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Critical Notes on Crude Oil Mining as a Prime Mover of Timor Leste's Economic: The Paradox of Abundance

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ABSTRACT: After the international recognition of Timor-Leste's independence, the oil and gas sector has provided a very dominant contribution to the development of the economy and government. In fact, oil and natural gas revenues are expected to be a major determinant of the country's economic growth, although it is known that the final outcome will depend largely on the use of oil and gas revenues. The purpose of this critical note is to contribute critical thinking about the negative impact of the abundance of natural resources, especially crude oil, in Timor Leste, which continues to be the main source of the economy. While it is true that oil revenues are critical to achieving the goals set out in the Timor-Leste national development program, it is also true that oil revenues pose challenges to governance capacity, as international experience shows that countries are rich in natural resources (oil and gas). nature) often experience more waste and corruption than other countries. The negative effect of abundance on natural resources has become known as the "resource curse".

KEYWORDS: paradox of abundance, crude oil, Timor Leste, prime mover of economic

I. INTRODUCTION

Looking at Portuguese colonial rule and 24 years under Indonesian rule, the people of Timor Leste have always lived in dependence on the agricultural sector + 75% and others are not very significant. After independence, the part that was more important for economic improvement was the extractive industry sector (oil and gas). During the UNTAET (United Nations Administration in East Timor) mandate (1999-2002), having begun its administration with the spotlight that the oil riches off the coast of the Timor Sea, would be very central to the development of this country, began renegotiating with the Australian government to replace the Indonesian government. This interest implies negotiations that remain profitable for Australia because it maintains the negotiation principles agreed with Indonesia (50%: 50% of royalties).

Following the international recognition of Timor-Leste's independence (20 May 2022), Timor-Leste leaders renegotiated an agreement with Australia regarding exploiting the reserves of the "Timor Sea". This agreement is much more favorable than previous ones between UNTAET-Australia, and oil and gas revenues are expected to enable major increases in income and prosperity for the people of Timor-Leste.

In Timor-Leste's economic development, the sectoral structure highlights the agricultural and fisheries sectors as well as the extractive industry. In its 21 years of development, the oil and gas sector has provided a very dominant contribution to the development of the economy and government. In fact, oil and natural gas revenues are expected to be a major determinant of the country's economic growth, although it is known that the final outcome will depend largely on the use of oil and gas revenues.

While it is true that oil revenues are critical to achieving the goals set out in the Timor-Leste national development program, it is also true that oil revenues pose challenges to governance capacity, as international experience shows that countries are rich in natural resources (oil and gas). nature) often experience more waste and corruption than other countries. The negative effect of abundance on natural resources has become known as the "resource curse".

II. METHOD

This study uses an exploratory descriptive approach, namely by interpreting thoughts descriptively. Also supported by secondary data from the Directorate of National Statistics, Ministry of Finance of Timor-Leste and, for data on oil revenues, Timor-Leste Petroleum Fund Quarterly Report data will be used. These reports were prepared by the Banking and Payments Authority (2005-20011), and the establishment of the Central Bank of Timor-Leste since 2011, in accordance with Article 13, highlights the Petroleum Fund. This report has been available since 2005. This analysis will be based on several experiences of other countries, widely described in the economic literature, that based their growth on natural resources. It will seek to draw some lessons from economic policies that contribute to improved allocation of resources in Timor-Leste's economy and distribution by its people.

III. ECONOMIC AND SOCIAL INDICATORS FOR TIMOR LESTE

Timor-Leste is geographically located on the border of Southeast Asia (Indonesia) and Oceania (Australia) with an area of + 15,000 km2. Timor-Leste faces major social challenges and remains one of the least developed countries in East Asia. Poverty is high and human and physical capital is very low. One in five people lives below the international poverty threshold of $1 per day (World Bank, 2003). At US$1 per day, Timor-Leste is the fourth poorest country in East Asia, with only Laos PDR, Cambodia and PNG the most deprived. Life expectancy is only 57 years. Timor-Leste is not only a young country, but also a country of youth, where 43% of the population is under 15 years of age, compared with European countries, only about 18% (Population and Housing Census 2004, p. 39). Timor-Leste's population is 1.4 million (2021) and has been growing at a rate of approximately 4% per year. The implication of this high growth is that it is difficult to provide services to meet common needs (Yusuf et al., 2023) (ease of education and health). This produces effects on employment levels, reduces the quality of urban life, generates social problems and stimulates significant cultural change and generates environmental problems, especially in the capital Dili.

As many young couples pass reproductive age, they put pressure on basic social services to ensure the healthy and productive lives of a growing population and to create jobs for the economically active. The National Development Plan emphasizes that channeling aid and wealth into territorial waters for high priority development goals will be critical. Decisions on public spending should be motivated by policy priorities for poverty and, in turn, policy choices should be disciplined by resources and actual implementation in the medium term (Nikoloski, 2020). A medium-term spending framework can help link policy priorities to resource packages.

IV. TIMOR LESTE'S REVENUE FROM OIL AND GAS RESOURCES

The Petroleum Fund was established through the adoption of a Law (UU) which was announced on 3 August 2005. The Law gave authority and responsibility to the Banking and Payments Authority (Autoridade Bancária e Pagamentos, ABP) for the management of operational funds.

On September 9, the government transferred the opening balance of the First Oil Tranche (the "Timor Gap" account) drawn at ABP, along with $125 million from the consolidated fund, to provide a petroleum fund with an opening balance of USD$205 million, plus a government-administered contribution fund Timor-Leste for Petroleum Funds deposited at the Reserve Bank of New York, USA as shown in Table 01 below.

Table 1. Oil and Gas Opening Funds Deposited at the Reserve Bank of New York, USA.

Assets	**$'000**
Earmarked Receipt Account	288
Overnight Repurchase Agreements	300
US Treasury Notes (market value)	243,192
Accrued Coupon	3,587
Total	**$247,367**
Capital	
Transfers from Government	204,604
Receipts from Taxpayers	43,482
Retained Income	611
Unrealised market gain/(loss)	(1,330)
Total	**$247,367**

Source: *Quarterly Report Petroleum Fund of Timor-Leste for the Quarter ended 30 September 2005, Petroleum Fund Report (bancocentral.tl)*

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Since 2005, the government through ABP and the Central Bank of Timor-Leste (established in 2011), based on the mandate outlined in the Law, has carried out its obligation to deposit funds obtained from oil and gas in the Reserve Bank of New York, USA, as shows as Figure 1.

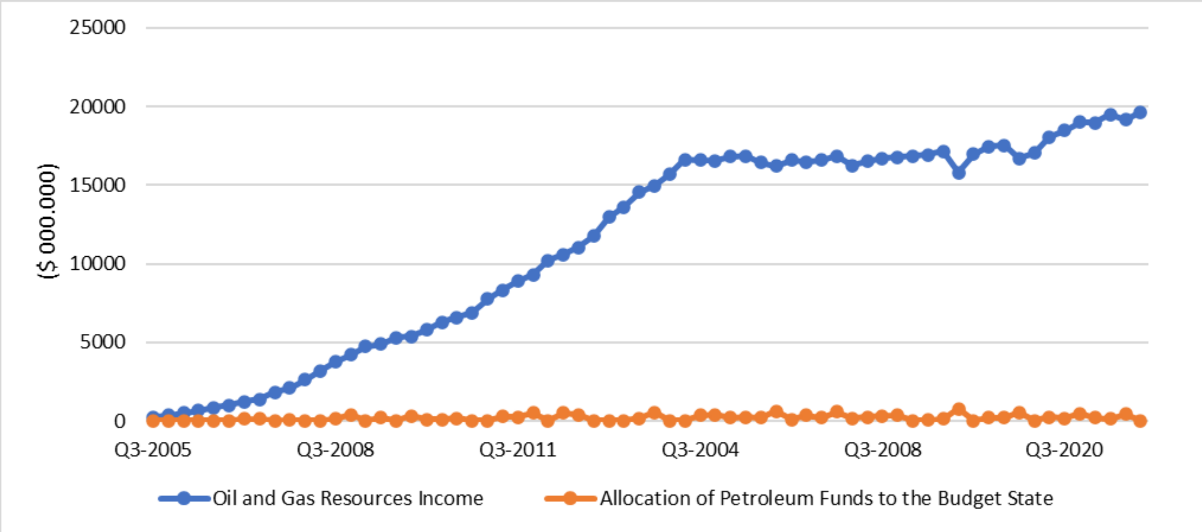

Figure 1. Trend of Timor-Leste's Oil and Gas Resources Income every Quarter from 2005-2021 which is deposited at the Reserve Bank of New York, USA

Source: Bank Sentral Timor-Leste *(Petroleum Fund Report (bancocentral.tl))*

V. PARADOX OF ABUNDANCE

Natural resources are a fixed input factor and consequently impose restrictions on economic growth potential. This limitation depends on the nature of production technology, where it causes growth in labor and capital stock. This is the first reason for the adverse effects of natural resources on economic growth (Nordhaus, 1992).

First, the stable growth rate of per capita production in an economy with natural resources is proportional to the rate of technological progress which is adjusted to balance population growth due to decreasing returns and the implications of natural resource depletion due to decreasing levels of exploitation of natural resources.

Second, the exploitation of very large natural resources can create opportunities for large-scale rent-seeking by producers, resulting in the extraction of natural resources far from the natural productivity of economic activities (Auty, 2001; and Gelb, 1988). For example, Tornell and Lane (1998) show that unpredictable trading conditions and natural resource booms can activate political interactions between powerful interest groups, resulting in current account deficits, disproportionate tax redistribution and reduced economic growth. In extreme cases, civil wars arise, such as the diamond wars in Africa, which not only divert inputs from productive use but also destroy established institutions and laws. Collier and Hoeffler (1998) empirically show how natural resources increase the likelihood of civil war.

Third, the abundance/abundance of natural resources can cause Dutch disease. Natural resource booms and associated surges in raw material exports can cause real currency exchange rates to depreciate, which may reduce manufacturing and service export industries (Corden, 1984). Booms and depressions also tend to increase real exchange rate volatility, however, reducing investment in negotiable sectors as well as exports and imports of goods and services. Dutch disease can also strike in countries that do not have their own currency (for example, Greenland wears the Danish crown (Paldam, 1997). A boom in the primary sector raises wages in that sector, and attracts workers from other industries, especially in countries with centralized wages. For some or all of this channel, Dutch disease can reduce total exports related to GNP (Gylfason, 1999) or at least reduce the composition of exports from manufacturing and service exports that can contribute more to economic growth. This idea is based on the perspective , that technological discoveries and innovations arose in manufacturing rather than in agriculture (Kaldor, 1966).To the extent that the major productivity increases that have occurred in the agricultural sector in recent decades reflect technological spillovers from other sectors, in this case, Dutch disease may dampen the pace Economic growth in decreasing manufacturing and service exports may be good for growth (Frankel and Romer, 1999), not only in quantity but both in type and quality.

Fourth, an abundance of natural resources can weaken private and public incentives to accumulate human capital due to high levels of non-wage income. For example, dividends, social spending and low taxes. Empirical evidence shows that, among countries, schooling at all levels is inversely related to dependence on natural resources, as measured by the labor force occupying primary production (Gylfason et al., 1999). There is also evidence that, among countries, public expenditure on education in relation to national income, expected years of education and tuition fees in secondary schools are all inversely related to the natural capital share of national wealth (Gylfason, 2001). The importance is that more and better education appears to be good for growth.

Finally, an abundance of natural resources can fill people with a false sense of security and manage governments to forget the need for human capital accumulation as well as in good economic administration and benign growth, including free trade, bureaucratic efficiency, institutional quality and sustainable development (Rodriguez and Sachs, 1999; and Sachs and Warner, 1999).

Lewis (1984), based on the basics of the classical model of economic growth, stated that lack of capital, or domestic savings, is one of the main obstacles for developing countries to achieve the dream of economic development. In an extractive economy, revenues from exports of mineral goods can provide a source of financing that other countries often lack.

For Lewis (1984), countries rich in mineral resources have not only "advantages", but also problems related to economic development, because the concentration of resources in extractive industries can ultimately hinder the performance of other activities. These difficulties stem from various intrinsic characteristics of extractive industry activities. Mining-based economic indicators often show poor income distribution, poor economic diversification, increased exports concentrated only in primary products, and lower growth rates in non-mineral sectors of the economy than in other non-mining economies, among others. In addition, mining produces a monopolistic labor market, that is, one large company is primarily responsible directly and indirectly (through contracted companies) for the absorption of the destroyed labor force and plays an important but slavish role as a currency catcher to finance development industry in other regions of the same country.

Lewis (1984), designates as the "resource curse" a series of negative effects typical of extractive base economies. The causes of this "curse" will be related to specific characteristics of the minerals sector, such as: the existence of differential yields of deposit quality; the share of low wages in that number will increase; Most mineral revenues go to multinational companies or governments, which results in problems of financial intermediation and (fluctuating) savings allocation, which often causes extractive companies to work in the red, due to short-term production inelasticities.

Another perspective that follows that line is known as Dutch disease. It also states that there is a negative relationship between mining and development. According to Bomsel (1992), the term "Dutch disease" was inspired by the experience of Dutch natural gas production in the North Sea in the 1970s. For Auty and Warhurst (1993), the Dutch desease occurred because of the high level of profitability of the mineral segment, made possible by differential mining returns, which caused excessive exchange rate appreciation and reduced the competitiveness of non-mineral activities. Wages in the mining sector also tend to grow and this wage inflation spreads to other economic sectors, which in turn ultimately lose skilled labor to the mineral sector. If they want to continue producing, these other sectors need to pay wages equivalent to the minerals industry. The result is a decline in the competitiveness of non-mineral products in international markets. These factors result from a negative symbiosis between the mineral sector and the non-mineral sector, such as agriculture and manufacturing. This symbiosis ultimately damages the competitiveness of these sectors and slows down the process of economic growth and investment generation (Auty and Warhurst, 1993).

Davis (1995) tries to distinguish between the "resource curse" and "Dutch disease" theses. It states that the second refers to the negative coexistence of a dynamic sector of the economy with another backward one, which results in a dangerous relationship for the economy because export profits from the dynamic sector lead to high inflation and a decrease in the growth rate of the other sector, or industrialization of the economy. The "resource curse" thesis, in turn, reveals that countries that are well endowed with minerals, compared with countries that do not exploit such resources, always perform worse.

According to Bomsel (1992), the negative effects of Dutch disease can be reduced, or even avoided, if steps are taken to control strong exchange and wage assessments. The problem is that in many economies based on the exploitation of natural resources, policies related to the use of revenues from that activity make it difficult or even impossible to implement such measures. According to this view, in these countries an abundance of income fuels an elite that suits this bonanza and that uses these resources to perpetuate itself in power. Thus, the measures necessary to fight Dutch disease will be harsh and unpopular, such as limiting wage expansion and controlling the exchange rate (making elite luxury consumption more expensive), among others.

Lewis (1984), following a line of argument very similar to Hirschman (1997), argues that the power of mining is taxation, but also argues that the potentiation of these benefits requires the competence and qualifications of rulers to command this additional revenue. For Gelbt (1998) wise use of natural resource revenues is far more the exception than the rule. For this author, the main problem is the waste of mining revenues in the mineral boom period.

VI. CONCLUSION

The Timor Leste government needs to immediately think seriously about developing sectors that support the economy, other than mining. However, the limited APBN which has not been supported by mining results is an important factor hampering development. The proposed alternative to avoid this problem involves orthodox macroeconomic policies and a commitment to fiscal prudence with competitive exchange rates.

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