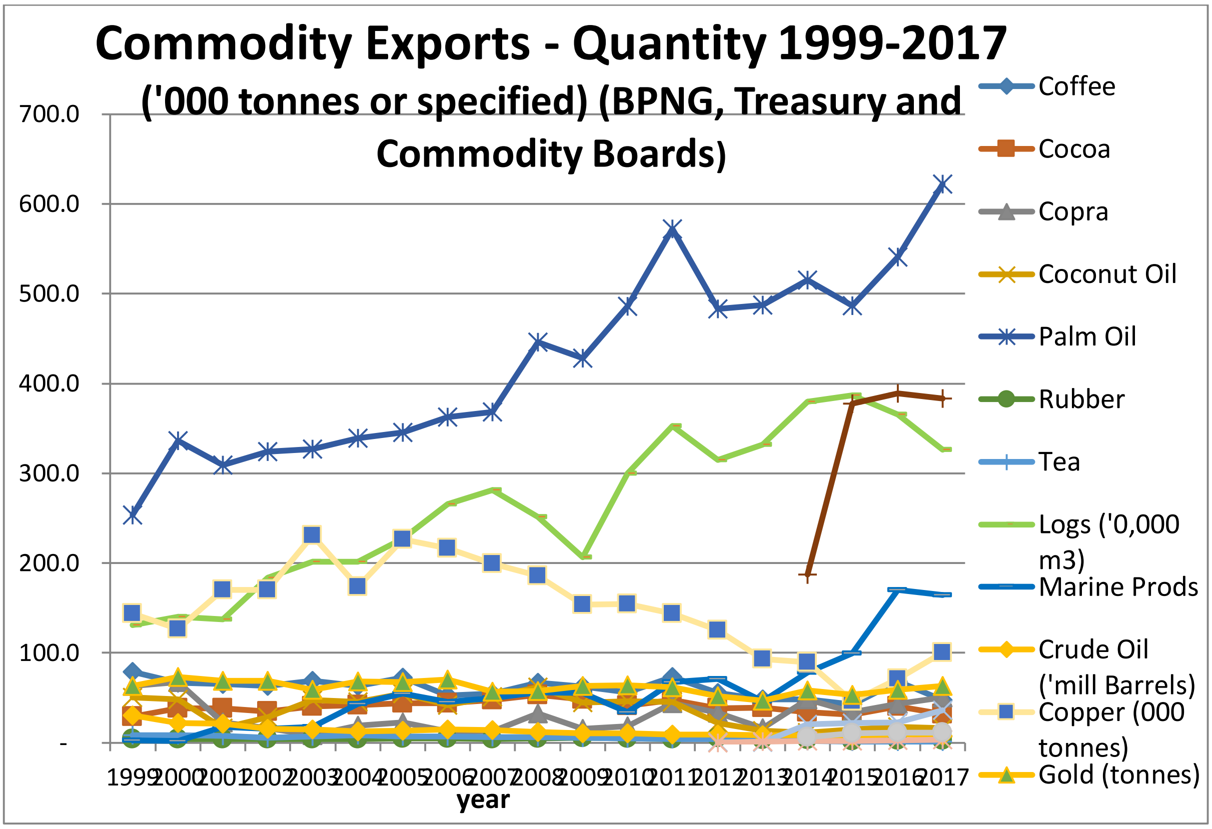

Hardwood (meranti) log prices (to Japan)
USD/m3 1992-Sept 2018
600
500
400
300
200
100
0
Apr-92
Mar-93
Feb-94
Jan-95
Dec-95
Nov-96
Oct-97
Sep-98
Aug-99
Jul-00
Jun-01
May-02
Apr-03
Mar-04
Feb-05
Jan-06
Dec-06
Nov-07
Oct-08
Sep-09
Aug-10
Jul-11
Jun-12
May-13
Apr-14
Mar-15
Feb-16
Jan-17
Dec-17


Sugar US Cts/kg (European and US Import Price) June 1998- Sept 2018
Blue: US
Red: EU
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jun-88
Jul-89
Aug-90
Sep-91
Oct-92
Nov-93
Dec-94
Jan-96
Feb-97
Mar-98
Apr-99
May-00
Jun-01
Jul-02
Aug-03
Sep-04
Oct-05
Nov-06
Dec-07
Jan-09
Feb-10
Mar-11
Apr-12
May-13
Jun-14
Jul-15
Aug-16
Sep-17

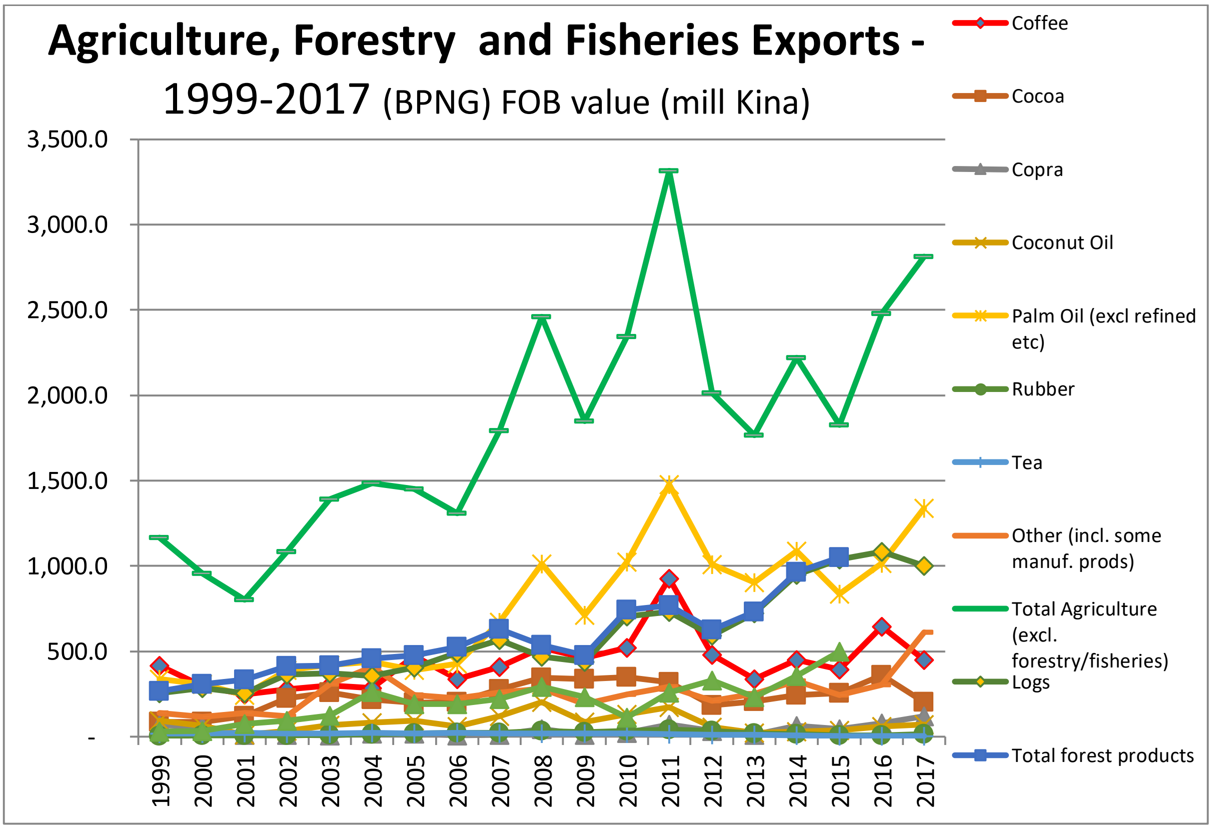

Rice (Milled White) USD per tonne
Dec 1991- Sept 2018 (Thailand -quote)
1000
800
600
400
200
0
Jun-88
Aug-89
Oct-90
Dec-91
Feb-93
Apr-94
Jun-95
Aug-96
Oct-97
Dec-98
Feb-00
Apr-01
Jun-02
Aug-03
Oct-04
Dec-05
Feb-07
Apr-08
Jun-09
Aug-10
Oct-11
Dec-12
Feb-14
Apr-15
Jun-16
Aug-17


Export Commodity Price Index
1994-1st Qtr 2018 (1994 base year- BPNG)
2,000.0
1,800.0
1,600.0
1,400.0
1,200.0
1,000.0
800.0
600.0
400.0
200.0
-
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Coffee
Cocoa
Copra
Coconut Oil
Palm Oil
Logs
Non-mineral
Crude Oil
Gold
Copper
Mineral
Total Index

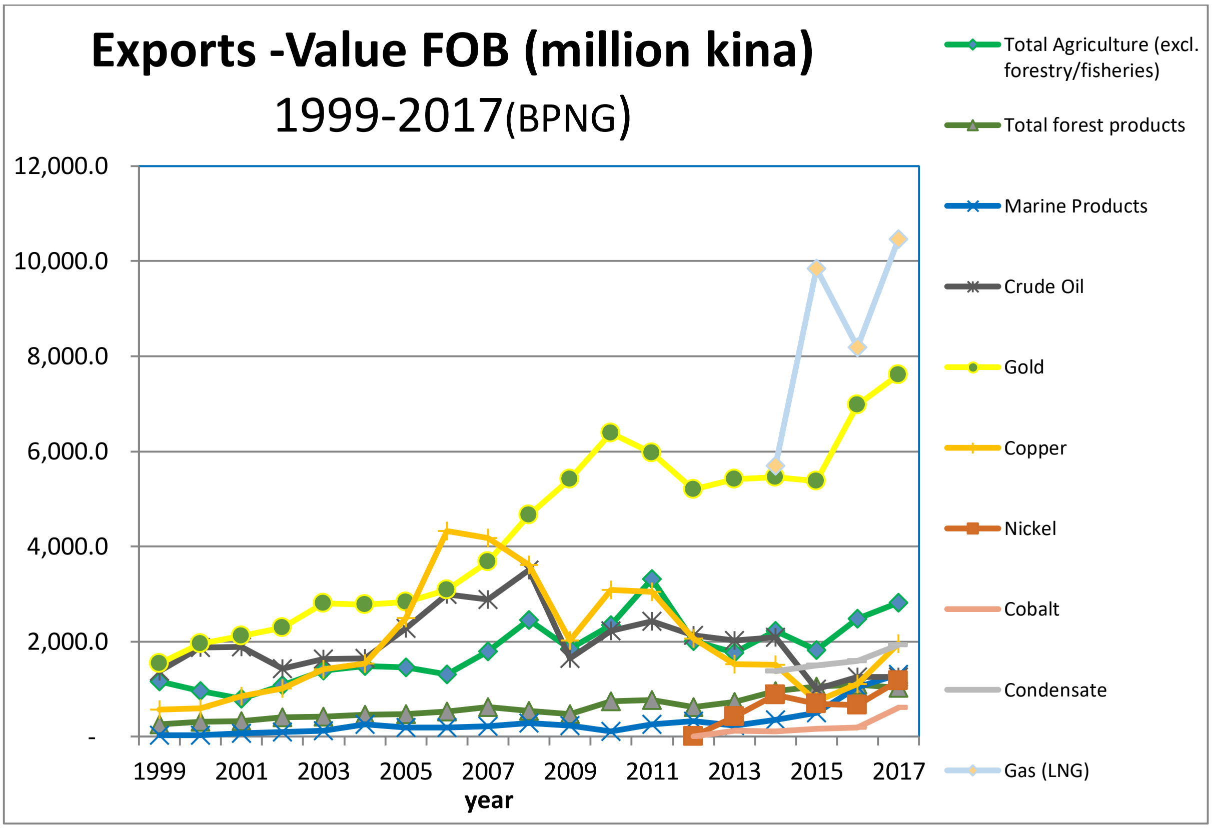

Agricultural Export Prices 2005-2018 qtr1
('000 kina/tonne fob - ave)
14.00
12.00
10.00
8.00
6.00
4.00
2.00
-
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018 q1
Coffee
Cocoa
Copra
Cocon ut Oil
Palm Oil
Rubber
Tea



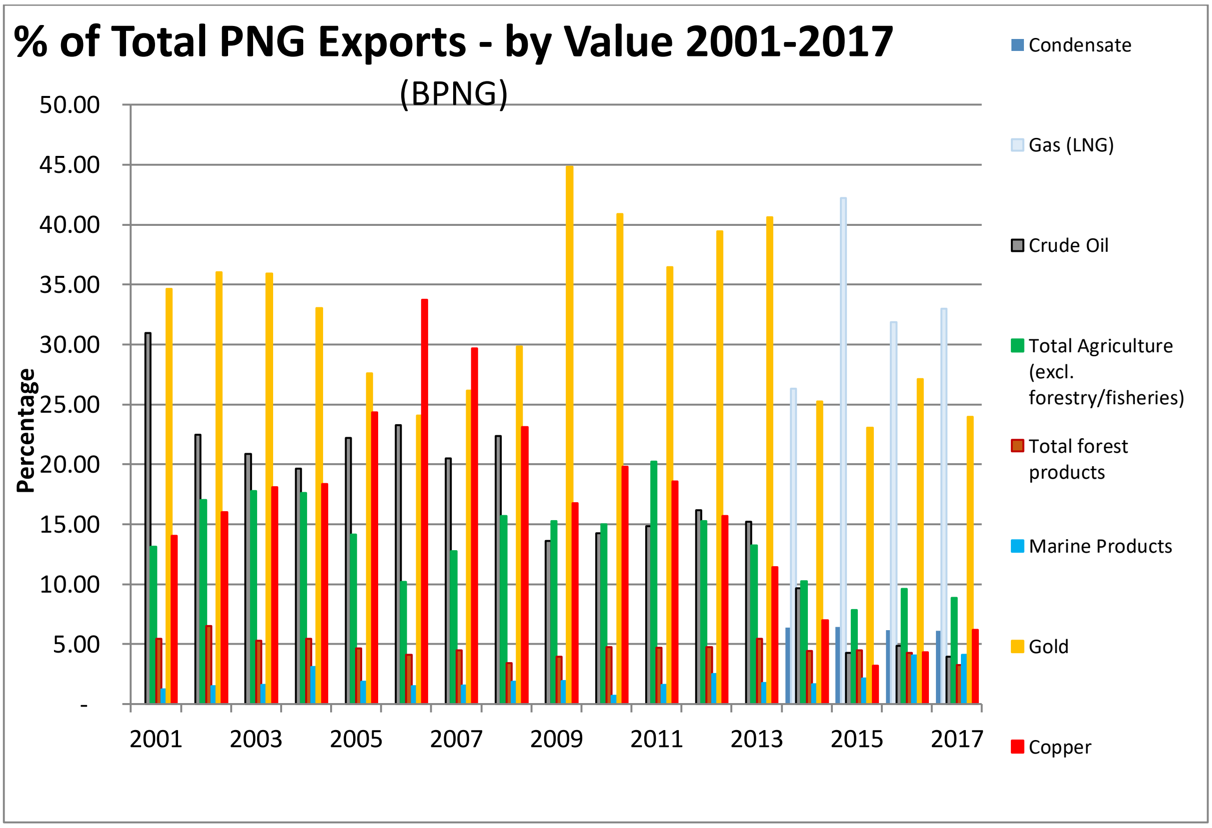
Commodity Exports - Quantity 1999-2017
('000 tonnes or specified) (BPNG, Treasury and Commodity Boards)
700.0
600.0
500.0
400.0
300.0
200.0
100.0
-
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017
year
Coffee
Cocoa
Copra
Coconut Oil
Palm Oil
Rubber
Tea
Logs ('0,000 m3)
Marine Prods
Crude Oil ('mill Barrels)
Copper (000 tonnes)
Gold (tonnes)



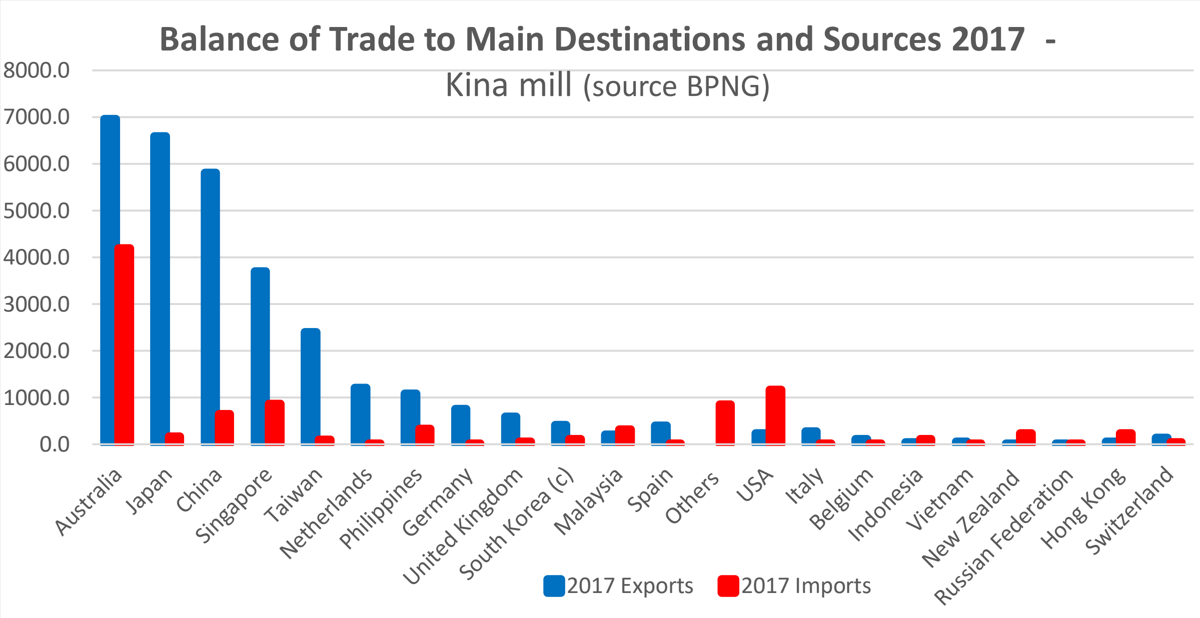
Agriculture, Forestry and Fisheries Exports - 1999-2017 (BPNG) FOB value (mill Kina)
3,500.0
3,000.0
2,500.0
2,000.0
1,500.0
1,000.0
500.0
-
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017
Coffee
Cocoa
Copra
Coconut Oil
Palm Oil (excl refined etc)
Rubber
Tea
Other (incl. some manuf. prods)
Total Agriculture (excl. forestry/fisheries)
Logs
Total forest products

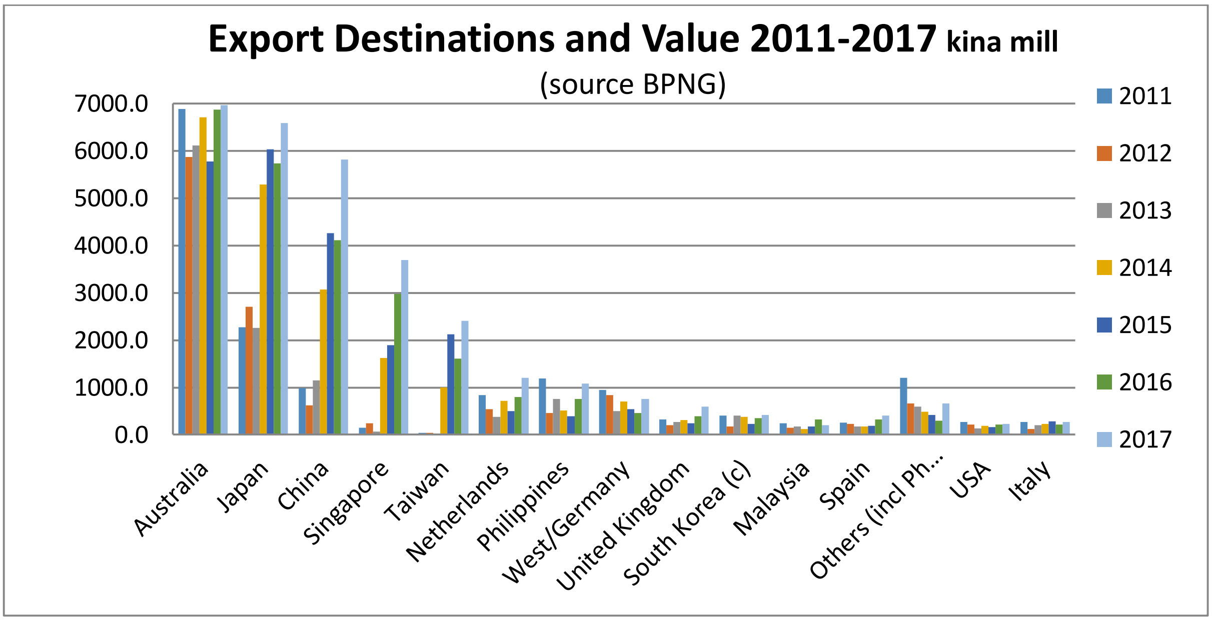


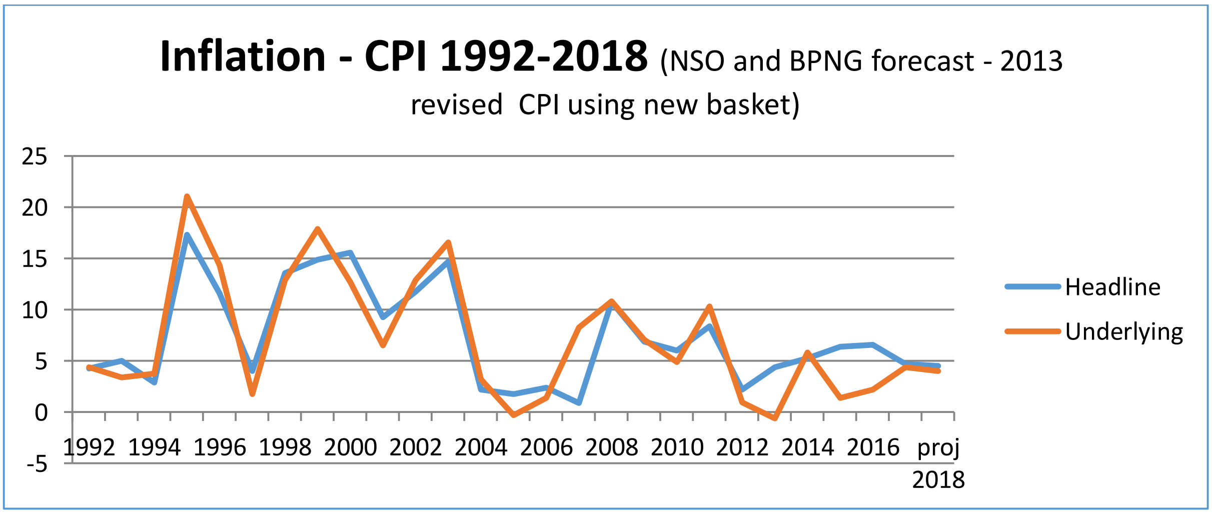
Exports -Value FOB (million kina)
1999-2017(BPNG)
12,000.0
10,000.0
8,000.0
6,000.0
4,000.0
2,000.0
-
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
year
Total Agriculture (excl. forestry/fisheries)
Total forest products
Marine Products
Crude Oil
Gold
Copper
Nickel
Cobalt
Condensate
Gas (LNG)

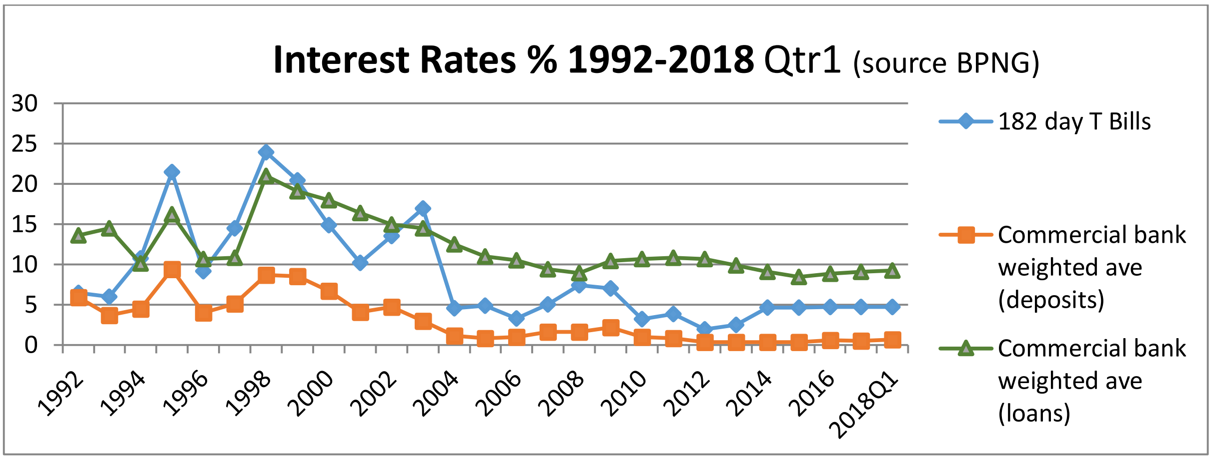


% of Total PNG Exports - by Value 2001-2017
(BPNG)
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
-
Percentage
2001
2003
2005
2007
2009
2011
2013
2015
2017
Condensate
Gas (LNG)
Crude Oil
Total Agriculture (excl. forestry/fisheries)
Total forest products
Marine Products
Gold
Copper

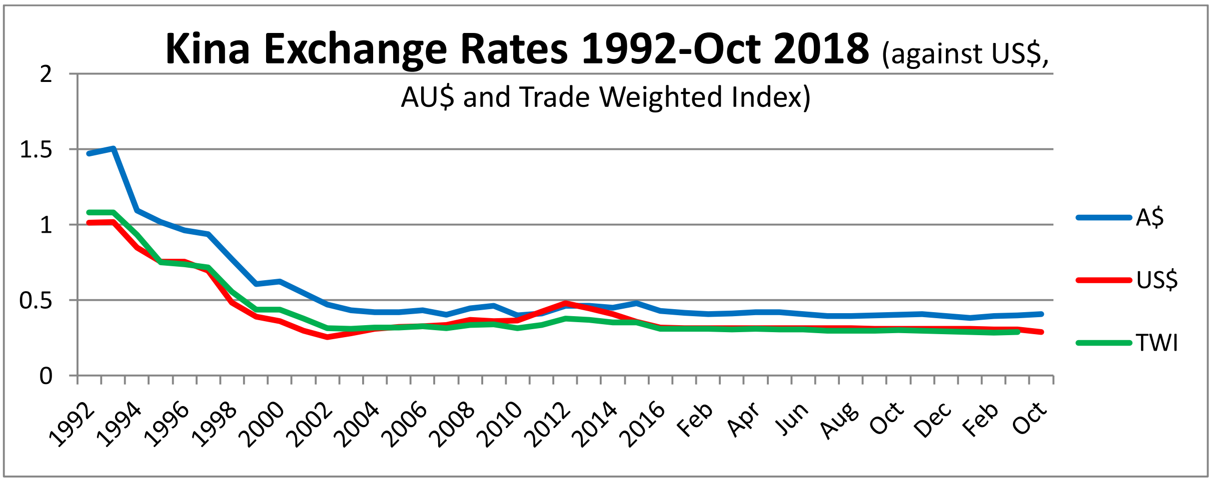

Balance of Trade to Main Destinations and Sources 2017 -
Kina mill (source BPNG)
8000.0
7000.0
6000.0
5000.0
4000.0
3000.0
2000.0
1000.0
0.0
Australia
Japan
China
Singapore
Taiwan
Netherlands
Philippines
Germany
United Kingdom
South Korea (c)
Malaysia
Spain
Others
USA
Italy
Belgium
Indonesia
Vietnam
New Zealand
Russian Federation
Hong Kong
Switzerland
2017 Exports
2017 Imports


Export Destinations and Value 2011-2017 kina mill
(source BPNG)
7000.0
6000.0
5000.0
4000.0
3000.0
2000.0
1000.0
0.0
Australia
Japan
China
Singapore
Taiwan
Netherlands
Philippines
West/Germany
United Kingdom
South Korea (c)
Malaysia
Spain
Others (incl Ph...
USA
Italy
2011
2012
2013
2014
2015
2016
2017

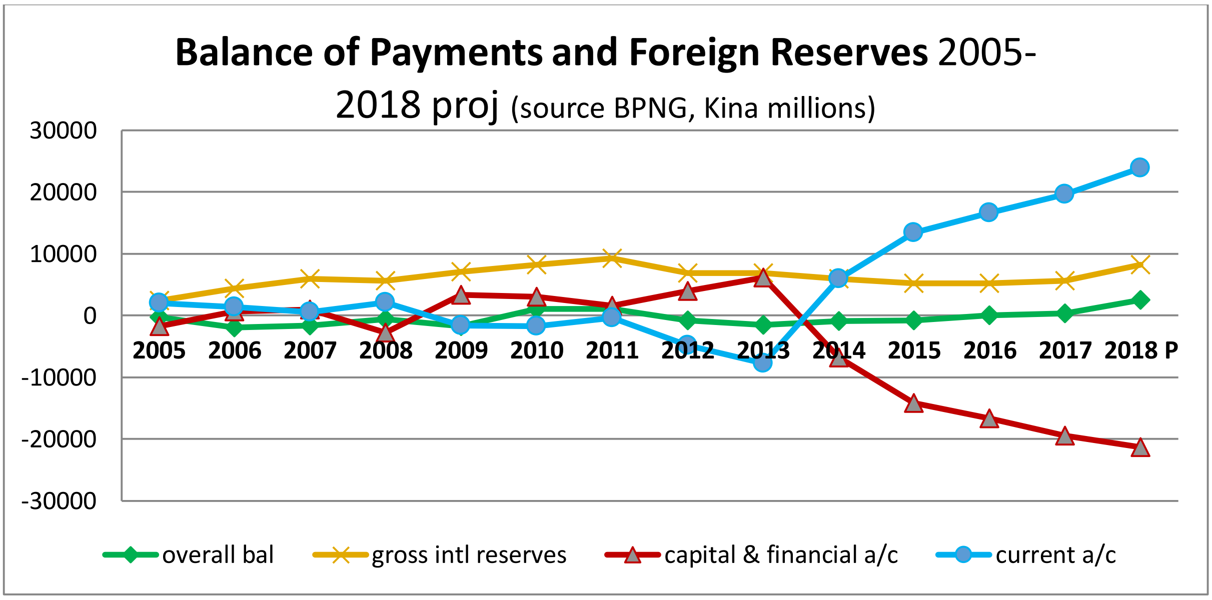

Inflation - CPI 1992-2018 (NSO and BPNG forecast - 2013 revised CPI using new basket)
25
20
15
10
5
0
-5
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
proj 2018
Headline
Underlying



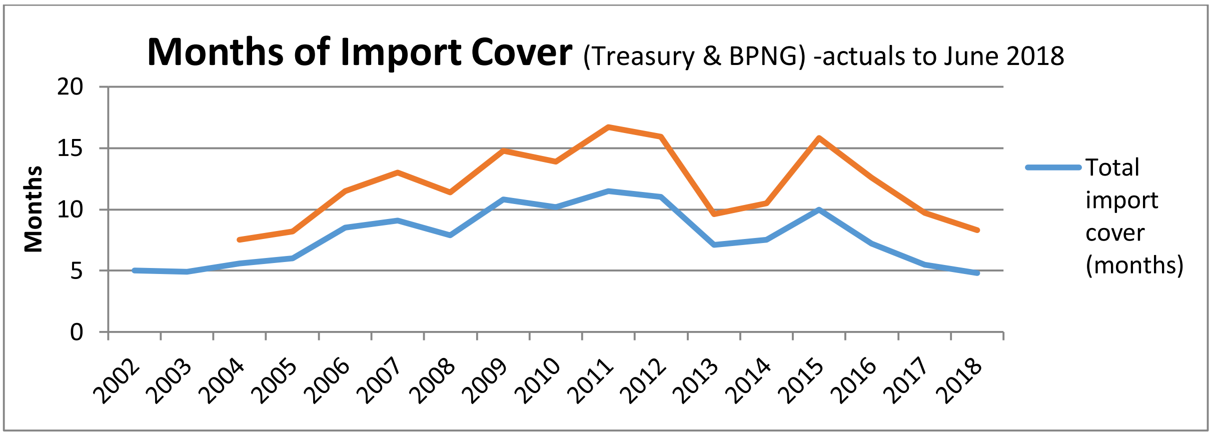
Interest Rates % 1992-2018 Qtr1 (source BPNG)
30
25
20
15
10
5
0
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018Q1
182 day T Bills
Commercial bank weighted ave (deposits)
Commercial bank weighted ave (loans)



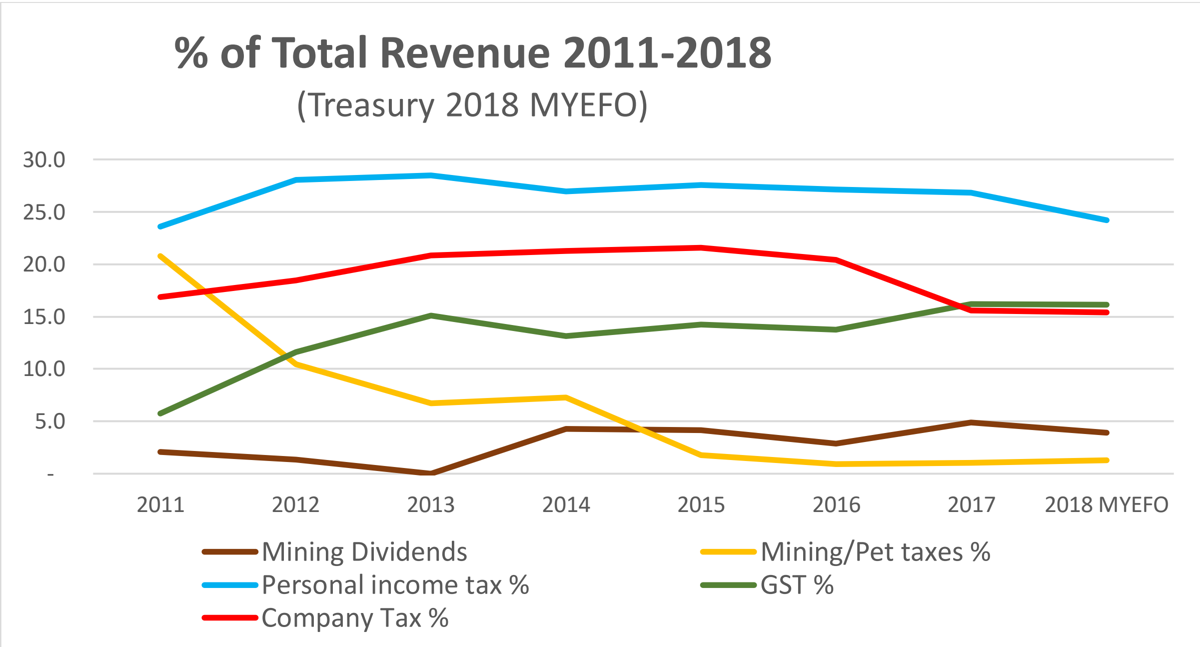
Kina Exchange Rates 1992-Oct 2018 (against US$, AU$ and Trade Weighted Index)
2
1.5
1
0.5
0
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
Feb
Apr
Jun
Aug
Oct
Dec
Feb
Oct
A$
US$
TWI



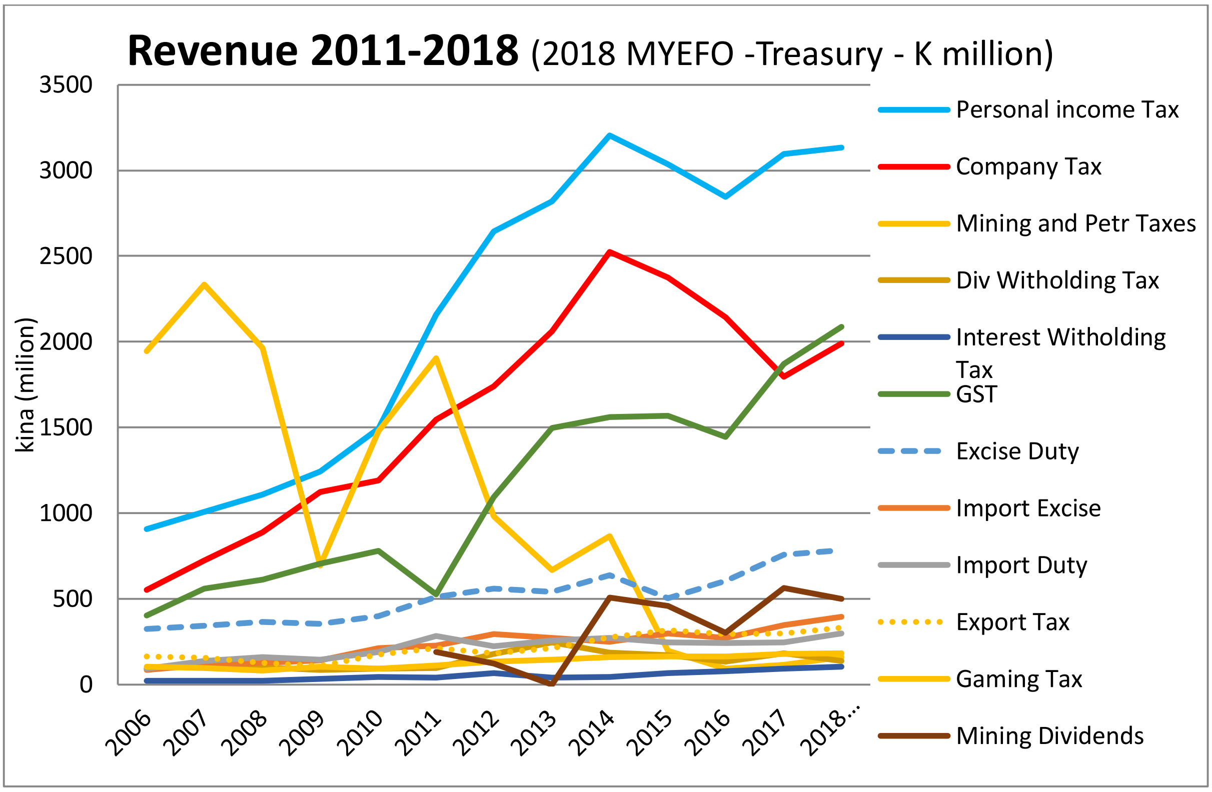
Balance of Payments and Foreign Reserves 2005-2018 proj (source BPNG, Kina millions)
30000
20000
10000
0
-10000
-20000
-30000
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018 P
overall bal
gross intl reserves
capital & financial a/c
current a/c

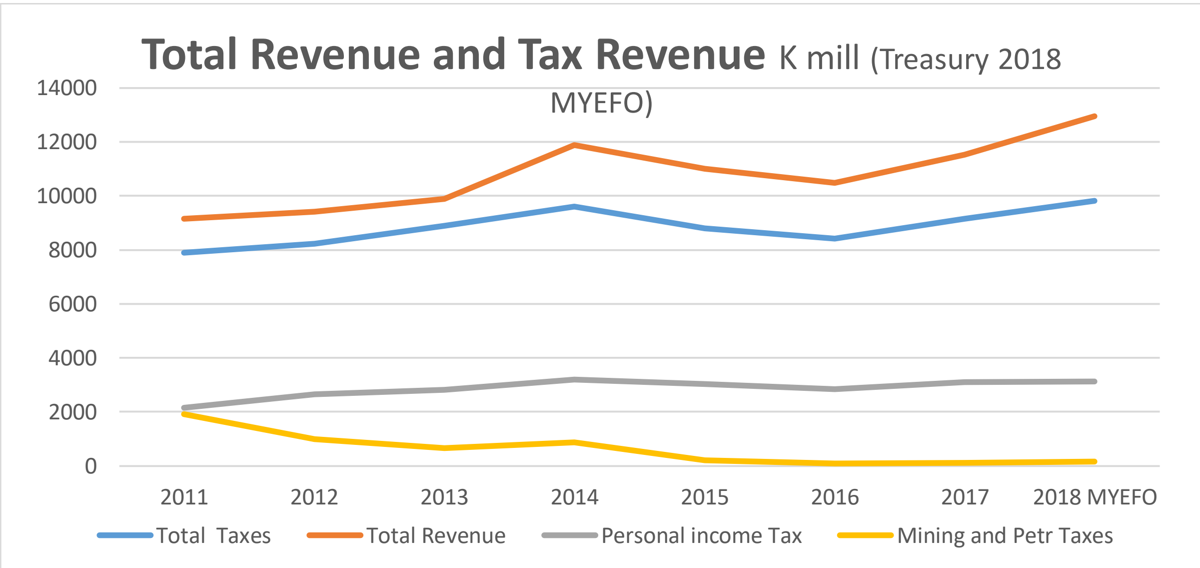


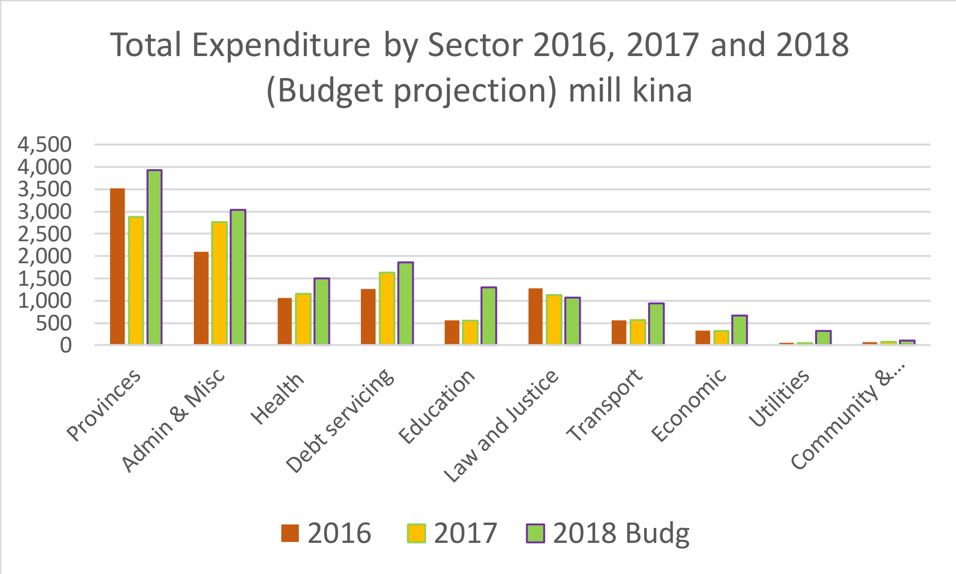
Months of Import Cover (Treasury & BPNG) -actuals to June 2018
Months
20
15
10
5
0
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Total import cover (months)



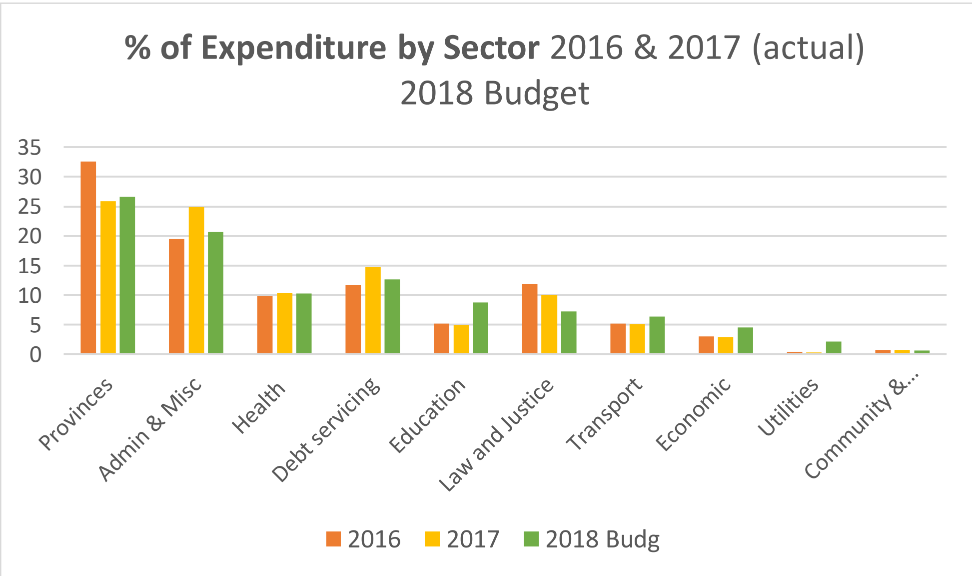
% of Total Revenue 2011-2018
(Treasury 2018 MYEFO)
30.0
25.0
20.0
15.0
10.0
5.0
-
2011
2012
2013
2014
2015
2016
2017
2018 MYEFO
Mining Dividends
Mining/Pet taxes %
Personal income tax %
GST %
Company Tax %


Revenue 2011-2018 (2018 MYEFO -Treasury - K million)
3500
3000
2500
2000
1500
1000
500
0
kina (milion)
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018…
Personal income Tax
Company Tax
Mining and Petr Taxes
Div Witholding Tax
Interest Witholding Tax
GST
Excise Duty
Import Excise
Import Duty
Export Tax
Gaming Tax
Mining Dividends

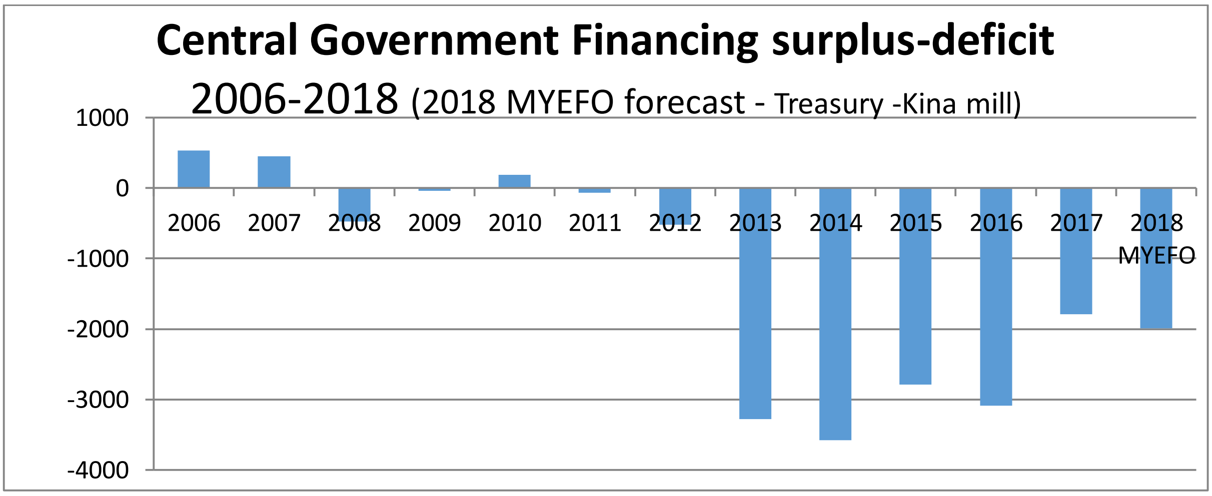

Total Revenue and Tax Revenue K mill (Treasury 2018 MYEFO)
14000
12000
10000
8000
6000
4000
2000
0
2011
2012
2013
2014
2015
2016
2017
2018 MYEFO
Total Taxes
Total Revenue
Personal income Tax
Mining and Petr Taxes



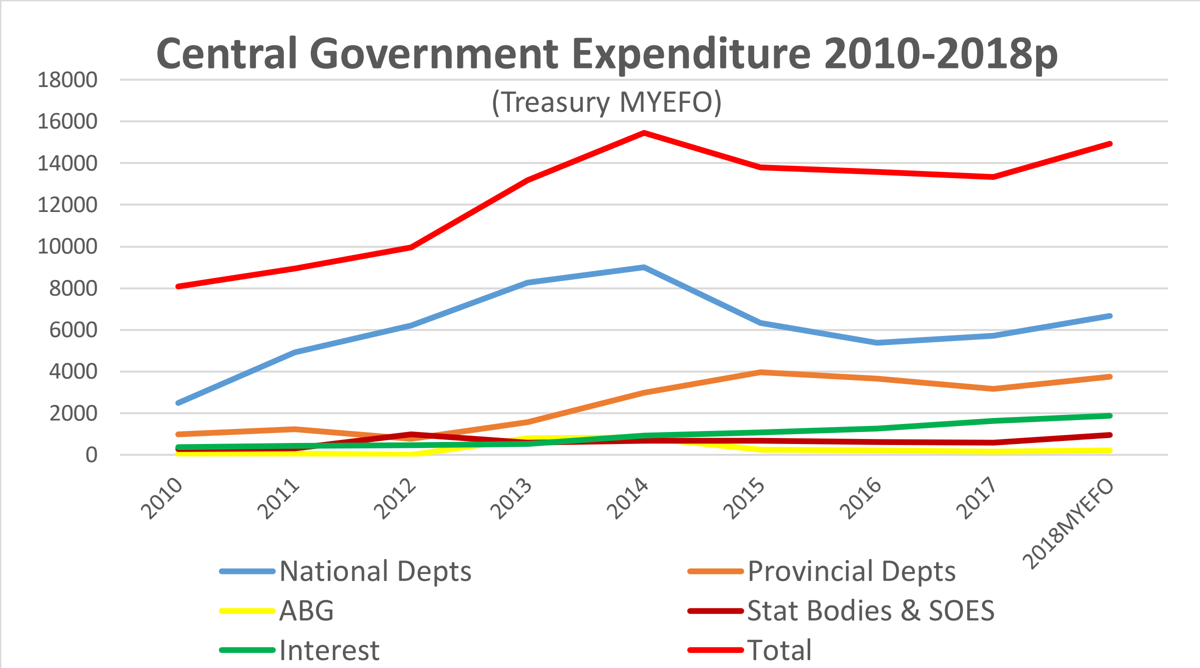
Total Expenditure by Sector 2016, 2017 and 2018 (Budget projection) mill kina
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Provinces
Admin & Misc
Health
Debt servicing
Education
Law and Justice
Transport
Economic
Utilities
Community &...
2016
2017
2018 Budg



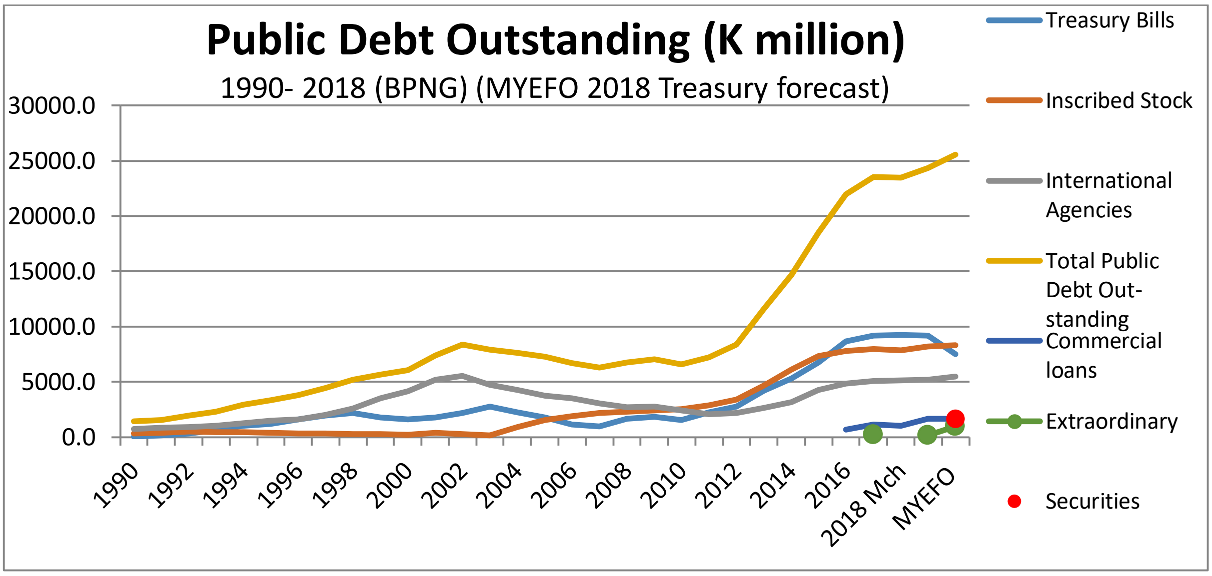
% of Expenditure by Sector 2016 & 2017 (actual) 2018 Budget
35
30
25
20
15
10
5
0
Provinces
Admin & Misc
Health
Debt servicing
Education
Law and Justice
Transport
Economic
Utilities
Community &...
2016
2017
2018 Budg



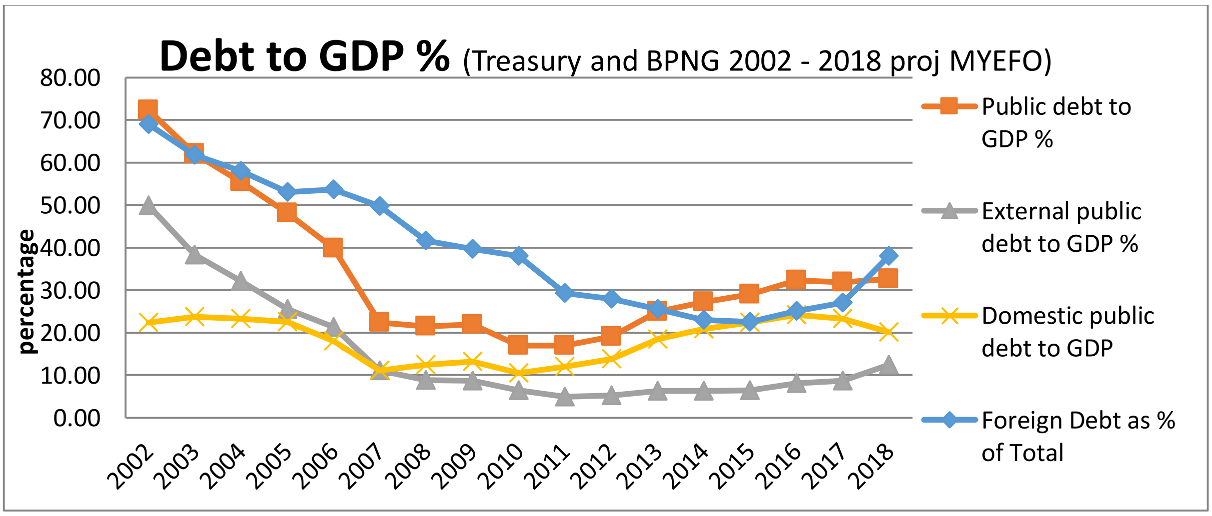
Central Government Financing surplus-deficit 2006-2018 (2018 MYEFO forecast - Treasury -Kina mill)
1000
0
-1000
-2000
-3000
-4000
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018 MYEFO



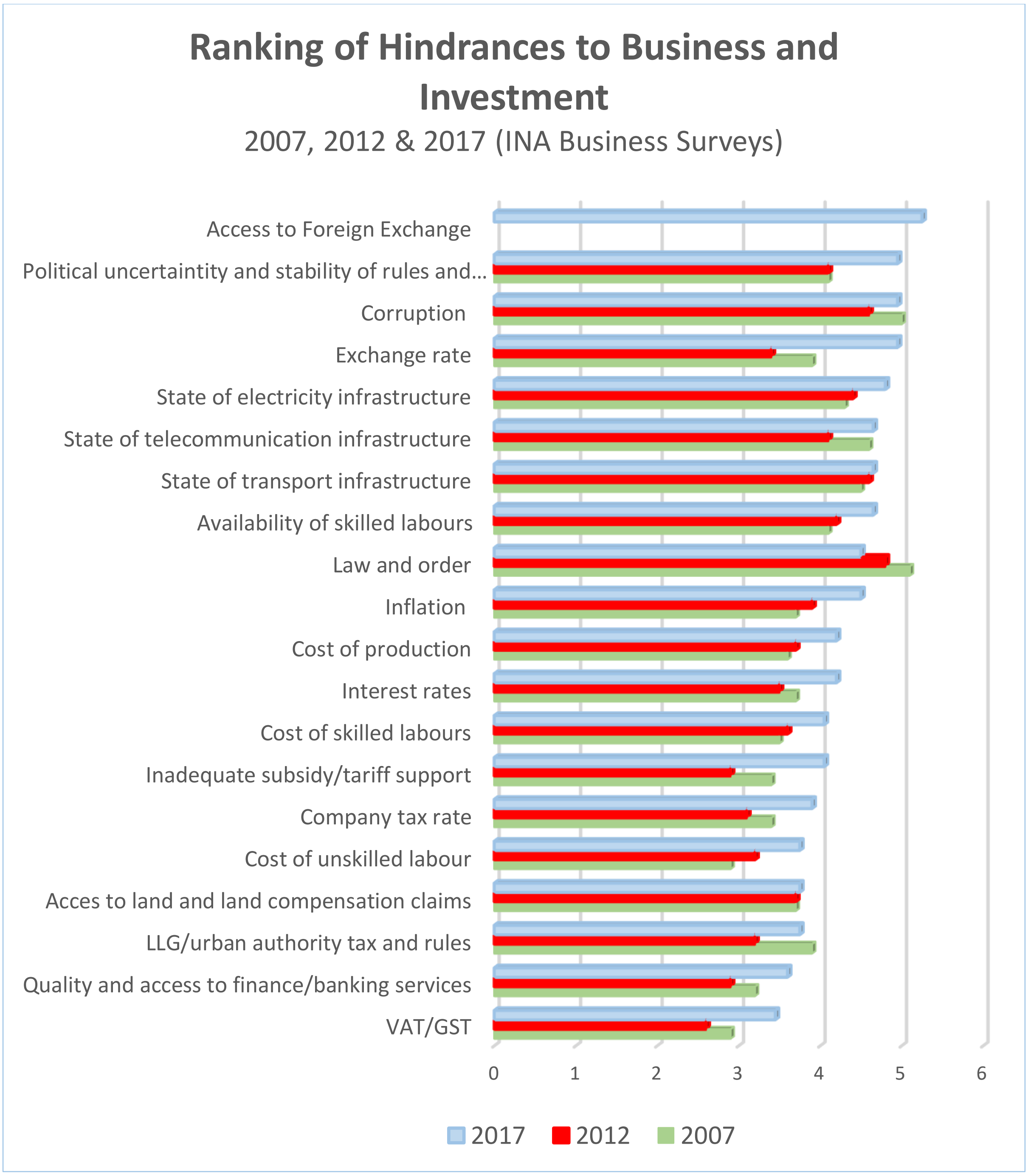
Central Government Expenditure 2010-2018p
(Treasury MYEFO)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2010
2011
2012
2013
2014
2015
2016
2017
2018MYEFO
National Depts
Provincial Depts
ABG
Stat Bodies & SOES
Interest
Total



Public Debt Outstanding (K million)
1990- 2018 (BPNG) (MYEFO 2018 Treasury forecast)
30000.0
25000.0
20000.0
15000.0
10000.0
5000.0
0.0
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018 Mch
MYEFO
Treasury Bills
Inscribed Stock
International Agencies
Total Public Debt Out-standing
Commercial loans
Extraordinary
Securities



Debt to GDP % (Treasury and BPNG 2002 - 2018 proj MYEFO)
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
percentage
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Public debt to GDP %
External public debt to GDP %
Domestic public debt to GDP
Foreign Debt as % of Total



Ranking of Hindrances to Business and Investment
2007, 2012 & 2017 (INA Business Surveys)
Access to Foreign Exchange
Political uncertaintity and stability of rules and...
Corruption
Exchange rate
State of electricity infrastructure
State of telecommunication infrastructure
State of transport infrastructure
Availability of skilled labours
Law and order
Inflation
Cost of production
Interest rates
Cost of skilled labours
Inadequate subsidy/tariff support
Company tax rate
Cost of unskilled labour
Acces to land and land compensation claims
LLG/urban authority tax and rules
Quality and access to finance/banking services
VAT/GST
0
1
2
3
4
5
6
2017
2012
2007

Nulisapi eco-tourist resort in Milne Bay