

Technological Impact of Gold as a natural resource in Australia and its impact on Australian Economy

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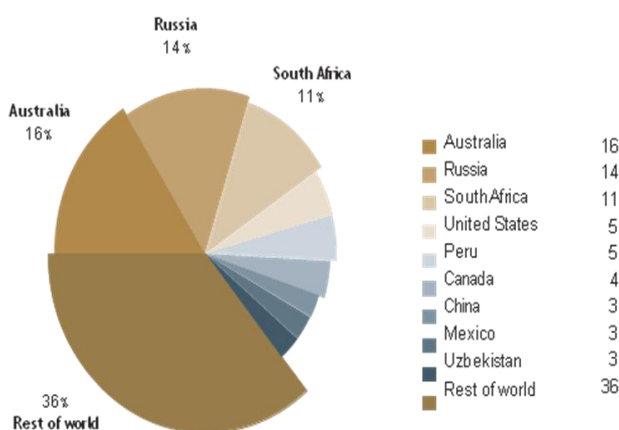
Abstract: This research represents the demand and supply of Gold as a natural resource and its contribution to the GDP of the country. The market for gold is dynamic in nature and many factors are impacting it at any given time. Gold having an economic feasibility leads to exports and investments and its consumption consists of precious jewelry and watches etc. It is the utmost important natural resource for the world and Australia is having it in abundance. It acts as a catalyst to investment in terms of storage of value for the people of the country and in terms of mining for the producers. Gold exports contribute to the economic output and ultimately leads to the incremental GDP of the country.

Index Terms: Competitive advantage, Demand and Supply, Gold, Gold Exports, Natural Resource.

I. INTRODUCTION

The rarity, purity, indestructibility, density and malleability are the different characteristics of the gold that makes it unique amongst precious metals and considered as a legal tender or medium of exchange and a magnificent store of value. Australia is enjoying the privilege of second largest producing country in the world and the metal exists in huge quantity in Australia than any other country on the earth.

Global gold reserves (%)
Source: Geoscience Australia, United States Geological Survey



Porter's Five Forces Framework Analysis

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Threat of Substitutes: Substitutes threat is low as it is one of a kind amongst the precious metals and do not have any other products that can be substituted for the yellow metal and having the same high storage value.

Bargaining Power of buyers: Buyers are enjoying the low bargaining power as the price of gold is regulated by the market and therefore it cannot be changed. The price of the gold is dynamic in commodity markets and changes as per the enhanced demand that leads to reduce the bargaining power of the buyers.

Threat of New Entrants: New entry threats in the world market is as low as it is not possible to mine the new gold beyond the limit and involves a huge capital outlay

Bargaining power of suppliers: Suppliers power to negotiate is also low as the rate of gold is usually fixed and the value of the order is quite high.

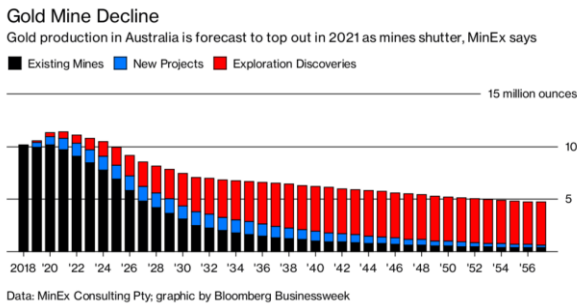
Competitive rivalry: Competitive rivalry cannot be attained as some countries are natural producers of gold because of natural bonanza of the metal to the respective country. From the above Porter five forces framework analysis, it can be seen that Australia is a country having the huge competitive advantage in gold exports which can lead to enormous contribution towards the GDP of the country.

II. DEMAND AND SUPPLY

The uses and benefits of gold are wide ranging and that is the reason for attributing it with the characteristics of investment asset, consumption asset and as a storage of value. It's property of electrical conductivity helps in the usage of various technological and manufacturing processes and applications. High productivity and closer vicinity to significant markets and strong demographical growth will continue to increase that leads to increase the gold export for the long term. The demand for gold in global context for jewellery fabrication is expected to increase continuously which acts as a catalyst to the economic development for the Australia. Investors' preference for gold because of geopolitical tension in the world is going to see a new peek and the demand for the yellow metal will never go out of fashion because of the unmatched attributes of the gold. The preference to gold as asset class will continue to grow because of the huge volatility in the developed and developing markets and automatically leads to increase in demand and prices for the gold. Increase in demand along with appreciated currency will open other avenues for investments like cross currency arbitrage and pair trading in gold and definitely leads to the increased depth of the financial and commodity markets in terms of huge volumes and open interest.

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Low bond yields amongst the developed and developing countries will also lead to the high demand for the gold. Gold demand will also depends upon the economic uncertainty and monetary policies of the respective country. So, the demand for the gold can be taken in context of investments and fabrication of gold in terms of jewellery and technology.

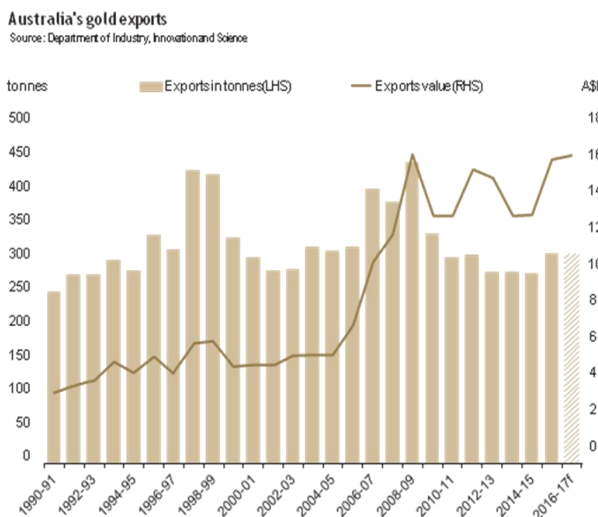


Supply of gold can be measured in terms of gold mining and recycling. As the mines cannot be increased so as the extraction of gold from the mines, the supply side constraints are pushing the prices of gold and prices in turn leads to higher demand and higher demand will lead to higher exports and that leads to trade surplus for the country and contributes to the economic development.

Interest rates being forecasted on the negative side along with huge stock market volatility and inhibitions over global economic growth all contributed to the upswing in demand. The huge trade surplus in context of earnings from gold exports will act as a catalyst to the infrastructure development and economic upsurge to the highest level. High growth for global demand and with supply side constraints in mining of the gold is leading to scarce supply of the metal and leads to higher productivity and commodity prices with demand being on the bullish side, specifically from emerging economies like China and India.

The demand for Australia's gold will be supported by the development in technology. Australia net exports in real terms are definitely would be making the positive contribution to economic and social development as well as growth of Australia.

III. ADVANTAGE AUSTRALIA



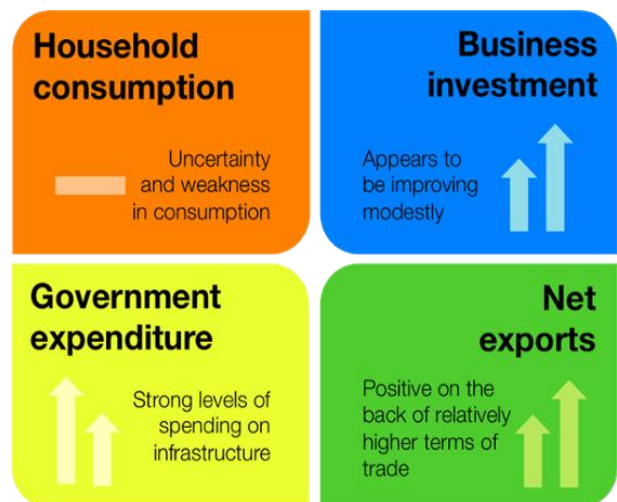
Gold accounted for a huge share in Australia's total merchandise exports and this made the high earnings from gold exports and contributes to the trade surplus and economic development

Growing Demand

- Growing demand from Asian countries
- Gold demand in India and china expected to rise 30 per cent year on year basis
- Industrial strength
- Restrictive mining and scarce supply pushing Gold prices and demand
- Technological Advancement

Attractive Opportunities:

- Large middle class base in Asian Countries
- Increasing population of developing economies at a faster pace
- Increasing income and consumption levels of developed and developing economies
- Free trade policy
- Alternative investment opportunities
- Inflation adjusted returns to the investors



Policy Support

- 100 percent FDI under automation route in emerging economies
- Lower taxes by Asian countries on fabricated gold
- Encouraging huge gold reserves for printing of currency to emerging economies
- Government Support

Automation

- Technological revolution
- Blockchain technology
- Detection of unseen gold through advanced automation
- Artificial intelligence and increased revenue from exports
- Exchange traded funds and hedging

Australia's supply capacity, geographical location and gold quality ensure that it is well positioned to meet existing and future demand in the domestic region and will also meet the demand for other countries, being the second

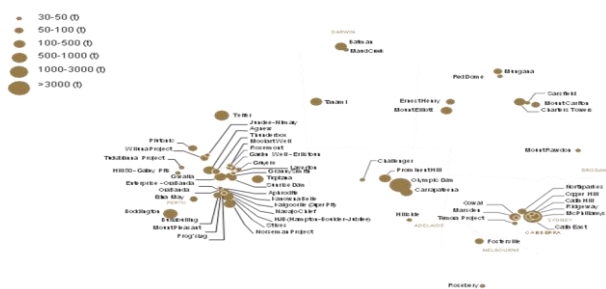
largest producer of the gold. Australia is totally clear about increasing the export income in terms of organic and inorganic growth to increase the export revenues from the gold and that certainly pave the way for the country to progress leaps and bounds in terms of economic development.

IV. IMPACT ON AUSTRALIAN ECONOMY

The Australia is considered to be the hub of natural resources and its economy largely depends on exports. The exports of the country have taken a marked shift from the developed world to emerging economies specifically Asia. With enhanced efficient business operations, globalization of trade, free trade policies and continuous development of emerging or Asian world, the export revenue from gold has contributed to the trade surplus and economic development of Australia. Australia is continuously looking for the opportunities to expand and attain the larger market share in the world for export of gold. The process of globalization of world economies, liberalization of trade policies, free trade treaties, FDI(foreign direct investment), the extending reach of multinational companies, Trade pacts, safe and stable transporting facilities', technological advancements, brand new markets that are on the emerging side and rapid development of emerging economies, the share of revenues through export of gold is continuously reaching the heights and touching the sky and spreading at an enormous pace. By seizing and acting upon the opportunities in advance, Australia will be able to get the larger market share and higher trade surplus and would be able to sustain the rapid economic development of its own country. It has actually positioned itself in the category of gold exports so well that it hardly gets affected by the financial crisis in the past. Low inflation, sound banking system, stable financial system and low unemployment are the factors that has actually driven the domestic Australian demand and serve as a catalyst to enhance the market share and export earnings by diversifying to different new markets and ultimately leads to increased GDP and sound economy.

Australia has always thrived to increase the share of export earnings in the GDP and focus on the nation's competitiveness. It has always looked for the opportunities to innovate and expand in the said sector to give a boost to the economic development. The innovation in terms of 'X rays technique' to find the undetected gold mines and automation will add to the optimum utilization of resources, additive productivity and enhanced productivity leads to increased efficiency, helping put Australia on the world map as a single largest gold exporter.

Major Australian gold deposits (2016)
(with in situ resources of gold = 31 t)
Source: Geoscience Australia



The significant impact of the enhanced mining through blockchain and out of the box technology will definitely leads to the increased production and increased demand and quality production along with increased demand will contribute to economic development and in tune the gold exports will add up to the enhanced share of real GDP growth for the country.

V. AUSTRALIA COMPETITIVE ADVANTAGE

Australia Competitive Advantage lies in the strategies followed as described below:

- *Organic and Inorganic Growth*
 - Australian economy is taking the route of inorganic growth for expansion into unidentified markets as well as expanding across the planet to retain the competitive advantage in production of the metal and thereby able to cater the growing demand. It is leveraging on having free trade agreements with the different economies has actually contributed to the Australia wealth and it is enjoying the benefits occurring due to free trade pacts amongst different countries to strengthen its position in the world market.
- *Demand Drivers*
 - Australia has always looked for the growth or demand drivers in terms of analyzing the market for further expansion. High gold demand in the gold consuming or gold importing countries have to be analyzed to take the first mover advantage and getting the opportunity to cash on early stages. Huge increment in the demand of gold in Asia and specifically in India would be considered as a catalyst for major growth of the respective economies.
- *Government initiatives and regulatory framework*
- *Strengthening FDI framework*
 - Strengthening FDI framework in the Australia will help it to become more efficient and it can take the advantage of enhanced revenues through FDI route for economic development.
- *Technology adaptation*
 - Technology integration through automation in extraction of gold though mining is the new challenge that has emerged from the recent developments. A breakthrough achievement in terms of x-ray technology that can detect and analyze unseen gold is now up and running in Australia. It uses high powered X-rays to attack the sample of rock and convert atoms of gold and other metals. So, it needs to evaluate the new opportunities in the said sector through which Australia would be able to keep the competitive advantage and expand in different markets. With the help of automation and block chain technology in mining, Australia can keep up the position of world second biggest gold producer and can give a needed impetus to its economy.
- *Hedging*
 - Hedging can be construed as an addition to existing revenues from gold exports through gold as well as currency hedging and ultimately leads to other avenues of cross currency hedging and arbitrage and in turn increase the depth of financial markets of Australia.

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- *Alternative Asset classes*

- It acts as a strong impetus to export demand and growth for gold

VI. COMMODITY MARKETS AND GOLD EXPORTS

With the major contribution of gold export in Australia's trade surplus, it becomes an utmost necessity to analyze the global financial markets for the respective metal and in turn increasing the depth of commodity and financial market. The share of enhanced earnings through gold exports can definitely lead to strengthen and integrate Australia commodity markets. Increased demand will push the prices in upward direction of the respective commodity and increased prices will lead to increased participation in term of increased open interest an volumes in commodity and derivatives market and that will lead to increase the depth of financial market and ultimately give boost to the integration of the financial as well as commodity markets. With increase in the price of the metal along with the strong currency appreciation, the share of gold export earnings in the Australian GDP will rise considerably. The vicious cycle will pave the way for trade surplus for Australian economy and it will be able to retain the competitive advantage in terms of mining of gold and have a significant positive impact on the economic development.

VII. FUTURE SCOPE AND EXPANSION

- Exchange traded fund (ETF): As a result of holding the gold in abundance, Australia can be able to take the advantage of leverage in becoming a market maker for the Gold ETF and thereby increasing the market share further.
- There is a significant increase in the number of new free trade agreements signed by Australia with different countries to increase the export trade volumes.
- Free trade agreement with the developed world in terms of getting an access to each other's market will prove beneficial in terms of increased volumes of trade and stable financial system and as a growth driver to economic development. The benefits of free trade policies can be attained as one county will boost the trade with another country and the other country will get new opportunities in trading of the respective metal and another huge advantage is to get the license of having free access to the primary market. So, Australia can take the advantage of free trade pacts with other countries and will be able to retain the competitive advantage in production as well as export of the metal. Also Australia's free trade agreement will lead to new trade opportunities that can be huge in the size and volumes to retain the first mover competitive advantage in the different markets for Australia commodities.
- Carpet bombing strategy can be adopted in terms of finding out the major significant markets for Australia's metal exports specifically in gold. Different economies need to be analyzed in terms of strong demand for investment, consumption, recycling or fabrication. Demand for jewellery is more in developing or emerging economies (particularly in Asian countries) as compared to demand for gold for investment or storage purposes (such as the developed economies), and some economies require gold

for reserves to increase their printing of legal tender currency and for use in industrial processes. All these opportunity analyses have to be done in advance to sustain the competitive advantage.

- Strong currency: The share of gold export earnings in the Australian GDP will rise considerably with increased gold prices coupled with the strong currency appreciation,. The said combination will pave the way for trade surplus for Australian economy and it will be able to retain the competitive advantage for the longer duration.
- Production and consumption of gold: Any mismatch between world production and consumption of gold need to be evaluated and take the steps according for organic or inorganic growth and ultimately adds up to the GDP of the country.

VIII. CONCLUSION:

- Australia's major export revenues increment is because of inorganic growth.
- Australia's supply capacity through automation and block chain technology, geographical location and gold quality and purity ensure that it is well- positioned to meet future demand on the planet.
- Australia's gold export revenues are major contributor to GDP and employment.
- Australia's free trade pact and policy has been considered as an impetus to growth and contributes to the growth of the Australian economy.
- Australia is and will continue to be a major producer and exporter of gold because of scarce supply and buoyant demand.
- Demand for Australia's gold will be supported by the development of new technological advancements and new emerging economies, specifically in Asia.

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AUTHORS PROFILE



Rohit Sood: Having 8 years + comprehensive experience in corporate and academic sector, he is laborious personality. . He has participated in more than 100 Seminars, Workshops, National &



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