



**TIMOR-LESTE
ECONOMIC REPORT**

OCTOBER 2019

**UNLEASHING
THE PRIVATE SECTOR**



WORLD BANK GROUP

TIMOR-LESTE ECONOMIC REPORT

Unleashing the Private Sector

October 2019



KEY INDICATORS

Population (million)	1.3
GDP (USD billion)	1.6
GDP per capita (USD)	1,230
Poverty headcount ratio – national poverty line (% population)	41.8
Poverty headcount ratio – \$1.90 a day (2011 PPP, % population)	30.3
Poverty headcount ratio – \$3.20 a day (2011 PPP, % population)	73.2
GINI index	28.7

Notes: GDP data is for 2017. Poverty and inequality data are for 2014.

ACKNOWLEDGEMENTS

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SUMMARY

RECENT DEVELOPMENTS

- The ratification of the Maritime Boundary Treaty between Australia and Timor-Leste paves the way for the development of the Greater Sunrise oil and gas fields, which are thought to hold reserves worth between \$40-\$60 billion. However, there is substantial uncertainty about the financing modality to be used for its development.
- Despite the late approval of the 2019 budget, public expenditure in the first half of 2019 was 16 percent higher than in the same period in 2018, which has contributed to boost consumer confidence. Private investment is also expected to benefit from greater political and economic stability. Gross domestic product (GDP) is thus expected to grow by 4.1 percent in 2019.
- Consumer price inflation declined to 0.8 percent (year-on-year) in the second quarter of 2019, as price increases decelerated in most categories of goods and services. Appreciation pressures on the real exchange rate have eased accordingly. Credit to the private sector grew by 13 percent (year-on-year) in June 2019, mainly as lending to individuals increased.
- The trade balance was practically unchanged in the first half of 2019 when compared to the same period in 2018. The current account improved remarkably due to higher primary income, which was driven by higher receipts from the Joint Petroleum Development Area.

OUTLOOK AND RISKS

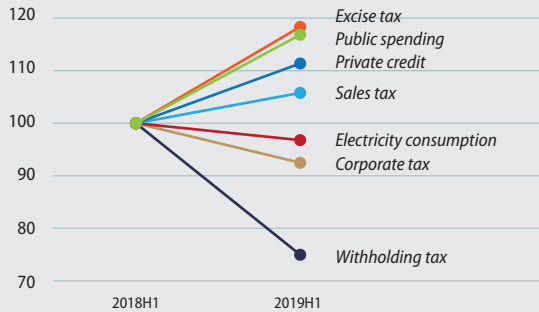
- GDP growth is expected to accelerate to 4.9 percent by 2021, driven by larger public spending and household consumption. Domestic inflation is predicted to remain low, especially as international food prices are forecast to remain broadly stable. Both fiscal and current account balances are expected to deteriorate, owing to growing public spending that will stimulate imports of goods and services.
- Public expenditure levels have increased considerably since the mid-2000s. Containing public spending coupled with a prudent management of the Petroleum Fund are key to secure medium-term fiscal sustainability. Moreover, improving public investment management will help enhance value-for-money.
- Medium-term growth prospects are hampered by a weak private sector. Developing productive capabilities will require continued political and macroeconomic stability, strong investments in high-return connective infrastructure and relevant skills, as well as policy and regulatory reforms that improve the business environment.

SPECIAL FOCUS: ENHANCING PRIVATE SECTOR DEVELOPMENT

- When compared to firms in the East Asia and Pacific (EAP) region, the average firm in Timor-Leste is younger, smaller (in terms of the number of employees), less capital intensive, and has lower labour (and total-factor) productivity levels. Understanding the key factors undermining firm performance is key to unleash their potential.
- Lack of access to finance, poor electricity and water services, cumbersome import and business regulations, corruption and bribe requests, and low workforce skills and education levels have all been associated with weaker firm performance.
- Policy priorities for increasing firm performance include increasing firm access to finance, skills and affordable inputs, as well as easing firm entry and reducing regulatory uncertainty. Additional policy areas for reform may include the foreign direct investment (FDI) regime (affecting entry) and the insolvency and creditor rights system (affecting exit).

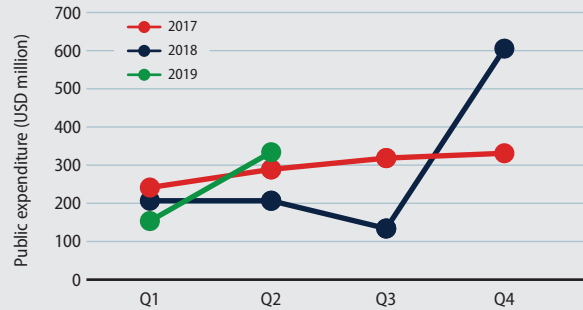
SNAPSHOTS OF 2019

There is evidence to suggest that the economy is recovering from the 2017-2018 recession



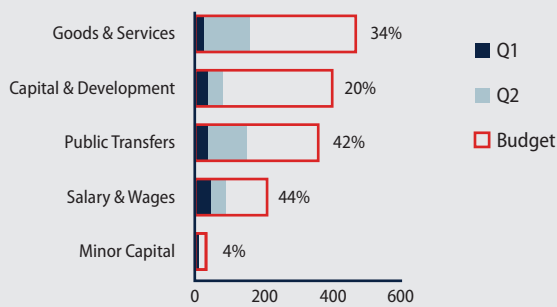
Source: Ministry of Finance and Central Bank

This recovery has been supported by higher public spending, as well as household consumption growth



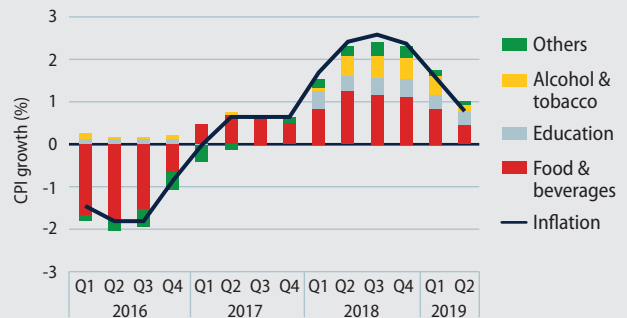
Source: Ministry of Finance

Despite a slow start, budget execution rates were broadly in line with past years



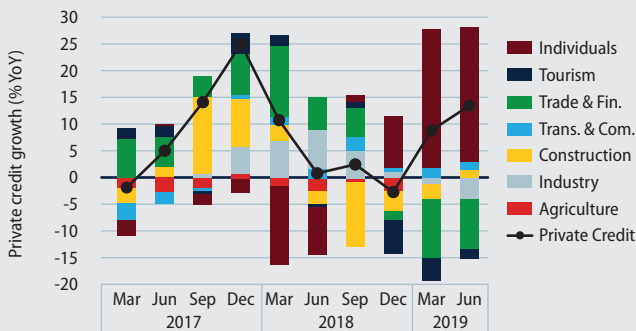
Source: Ministry of Finance

Consumer price inflation eased due to modest price increases for most products and services



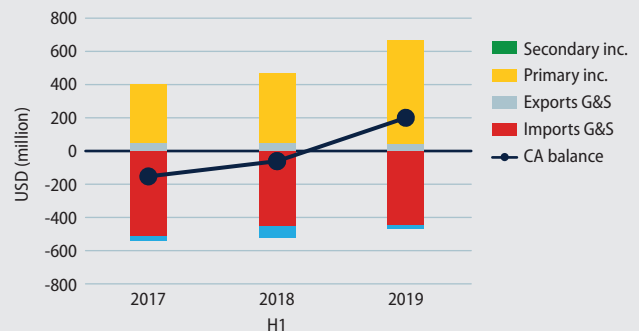
Source: Ministry of Finance

Credit to the private sector increased, mainly as individuals borrowed more



Source: Central Bank

The current account balance improved considerably because of higher petroleum income



Source: Central Bank

Note: In this report, gross domestic product (GDP) does not include offshore petroleum production. Including it would unduly complicate the assessment of domestic economic activity due to the inherent volatility of international petroleum prices and declining production levels. There are also few direct links between the petroleum sector and the rest of the economy, as production is outsourced to foreign companies. Nonetheless, the two main transmission channels – government financing and primary income – will be scrutinised when analysing fiscal and external trends. Official balance of payments (BoP) data includes (revenues from) offshore petroleum as primary income rather than merchandise export.

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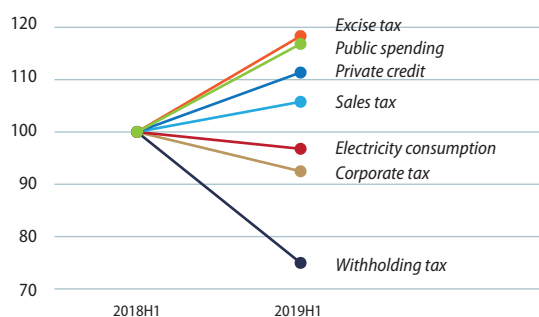
PART 1.

RECENT ECONOMIC DEVELOPMENTS

REAL SECTOR

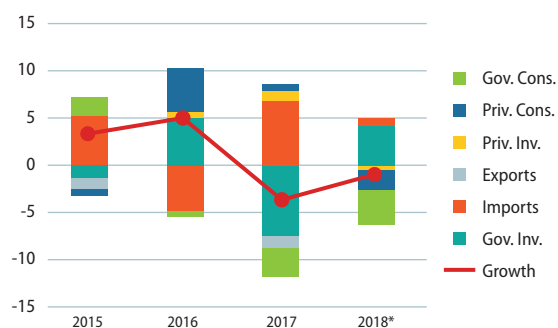
Following a two-year recession, economic activity is expected to recover in 2019. Public spending, which has traditionally been the key driver of economic growth, increased by 16 percent in the first half of 2019 when compared to the same period in 2018. Higher spending was predominantly focused on current expenditure, while capital spending was more subdued. Since it is difficult to track private spending on a quarterly basis, proxy indicators are often used. Several of these indicators also suggest that economic growth is resuming (Figure 1).¹ Consumption-related tax receipts (such as excise and sales taxes) increased significantly in the first half of 2019, while commercial bank credit grew by 13 percent – mainly because of households. Registrations of light passenger vehicles and motorcycles also increased substantially. These trends are indicative of higher levels of household consumption. Nonetheless, collections from withholding and corporate taxes were considerably lower, while imports of cement and machinery also declined. This suggests that private investment was subdued, likely due to the slower pace of public capital spending. Electricity consumption also fell by 3 percent. Overall, there is evidence to suggest that economic activity is recovering in 2019, especially since public spending and household consumption largely determine trends in gross domestic product (GDP).² With public investment expected to rise substantially in the second half of the year, the economy is thus anticipated to grow for the first time since 2016.

Figure 1. Proxies of economic activity (index)



Source: Ministry of Finance

Figure 2. Contribution to GDP growth (percentage points)



Source: Ministry of Finance and World Bank staff estimates

¹ While some indicators deteriorated, these mainly relate to private investment (i.e. corporate sector), which has a relatively small weight in the overall economy – especially when compared to public spending and household consumption.

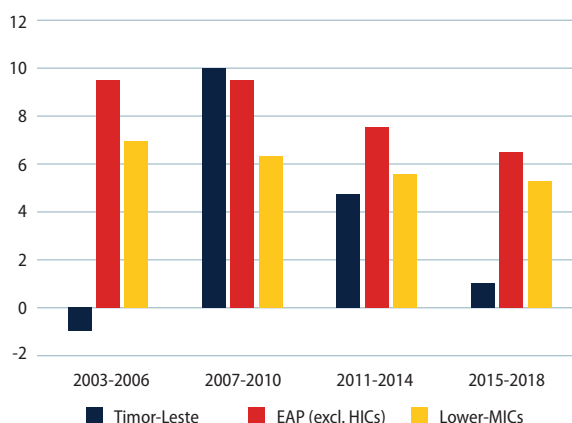
² In this report, GDP excludes offshore petroleum production. Estimates for 2018 were as of September 2019, with official data on national accounts expected to be published later in the year.

The 2017-2018 recession was mainly driven by lower government spending. Government expenditure declined significantly in 2017, which was the key drag on economic growth (Figure 2). In 2018, public spending was severely constrained for the first 9 months of the year, which had a negative spillover effect on the private sector. Following the promulgation of the 2018 state budget in September 2018, the last quarter of 2018 witnessed a very large increase in public investment, although insufficient to compensate for the rest of the year. Private consumption likely declined in 2018, as evidenced by consumption-related tax data – even though agricultural production increased. Moreover, private investment was restrained due to the political and economic uncertainty. Imports of goods and services declined despite the stronger demand generated by higher public investment in the last quarter of the year, while higher exports of goods and services had little impact on overall activity. As a consequence of these developments, GDP contracted by 3.5 percent in 2017 and is estimated to have declined by a further 1.1 percent in 2018.

Despite the expected recovery in 2019, economic growth will remain constrained by a weak private sector.

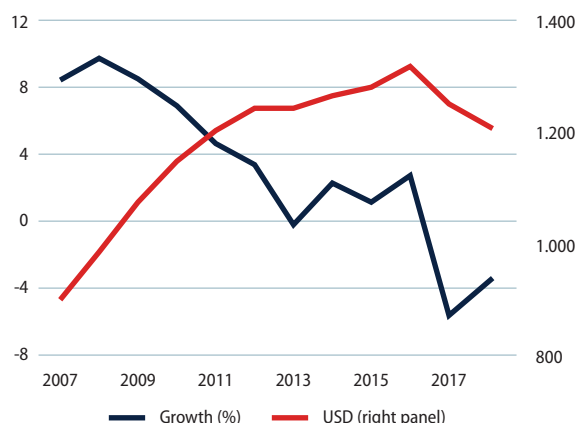
The economy had a disappointing performance in the first few years after independence, partly due to a difficult set of circumstances that were compounded by the civil unrest in 2006 (Figure 3). Since then, public spending increased considerably – enabled by petroleum revenues coming onstream – and economic growth accelerated to an average of 10 percent in the 2007-2010 period. This initial recovery effort contributed to rebuild infrastructure and the public service. Nonetheless, the private sector remains weak and unable to overcome key structural constraints (see Special Focus).³ Economic growth has decelerated since the 2008 peak of 11.1 percent, even when excluding the 2017-2018 political stalemate. Since population growth is above 2 percent per year, real GDP per capita (a proxy for living standards) increased at an average of less than 2 percent between 2012 and 2016, and the levels estimated for 2018 are similar to those recorded in 2011 (Figure 4). The East Asia Pacific (EAP) region has also seen economic growth weaken – mainly due to the economic deceleration in China – but it remains robust at over 6 percent. However, recent developments in the global economy do not bode well for the region and some of its negative effects may affect Timor-Leste (Box 1).

Figure 3. Real GDP growth (% GDP)



Source: Ministry of Finance and World Bank staff estimates for 2018

Figure 4. Real GDP per capita



Source: Ministry of Finance and World Bank staff estimates for 2018

³ In the short-term, increased public spending will contribute to economic growth. However, accelerating and sustaining economic growth will require boosting human and (high-return) physical capital, as well as enhancing productivity growth.

Box 1. Recent Economic Developments in the Region

Economic growth in the East Asia and the Pacific (EAP) region slowed in the first half of 2019, owing to waning global demand and escalating trade tensions. Global growth decelerated in the first half of 2019 due to weakening activity in major world economies such as China, India, the European Union, and the United States. Growth in developing EAP economies slowed to 6 percent (year-on-year) in the first half of 2019 – from 6.5 percent in the first half of 2018 – reflecting a widespread decline in export growth and manufacturing activity. Rising trade tensions with the United States contributed to deepening China’s economic slowdown, while growth also moderated in the rest of the EAP region. Waning external demand and global trade policy uncertainty have affected regional activity through declining exports, deteriorated business confidence, and weakening investment. Despite the deceleration, the EAP region remains a key driver of global economic activity – due to its strong fundamentals – accounting for over one-third of global growth.

Investment growth was sluggish in many of the EAP region’s largest economies. The strong slowdown in exports and the uncertainty created by the escalating trade disputes between China and the United States contributed to weakening investment growth. The prospects of lower export growth influence the investment behaviour of firms engaging in exporting or producing intermediate goods, leading to a slowdown in aggregate investment growth. In China, the investment slowdown was largely driven by weaker private investment growth. Political uncertainty and institutional fragmentation in some countries also created fiscal bottlenecks and weighed down public investment.

Several countries have adopted fiscal policy measures to support economic growth. Since the beginning of the year, many countries have employed fiscal stimulus measures to address a moderation of activity amid weakening external demand. China introduced new tax and fee reductions, and a higher limit for local government on-budget borrowing. Thailand announced a broad range of economic stimulus measures, including a tax deduction for spending on tourism services and is preparing a fiscal stimulus package aimed at farmers, small and medium enterprises, and low-income households. Public spending has also increased due to election cycles (the Marshall Islands) and higher social spending (Indonesia). Nonetheless, concerns about debt sustainability led to further fiscal consolidation in some economies – such as Lao PDR, Mongolia, Papua New Guinea, and Vietnam.

Monetary policy has remained accommodative or eased further amid subdued inflationary pressures. Price pressures remained generally subdued across the larger EAP economies, but have slowly increased since the start of the year. Headline inflation in the region’s larger economies was lower in the first half of 2019 when compared to the first half of 2018. The central banks of Indonesia, Malaysia, Philippines, and Thailand eased their key policy rates in early 2019, amid subdued inflationary pressures and a bid to lift deteriorating growth. The cuts came as central banks in advanced economies – including Japan, the European Union, and the United States – signalled a more dovish policy approach. Malaysia’s central bank cut the interest rate by 25 basis points in May, the first reduction since 2016. In the Philippines, besides lowering the key policy rates, the central bank also reduced the reserve requirement by 200 basis points for banks and non-bank financial institutions. In Vietnam, local and state-owned banks reduced their rates for loans to firms included in the government priority sectors. Despite inflationary pressures in China, the People’s Bank of China cut reserve requirements for all banks by one percentage point of liquid liabilities to soften the impact of the trade tensions in economic activity.

Credit growth has declined in many EAP economies since the start of 2019. Accommodative monetary policies are yet to translate into higher credit growth in the region’s economies. Credit growth followed a declining trend in the Philippines and Vietnam, pulling away from the high double-digit growth observed in the last two years. While credit growth has been moderating in China since 2016, it increased at the start of 2019 because of higher bank loans and corporate and government bond issuance to bolster infrastructure spending. In Malaysia, growth in net financing moderated slightly, driven both by lower growth of outstanding loans and of issuances of corporate bonds. Yet, a few countries are actively using macroprudential measures to curb household debt growth, such as imposing loan-to-value caps for high-end housing, and tighter credit limits for credit cards and personal loans.

Global economic prospects remain fragile, with growth in developing EAP economies projected to decelerate to 5.8 percent in 2019. Global growth is expected to decline from 3 percent in 2018 to 2.5 percent in 2019, reflecting broad-based weakness in advanced economies and in major emerging market & developing

economies (EMDEs). This forecast is based on easing financial pressures in some large EMDEs – including Argentina and Turkey – and assumes no major deterioration in global conditions. Economic growth projections have been recently downgraded for many of the EAP region’s economies, as downside risks – including the protracted trade tensions, weaker global demand, and a slowdown of manufacturing activities – have materialized or even intensified. China’s growth is projected to ease to 6.1 percent in 2019 as the economy continues its transition towards a domestic-demand driven model amid less benign external conditions.

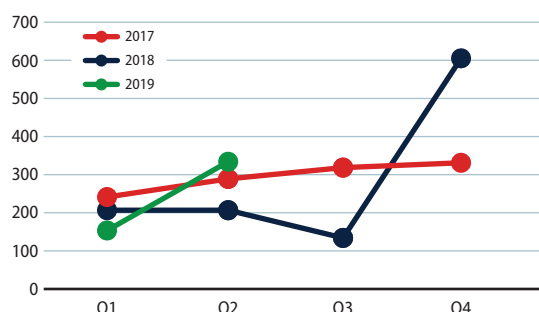
Key downside risks to the economic growth prospects of the EAP region have intensified. A protracted trade dispute between China and the United States could lower regional growth further by undermining trade and investment flows – even if some countries may benefit through trade diversion. A further slowdown in the world’s main economies – especially China, the Euro Area, and the United States – could lower overall demand for exports, while lower commodity prices would negatively affect commodity exporters. Also, the region remains vulnerable to changes in global financial conditions, especially due to the return of financial market volatility. Emerging market currencies are again under pressure as investors rebalance their portfolios with traditional safe-haven assets such as US treasuries, in lieu of emerging market assets. Higher bond yields and thus higher borrowing costs could dampen credit growth and further weigh on private investment. Finally, rising indebtedness in some developing EAP countries could constrain fiscal and monetary policies and amplify the negative effects of external shocks.

Source: East Asia and Pacific Economic Update (October 2019)

FISCAL SECTOR

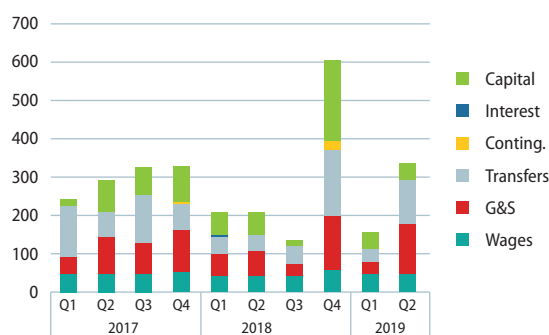
Public spending was low in the first quarter of 2019, owing to the late approval of the budget, but picked up strongly in the subsequent quarter. The 2019 state budget was promulgated on the 7th February 2019, which constrained government expenditure in the first few months of 2019. Nonetheless, public spending grew noticeably in the second quarter of 2019, partly compensating the slow start to the year (Figure 5).⁴ Public expenditure in the first half of 2019 was 16 percent higher than in the same period in 2018. Spending on wages & salaries are usually shielded from the volatility of fiscal trends and averaged about \$47 million per quarter in 2019, which is broadly comparable to previous years (Figure 6). Both goods & services and transfers were responsible for the spending increase observed in the second quarter of 2019.⁵ However, capital spending remained low, possibly due to the time it takes to initiate new investments projects and process payments.

Figure 5. Government expenditure (USD million)



Source: Ministry of Finance

Figure 6. Government expenditure (USD million)



Source: Ministry of Finance

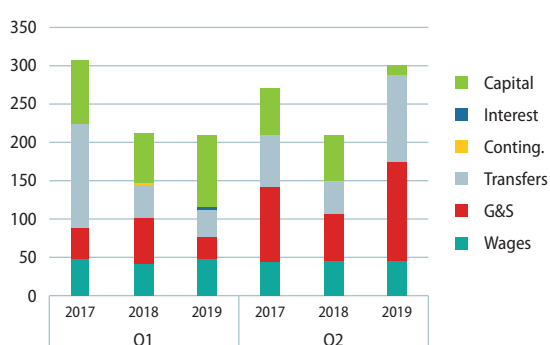
⁴ Most fiscal data were accessed from the Budget Transparency Portal in late September. Revisions may have been made since then. Development grants are not included in total government expenditure because they are ‘off-treasury’ and cannot be mapped to specific expenditure categories.

⁵ Good & services mainly include professional services (26 percent), fuel for generators (19 percent), operational spending (16 percent), as well as travel & vehicles, maintenance, training & workshops, and utilities.

Goods & services and public transfers accounted for 64 percent of government spending in the first half of 2019.

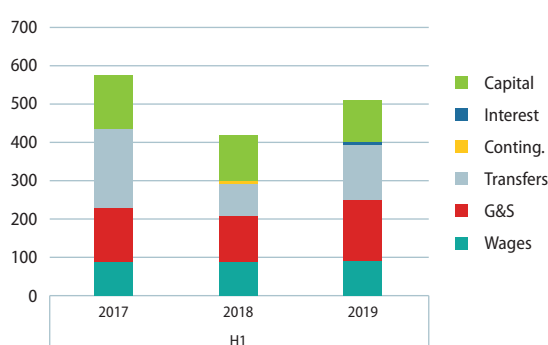
Fiscal data usually exhibits seasonal patterns, which means that comparisons across quarters can be misleading. For example, public spending tends to increase towards the end of the (fiscal) year, as government commitments and obligations made during the year need to be settled.⁶ Hence, data for a specific quarter should be compared with the corresponding quarter in other years. Spending in the first quarter of 2019 was even lower than in 2018, which is perhaps surprising (Figure 7). However, cash balances saved in late 2017 were used to sustain spending in early 2018, which may explain why spending was not as low as expected – given the lack of access to Petroleum Fund resources during this period. Government expenditure increased considerably in the second quarter of 2019, even above the levels recorded in 2017. When looking at the first half of 2019, spending is above 2018 levels but below 2017 values – partly due to lower capital spending (Figure 8). Goods & services and public transfers represented nearly two-thirds of total spending.

Figure 7. Expenditure by quarter (USD million)



Source: Ministry of Finance

Figure 8. Expenditure by half-year (USD million)



Source: Ministry of Finance

Budget execution in the first half of 2019 was broadly in line with previous years, despite low levels in the first quarter.

In this report, budget execution is calculated as actual spending (on a cash basis) divided by the yearly budget – hence, it does not include obligations or commitments. Execution rates are therefore expected to be lower than 50 percent at the middle of the year, since actual spending tends to accumulate towards the end of the fiscal year.⁷ In particular, the 2019 state budget was only approved in February, which led to a delay in its implementation. In terms of budget composition, goods & services is the largest item (\$470 million), while capital & development spending and public transfers follow closely behind (Figure 9).⁸ Nonetheless, budget execution varied considerably across items, from 44 percent for salary & wages – as expected, given its recurring nature – to 4 percent for minor capital.⁹ The execution rate of public transfers is also relatively high, helped by strong disbursements in the second quarter. However, capital & development spending is lagging.

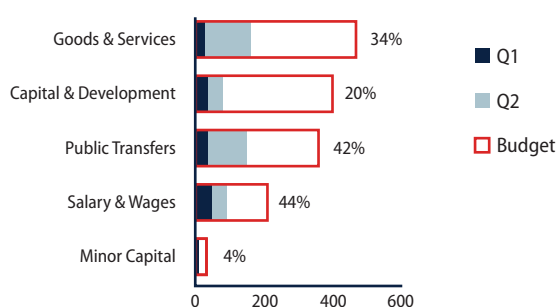
⁶ In Timor-Leste, the fiscal year coincides with the calendar year. 'Commitment' means that funds have been earmarked to a specific expenditure – even if only tentatively – while 'obligation' means that payments (upon contract signature or delivery of goods/services) still need approval. In cash-basis accounting, only processed payments are recorded as actual expenditure.

⁷ Despite a ministerial directive stating that the government must spend 50 percent of its budget by the second quarter of the year, it is unclear how many times this has been achieved – it has not been the case in the past 6 years (at least). In fact, many countries exhibit similar seasonal patterns, whereby spending builds up gradually through the fiscal year. After a state budget is promulgated, it takes some time to make commitments/obligations (both for the recurrent and capital budget), while cash payments are sometime processed only after the goods and services have been provided.

⁸ Capital spending comprises capital & development (mainly major infrastructure projects) and minor capital.

⁹ Minor capital is mainly used to purchase vehicles, furniture, electronic equipment, and other movable assets. Its execution rate was particularly low in 2017 and 2018 – 66 and 43 percent, respectively.

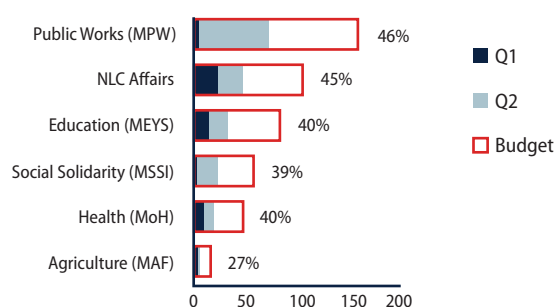
Figure 9. Spending (USD million) and execution (%)



Note: Budgets are represented by the full bars, while quarterly spending fills these bars with colours.

Source: Ministry of Finance

Figure 10. Spending (USD million) and execution (%)



Note: NLC means National Liberation Combatants.

Source: Ministry of Finance

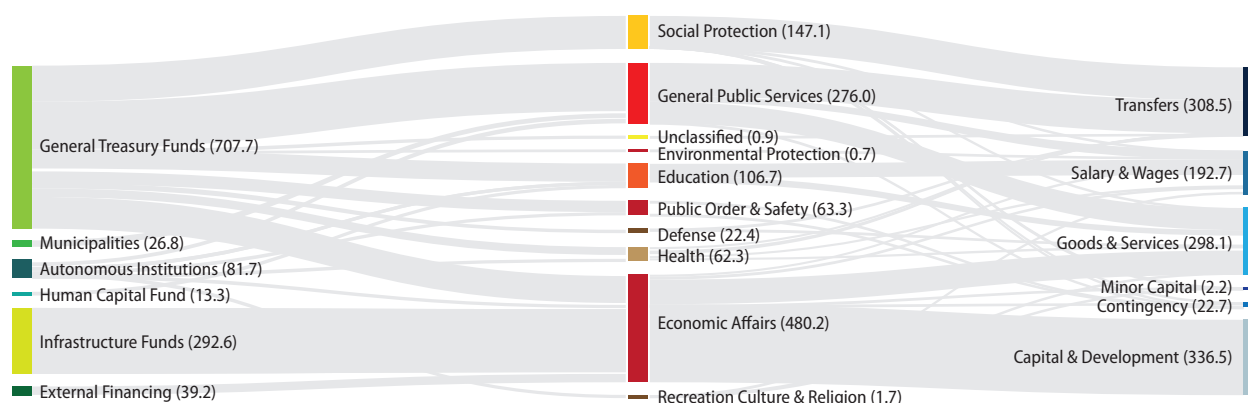
Budget execution rates varied across key public institutions, ranging from 46 percent for the Ministry of Public Works to 22 percent for the Infrastructure Fund. Given the execution rates by economic function, it would be expected that ministries with a high proportion of salary & wages (e.g. education) and public transfers (e.g. social solidarity) would display higher execution rates. However, there is a mixed picture across key line ministries (Figure 10). The Ministry of Public Works (MPW) executed nearly half of its budget by June 2019 – mainly due to the purchase of fuel for generators – while the Ministry of Agriculture and Fisheries (MAF) had only executed 27 percent of its allocation. Moreover, execution by the Infrastructure Fund and the Human Capital Development Fund was particularly low – at under 25 percent – while municipal authorities ranged from 33 to 42 percent. Public financial management (PFM) reforms could lead to significant improvements in budget execution.

The composition of public spending is expected to remain broadly unchanged. Although capital spending is currently lagging other types of expenditure, it is likely to increase significantly in the second half of 2019. This would enable public investment to maintain a large share in total expenditure – 27 percent as budgeted for 2019, slightly down from the 29 percent executed in 2018. A key policy challenge is to ensure that the current budget composition is efficient – from an allocative point of view – to yield maximum economic and social benefits. The 2020 budget proposal provides higher allocations for priority sectors, but also a rising overall envelope. Given fiscal sustainability concerns, it is highly pertinent to uncover potential savings – especially within the recurrent budget – to create fiscal space for more productive spending. This could be achieved through an in-depth analysis of existing fiscal data that maps spending (at the activity level) across institutions, functions, and economic uses (Figure 11).¹⁰ In fact, recent research suggests that governments can reduce income inequality by simply changing the composition of public spending while keeping total expenditure constant.¹¹

¹⁰ BOOST is a user-friendly platform that facilitates access to, and analysis of, large amounts of public spending data. Technical support is often provided to ensure internal consistency. Once the database for Timor-Leste is completed, an assessment of discretionary and rigid spending at the activity level could be undertaken to shed some light on potential budget savings.

¹¹ See “Reallocating Public Spending to Reduce Income Inequality: Can It Work?” available at <https://www.imf.org/en/Publications/WP/Issues/2019/09/06/Reallocating-Public-Spending-to-Reduce-Income-Inequality-Can-It-Work-48607>

Figure 11. Public spending by institution, function and use (USD million, 2018)



Source: MoF-WB BOOST database

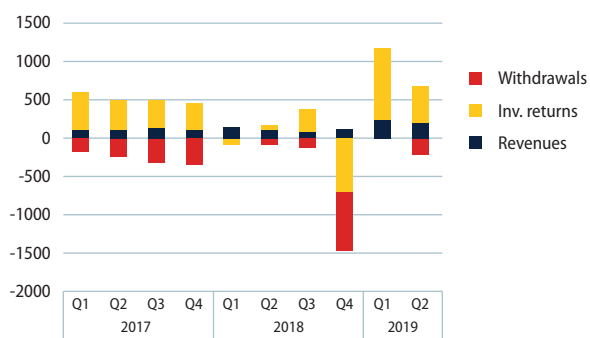
The Petroleum Fund was valued at \$17.4 billion in June 2019, a significant increase over December 2018 due to limited withdrawals and large investment returns. The balance of the Petroleum Fund has been volatile in recent years. Strong investment returns throughout 2017 enabled its market value to increase, mostly due to positive revaluations of its equity portfolio. The Petroleum Fund value reached a (then) peak of \$17.2 billion in September 2018, which subsequently dropped to \$15.8 billion as global equity markets faltered in late 2018 and the government was able to withdraw funds from the Petroleum Fund through the approved 2018 state budget (Figure 12). Nonetheless, international stock markets bounced back in the first half of 2019, which coupled with limited withdrawals pushed the Petroleum Fund balance to a new high of \$17.4 billion. Asset revaluations provided a windfall of \$1.3 billion in the first half of 2019 – accounting for nearly 90 percent of total investment returns – compared to the \$0.4 billion accrued from petroleum-related revenues (mainly taxes and royalties). Petroleum revenues remain relatively subdued as production from the existing Bayu-Undan field gradually approaches its end (estimated to be early 2022) – even as petroleum prices were picking up.¹² Bayu-Undan had a major maintenance shutdown in May 2018, although from late 2018 production benefited from successful infill wells (Figure 13). Hence, the future value of the Petroleum Fund will be largely determined by the level of withdrawals and the performance of international stock markets. Given the currently unstable global economic environment, a judicious management of Petroleum Fund withdrawals will be vital to secure its long-term sustainability.

The Estimated Sustainable Income decreased to \$529 million in 2019, but its future value is relatively uncertain. The Estimated Sustainable Income (ESI) declined by \$21 million in 2019 due to a lower (projected) Petroleum Fund balance at the end of 2018.¹³ The Petroleum Fund balance has recently bounced back but larger withdrawals in the second half of 2019 – nearly \$1 billion as envisaged in the budget – and an uncertain outlook for international equities will likely reduce the value of the Petroleum Fund by the end of the year.

¹² Production-sharing contracts (PSC) expire in 2022, although it would be possible to continue operating Bayu-Undan (with a reduced output) for a few additional years. However, it is unclear whether this would be economically viable.

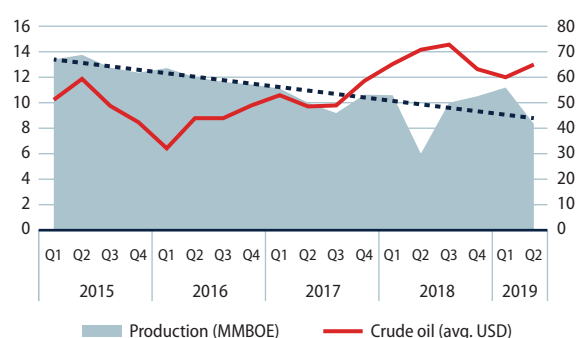
¹³ The ESI is calculated as 3 percent of the total petroleum wealth (PW), which is the Petroleum Fund balance plus the net present value (NPV) of future Petroleum Fund revenues. The undeveloped Great Sunrise fields are not included in the calculations. The ESI is typically computed during the budget preparation process, therefore some assumptions (for the final three months of the year) are required to estimate the final Petroleum Fund balance. PW was projected to reach \$17.6 billion, although it turned out to be \$15.8 billion – partly owing to negative investment returns in late 2018.

Figure 12. Petroleum Fund (USD million)



Source: Ministry of Finance

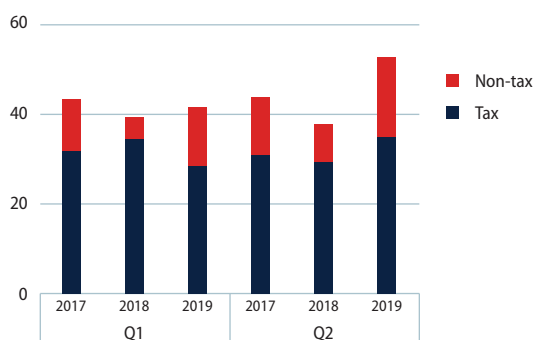
Figure 13. Petroleum production and price



Note: MMBOE stands for Million Barrels of Oil Equivalent
Source: National Petroleum and Mineral Authority

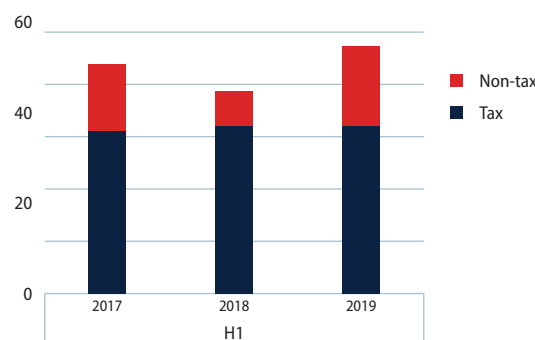
Domestic revenue in the first half of 2019 was higher than in recent years, although mainly boosted by non-tax revenues. Domestic revenue was negatively impacted by the 2017-2018 economic contraction, although it is projected to reach pre-recession levels in 2019 – as economic activity recovers. In the first quarter of 2019, revenues were only marginally higher than in 2018, but displayed a stronger performance in the second quarter (Figure 14). Overall, domestic revenue in the first half of 2019 was 22 percent higher than in the same period in 2018 (Figure 15).¹⁴ However, this was largely due to higher non-tax revenues, as tax revenues remained broadly unchanged.¹⁵ The expected increase in capital spending during the second half of 2019 is likely to contribute to higher tax revenues – particularly withholding taxes, which are strongly linked to public investment projects. Enhancing domestic resource mobilisation is vital to bridge the budget financing gap without compromising the viability of the Petroleum Fund. The tax-to-GDP ratio was 8 percent in 2018, which is very low by international standards.¹⁶ Recent research suggests that a minimum tax-to-GDP ratio of about 13 percent is associated with significant accelerations in growth and development.¹⁷ In this regard, it is urgent to improve revenue administration – including autonomous agencies – broaden the tax base, and possibly revise the current tax structure.

Figure 14. Domestic revenue (USD million)



Source: Ministry of Finance

Figure 15. Domestic revenue (USD million)



Source: Ministry of Finance

¹⁴The previous report mentioned that electricity fees & charges dropped from \$30 million in 2017 to \$10 million in 2018. However, the data has been subsequently corrected in the Budget Transparency Portal (to \$33 million in 2018).

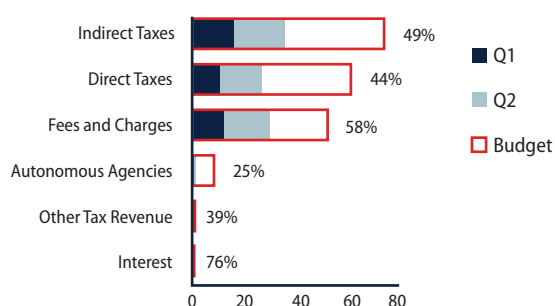
¹⁵Non-tax revenues were uncharacteristically low in the first nine months of 2018 but increased strongly in the last three months of the year (mainly due to the accounting of electricity of fees & charges). This partly explains why trends in early 2019 are comparatively positive.

¹⁶This measure does not include petroleum-related taxes since they go directly to the Petroleum Fund.

¹⁷See "Tax Capacity and Growth: Is there a Tipping Point?" downloadable at <https://www.imf.org/external/pubs/ft/wp/2016/wp16234.pdf>

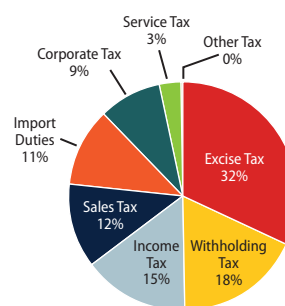
Domestic revenue collection has proceeded at a reasonable pace. The state budget projected that domestic revenue would reach \$199 million in 2019. As of June 2019, nearly half of the target was achieved. This is partly due to higher economic activity and/or good revenue forecasting that takes into consideration the business cycle. Collection of indirect taxes neared 50 percent, with excise taxes being its main component (Figure 16). The performance of direct taxes was relatively weaker, owing to both income and withholding taxes. Given that public capital spending is lagging, withholding taxes could surpass their expectation by the end of the year – currently at 40 percent of its target. Electricity accounts for more than half of all fees & charges. Revenue collection from autonomous agencies has been weak at 25 percent of its target. In the first half of 2019, excise and withholding taxes accounted for 50 percent of total tax revenue (Figure 17). However, withholding taxes are strongly dependent on public infrastructure projects, without which domestic revenues would be considerably lower – which raises further questions on the sustainability of public finances.

Figure 16. Revenue (USD million) and execution (%)



Source: Ministry of Finance

Figure 17. Tax revenues (% , as of June 2019)



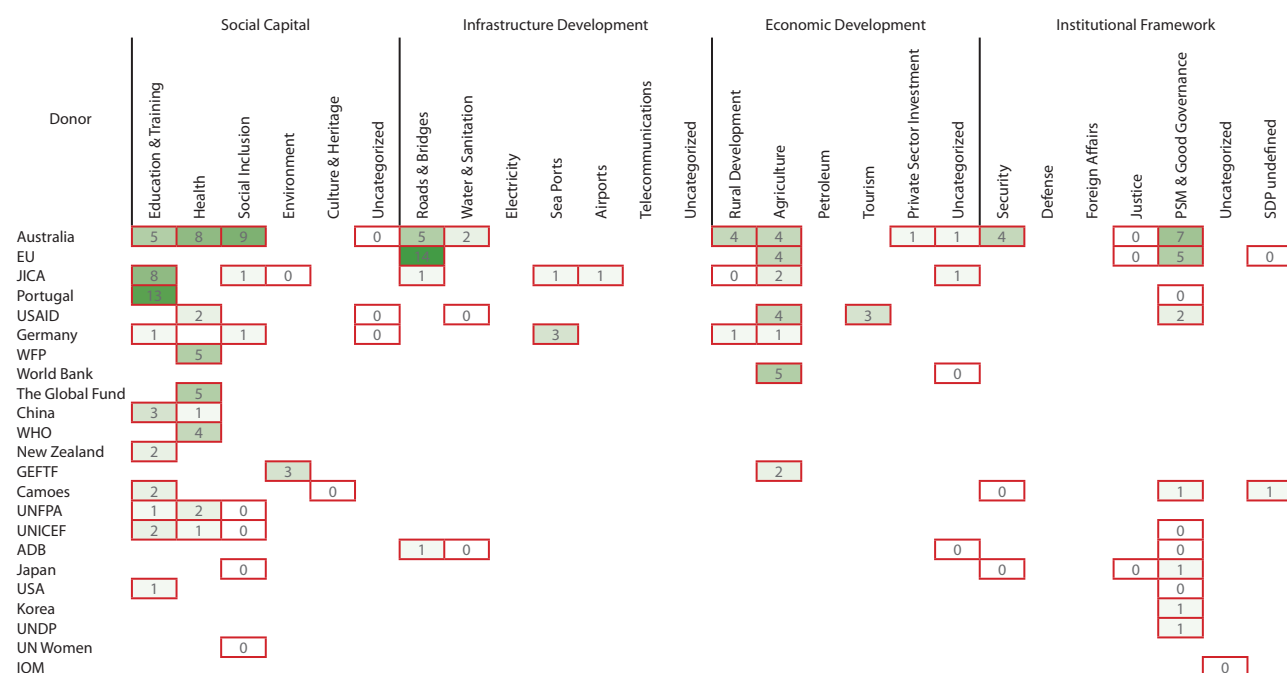
Source: Ministry of Finance

Development partner grants are expected to continue a gradual decline, while the landscape remains fragmented. Disbursements of development grants have been falling steadily over the past five years, from \$263 million in 2014 to \$171 million in 2018. The 2019 state budget places development partner commitments at \$163 million, although actual disbursements are often lower than the originally-pledged amounts.¹⁸ In June 2019, the Council of Ministers approved a new policy on non-lending assistance, known as the Foreign Aid Policy. The policy urges development partners to improve their alignment to government programmes and priorities, as well as increasingly use country systems for project implementation. This could help strengthen existing systems, improve coordination between government and development partners, and enhance budgeting and planning processes across the government. However, significant PFM reforms may be required to enable development partners to change their aid modalities due to strict fiduciary requirements set by their headquarters. The current aid landscape is quite fragmented, with over 20 development partners planning to disburse funds in 2019 – excluding non-governmental organisations. Many of these donors have engagements spread across several sectors, while government ministries and agencies often have to engage with multiple stakeholders (Figure 18).¹⁹ Fragmentation is often associated with high administrative costs, as well as inefficiencies arising from poor coordination. Greater donor alignment and coordination would be key to maximise the impact of increasingly-scarce grant funding.

¹⁸ In this report, development partner grants are not included in the core fiscal analysis because these cannot be mapped to specific expenditures in the budget. Including them as part of total revenues would require the inclusion of an offsetting amount under expenditures (development partner spending) to avoid distorting the fiscal deficit.

¹⁹ For instance, four development partners fund five or more SDP sub-pillars – Australia (11 out of the 21 sub-pillars), JICA (8), USAID (5) and Germany (5). Moreover, five SDP sub-pillars – namely, education, health, social inclusion, agriculture, and good governance – have seven or more development partners. Development partners may also use third parties as an executing/implementing agency.

Figure 18. Planned grant disbursements by Donor and SDP Pillar (USD million, 2019)



Note: Red squares means that there is a planned disbursement for the sub-pillar, while the magnitude of the commitments ranges from close to zero (white) to 14 million (dark green). Development partners are ordered according to total planned disbursements. These values may not provide an accurate picture of the donor landscape since they rely on self-reporting. Source: Ministry of Finance (2019 Budget Book)

The fiscal deficit is set to increase in 2019, as total revenue lags spending increases. The fiscal balance is calculated as the difference between total revenue – which includes the ESI – and total expenditure.²⁰ However, the ESI is only presented as an annual value and therefore it is not straightforward to calculate the fiscal balance for each quarter. The ESI-to-withdrawals ratio implied in the 2019 budget suggests that 34.3 percent of total (expected) withdrawals from the Petroleum Fund will be accounted as ESI. Applying this ratio to actual withdrawals reported by the Central Bank for the first half of 2019 leads to a deficit of \$317 million, which is 5 percent larger than that in the same period in 2018. The fiscal deficit improved in both 2017 and 2018 as the result of the political impasse that constrained spending. Nonetheless, public expenditure is anticipated to increase significantly this year, which in the absence of a strong revenue performance will induce a larger budget deficit. Most of the deficit is expected to be financed by excess withdrawals from the Petroleum Fund, although foreign loan disbursements are also expected to increase.

The 2020 budget proposal of \$1.95 billion represents a 32 percent increase over the previous year. Budget transparency has been improved through the publication of a pre-budget statement – the first of its kind. The budget allocations were tentative since they are subsequently subject to negotiation in the (internal) budget review committee, as well as discussions in the national parliament and promulgation by the President. In October, the government submitted its 2020 budget proposal to parliament, amounting to nearly \$2 billion. The proposed budget was 22 percent (or \$350 million) higher than that originally approved by the Council of Ministers and reflected in the pre-budget statement.²¹ The loan ceiling proposed is \$750 million, which is considerably higher than the \$60 million approved in 2019. This may suggest that the government is expecting to negotiate and contract a large volume of foreign loans next year.

²⁰ The ESI is reported under total revenues while excess withdrawals from the Petroleum Fund are reported under deficit financing. This approach ensures that the corresponding budget balance provides a good measure of medium-term fiscal sustainability.

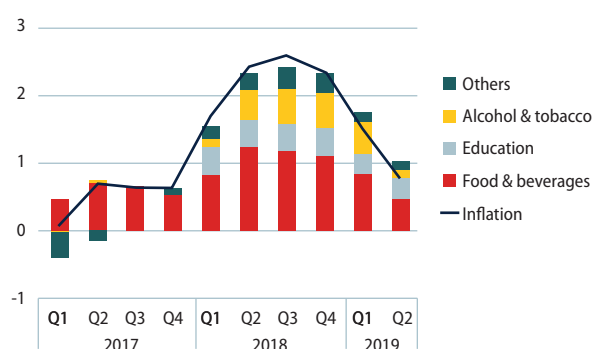
²¹ The main adjustments related to goods & services (+216 million) and public transfers (+\$117 million). Overall, the proposal included \$738 million for goods & services, \$459 million for development capital, \$458 million for public transfers, \$241 million for wages & salaries, and \$53 million for minor capital.

MONETARY AND FINANCIAL SECTOR

Consumer price inflation declined in 2019, as price increases eased in most categories of goods and services.

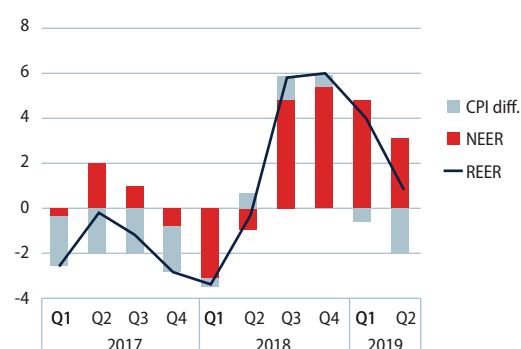
Prices relating to food & beverages, alcohol & tobacco, and education – the key contributors to the rise in inflation in 2018 – have all increased at a slower pace in 2019 (Figure 19). Education costs grew by 9 percent at the start of the school year (January 2019), on the back of a 16 percent increase in 2018, but its weight in the household consumption basket is relatively small at 2 percent. Alcohol & tobacco prices increased by 2.5 percent (year-on-year) in June 2019, while transport prices increased by 1.3 percent. Transport costs are partly affected by international oil prices, which increased in both 2017 and 2018 but are projected to fall in 2019. International food prices, which are typically a key driver of domestic inflation, have been subdued. For example, rice prices increased in 2018 but are expected to stabilise in 2019. Domestic food production is insufficient to meet local demand, leaving households vulnerable to changes in international prices. Stronger (and better targeted) public and private investments in agriculture would be key to reduce dependence on imported food and enhance food security. The first ever agricultural census is currently under way, which will offer valuable insights on the sector.

Figure 19. Contribution to inflation (% YoY)



Note: Values may not add up to the total due to rounding.
Source: Ministry of Finance

Figure 20. Contribution to REER changes (% YoY)



Note: Positive value indicates an appreciation (YoY).
Source: Central Bank

Real effective exchange rate appreciation pressures have eased in 2019, partly as domestic inflation declined.

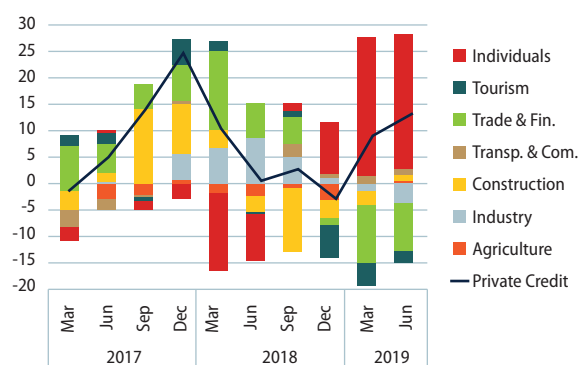
The US dollar – the legal tender in Timor-Leste – has strengthened against the currencies of Timor-Leste’s main trading partners (year-on-year), as measured by the nominal effective exchange rate (NEER) – a trade-weighted average of bilateral exchange rates.²² The NEER has appreciated by 3.1 percent (year-on-year) in the second quarter of 2019. When adjusting for price differentials, the growth in the real effective exchange rate (REER) index declined (year-on-year) in the first half of 2019 (Figure 20).²³ While this is a relatively positive development in terms of external competitiveness, the exchange rate is likely to be overvalued. Moreover, a more competitive exchange rate will not necessarily trigger larger volumes of exports, especially if existing supply constraints remain unaddressed. There is a need to enhance productive capabilities to ensure that domestic producers can compete with imports and even reach international markets. The ongoing trade dispute between China and the United States has led to trade diversion that has benefited some countries in the region, such as Vietnam. Timor-Leste has not been able to seize this opportunity partly because of low productivity levels, high labour costs, and poor logistic services (see Special Focus).

²² Nonetheless, the US dollar lost strength when compared to the last half of 2018.

²³ The January 2019 value of the CPI index measuring CPI differentials was inconsistent and was thus corrected.

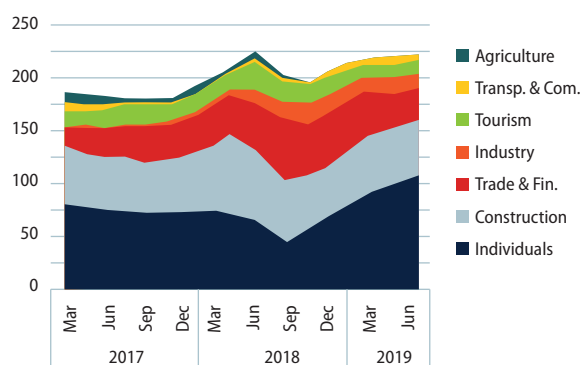
Credit to the private sector increased by 13 percent (year-on-year) in June 2019, mainly as lending to individuals increased. Commercial credit to the private sector grew noticeably in the first two quarters of 2019, especially when compared to the same periods in the previous year (Figure 21). Credit to individuals (mainly for consumption purposes) was the key driver of this performance, which represents a significant turnaround from the situation in early 2018 – when the amount borrowed by individuals dropped significantly (Figure 22). As of June 2019, individuals accounted for nearly half of total loans to the private sector, while construction and trade & finance followed considerably behind with 24 and 14 percent, respectively.²⁴ Productive sectors such as agriculture, manufacturing and tourism accounted for a small share of total lending. Credit to the private sector amounted to \$226 million by mid-2019.

Figure 21. Private credit growth (% YoY)



Source: Central Bank

Figure 22. Private sector credit (USD millions)



Source: Central Bank

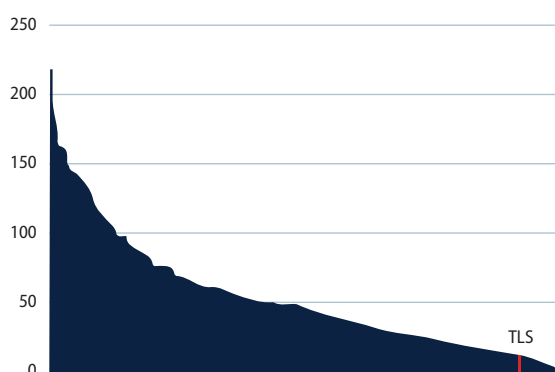
Although the domestic financial sector is still in its infancy, commercial banks are highly liquid. Domestic credit to the private sector represented about 14 percent of GDP in 2018. This is far below the East Asia and the Pacific (EAP) regional average of 149 percent of GDP and even the lower-middle income country average of 45 percent.²⁵ In fact, it is one of the lowest levels in the world (Figure 23). High lending rates – averaging 15.5 percent in June 2019 – stifle credit demand, even if weak entrepreneurship and low financial literacy may also play a role. Operation costs and risk premiums account for over 60 percent of interest rate levels.²⁶ A swift implementation of the land law and legislation on mobile assets would contribute to reduce risk premiums by enabling the use of collateral (see Special Focus). Poor financial intermediation is often measured by the interest rate spread – the difference between the lending rate and the deposit rate. Between June 2018 and June 2019, the interest rate spread increased from 13 to 15 percentage points – a record high since 2006. High interest rate spreads, pushed by rising commercial bank lending rates, are negatively correlated with domestic credit levels (Figure 24).

²⁴ This reflects the fact that banks prefer to lend to individuals with secure jobs (e.g. civil servants) and companies with government contracts.

²⁵ The value for EAP excludes high income countries.

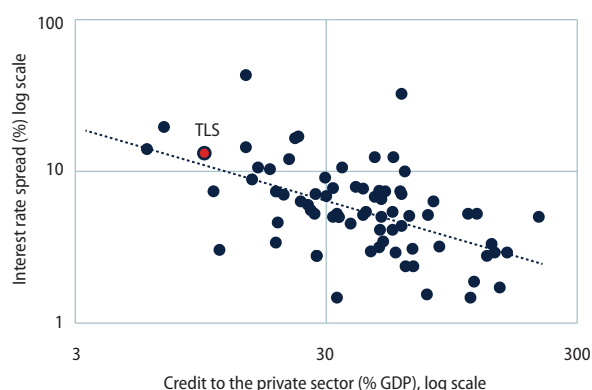
²⁶ See the Bank Lending Survey Report 2019, downloadable at: https://www.bancocentral.tl/uploads/documentos/documento_1560144006_2085.pdf

Figure 23. Credit to the private sector, 2018 (% GDP)



Note: Sample comprises 152 countries with data for 2018.
Source: World Development Indicators

Figure 24. Domestic credit and interest rate spread



Note: Sample comprises 92 countries with data for 2018.
Source: World Development Indicators

Financial inclusion has improved but a third of the adult population remains excluded from financial services.

It is estimated that about 35 percent of the adult population does not have access to financial services. The number of access points increased by 36 percent between 2016 and 2018 – to 1,642 – mainly due to increased meeting centres and e-wallet agents. Nonetheless, bank access points declined by 23 percent (to 375) due to a reduction in BNCTL meeting centres and Electronic Funds Transfer at Point of Sale (EFTPOS), despite Automated Teller Machines (ATMs) and bank branches increasing in the period.²⁷ Further measures can be undertaken to promote financial inclusion, especially through the use of mobile technologies.

EXTERNAL SECTOR

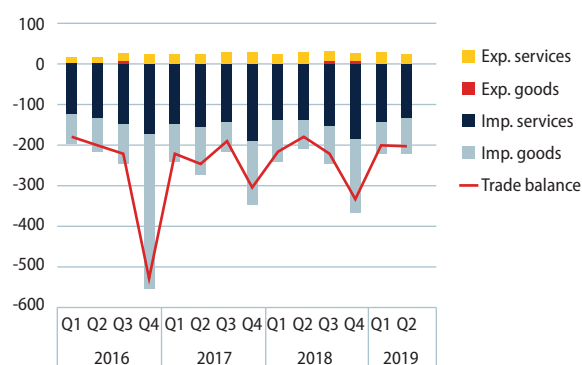
The trade balance has been broadly stable, with total imports and exports at levels comparable to 2018. The trade deficit reached \$388 million in the first half of 2019, slightly down from the \$392 million recorded in the same period in 2018 (Figure 25). Total imports declined by 1 percent, while exports fell by 3 percent – albeit from a much lower base. The composition of service imports changed markedly: travel services nearly halved to \$42 million, while other services (including government services) almost doubled to \$52 million. Merchandise imports also underwent a significant shift in composition. Fuel imports increased by 37 percent, while imports of beverages (-46 percent), machinery and parts (-30 percent), and cereals (-15 percent) had a counterbalancing effect (Figure 26). The slow pace of public capital spending partly explains stagnant import levels of capital goods and construction services. Exports of merchandise goods – which mainly comprise coffee – were akin to the levels documented in the first half of 2018.²⁸ However, exports of travel services were about 4 percent lower.²⁹ Overall, the trade deficit remains very high, with total exports only covering 12 percent of total imports in the first half of 2019. It is thus crucial to enhance productive capabilities to ensure that (growing) domestic demand can be increasingly met by local producers and service providers – thus creating spillover effects on employment and living standards. This would certainly contribute to greater economic dynamism and a more sustainable growth path.

²⁷ See the Central Bank’s Financial Inclusion Report 2018.

²⁸ Petroleum is not recorded as an export in the balance of payments (BoP), although petroleum revenues (e.g. taxes and royalties associated with petroleum production) are accounted as primary income.

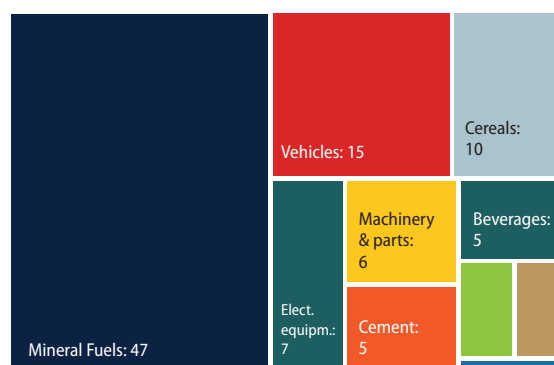
²⁹ The number of passengers arriving at Dili international airport declined by 24 percent in the first half of 2019, reflecting air travel price hikes in late 2018. The later coincided with Garuda’s purchase of Sriwijaya Air, meaning that all three airlines operating flights to Bali are now owned by the same company. Foreigner arrivals increased by 19 percent in the same period, suggesting that national travellers were the most affected by the airfare increases. The share of foreigners in total arrivals increased from 52 percent before the price increase to the current 83 percent.

Figure 25. Trade balance (USD million)



Source: Central Bank

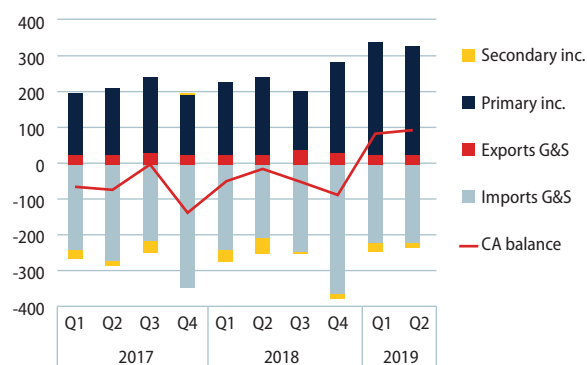
Figure 26. Main merchandise imports (%)



Source: Ministry of Finance

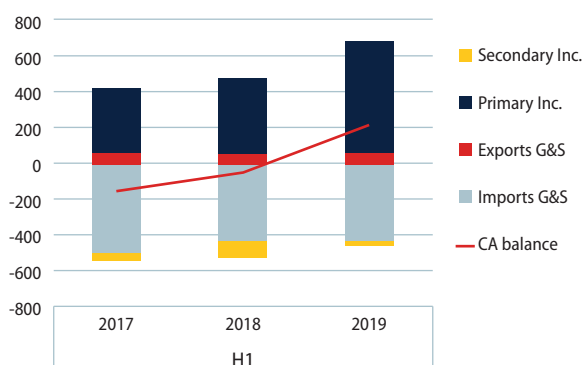
The current account balance improved remarkably, mainly owing to higher primary income. Total imports and primary income are the key drivers of the current account.³⁰ With import values virtually unchanged, a sizable increase in primary income led to the first current account surplus since the first quarter of 2016 (Figure 27). Primary income increased by nearly 50 percent – when compared to the first half of 2018 – mostly due to higher collection of taxes and royalties originating from the Joint Petroleum Development Area (JPDA).³¹ Petroleum production from Bayu-Undan – the remaining field in operation – is expected to cease in early 2022 when the current production-sharing contracts expire. Investment income, mainly interest and dividends derived from Petroleum Fund investments, increased by 13 percent. Secondary income, comprising foreign grants and net workers’ remittances, also improved. Hence, the current account moved from a deficit of \$54 million in the first half of 2018 to a surplus of \$191 million in 2019 (Figure 28). However, this improvement is unlikely to persist in the second half of the year.

Figure 27. Current account balance (USD million)



Source: Central Bank

Figure 28. Current account balance (USD million)



Source: Central Bank

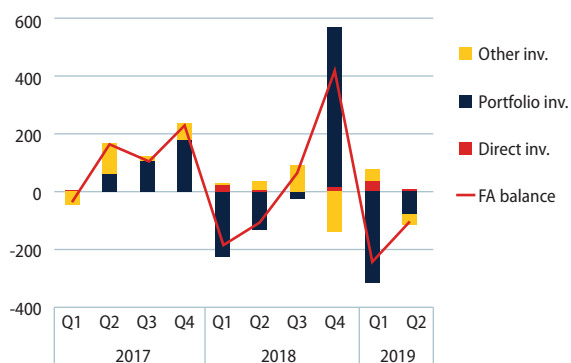
The financial account balance declined due to higher portfolio investment outflows. Portfolio investment is closely related to new Petroleum Fund investments in foreign equities and debt securities. Strong portfolio (net) outflows in the first quarter of 2019 were partly a result of the late promulgation of the 2019 state budget – as no withdrawals from the Petroleum Fund were made until May 2019 (Figure 29). In the second quarter of 2019, portfolio

³⁰ Primary income comprises fiscal revenue originating from the Joint Petroleum Development Area (JPDA), as well as investment income accrued from Petroleum Fund investments – though the latter tends to be relatively stable.

³¹ It is not entirely clear what has driven this increase. Petroleum production increased from 17 to 20 million barrels of oil equivalent between the first half of 2018 and the first half of 2019. Most of this difference was accounted by a major maintenance shutdown in May 2018, while production has benefited from infill wells since the last quarter of 2018. Prices have also risen between those two periods. Nonetheless, these factors alone cannot account for the 72 percent increase in petroleum-related revenues (taxes and royalties).

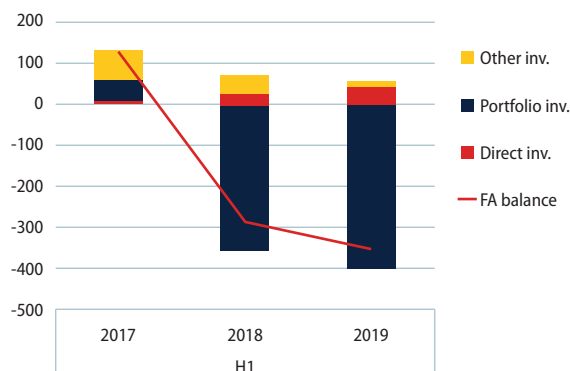
(net) outflows eased as transfers from the Petroleum Fund to the state budget resumed. Direct investment increased by \$14 million when compared to the first half of 2018, although partly because of reinvested earnings. Net 'other investments' – which mainly include currency and deposits – were close to zero. Overall, the financial account balance declined in first half of 2019, mostly because of higher portfolio outflows (Figure 30).

Figure 29. Financial account balance (USD million)



Source: Central Bank

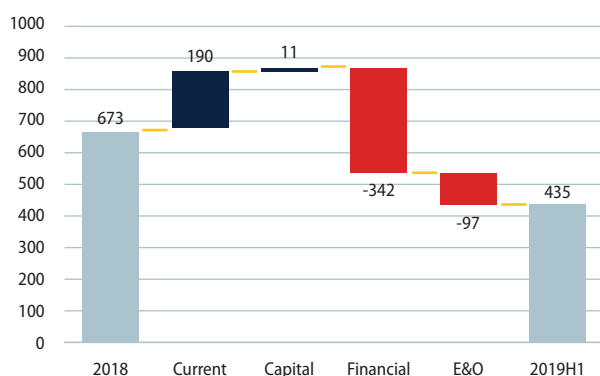
Figure 30. Financial account balance (USD million)



Source: Central Bank

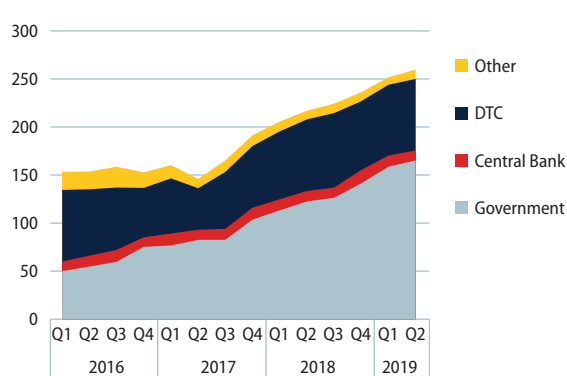
Official reserve assets increased, but there are large errors & omissions in the first quarter of 2019. A strong increase in the current account balance contributed to a rise in official reserve assets.³² The current account surplus eased pressures on the financial account, which in recent years has funded large current account deficits. The current account improved by \$244 million – while the financial account declined by \$63 million – but official reserve assets grew by only \$69 million in the first half of 2019 when compared to the first half of 2018. Since data on reserve assets is reliable – as it is easier to measure – this implies that significant transactions with the rest of the world (net outflows, to be precise) are unaccounted for (Figure 31). While it is not unusual to have large discrepancies in the balance of payments (i.e. errors & omissions), the value for the first quarter of 2019 (\$219 million) is unprecedented – largest ever recorded since official quarterly data started in 2009. This means that items in the current and/or financial accounts might be adjusted in the coming months. Gross external debt grew by 19 percent (year-on-year) in June 2019, which can be directly attributed to rising long-term government liabilities (Figure 32). The international debt position of the central bank and deposit-taking corporations (i.e. commercial banks) was broadly unchanged. Public external debt is expected to increase, especially given the \$750 million loan ceiling included in the 2020 budget proposal.

Figure 31. Central Bank reserve assets (USD million)



Source: Central Bank

Figure 32. External debt (USD million)



Note: DTC means deposit-taking corporations.
Source: Central Bank

³²The balance of payments (BoP) records economic transactions between a country's residents and the rest of the world in three key accounts: capital (which is typically very small), current, and financial.

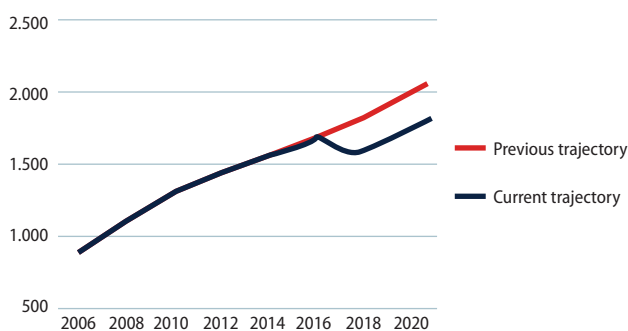


PART 2.

OUTLOOK AND RISKS

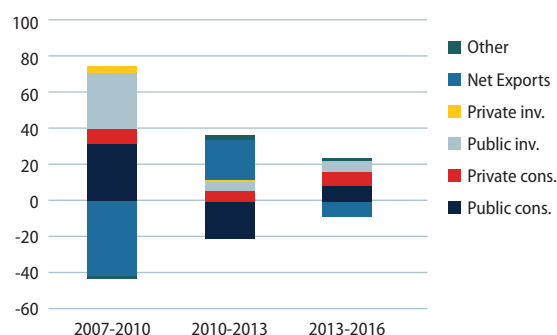
Economic activity is expected to accelerate but will remain below the 7 percent government target. GDP growth is projected to increase to 4.6 percent in 2020 and then to 4.9 percent in 2021. However, this is still significantly below the government’s growth target of 7 percent per year. Considering the current population growth rate, GDP per capita would grow by only 2.5 percent per year in 2020-2021. The 2017-2018 political impasse likely costed the economy about \$350 million in lost economic activity over the two years, while GDP will only surpass 2016 pre-recession levels in 2020 (Figure 33). Public investment will remain a key driver of economic growth, while private consumption will also play an important role – although boosted by public recurrent spending in the form of public sector wages and personal benefit transfers. Domestic inflation is predicted to remain in the low single digits, especially since international food prices are forecast to remain broadly stable.

Figure 33. Real GDP (USD million)



Source: Ministry of Finance and World Bank staff calculations

Figure 34. Contribution to real GDP growth



Note: Contributions are expressed as percentage points.
Source: Calculated from the Ministry of Finance

The fiscal balance will likely deteriorate, as public spending grows but government revenue fails to bridge the financing gap. Public spending is expected to continue growing in the coming years. The proposed budget envelope for 2020 is \$1.95 billion, about 32 percent larger than the previous state budget. Domestic revenue mobilisation is hindered by the current low-tax regime and delays in implementing fiscal reforms – such as the introduction of the value added tax. With the Estimated Sustainable Income expected to decline gradually in the medium term – owing to the depletion of the Petroleum Fund – total revenues will remain insufficient to cover the budget gap.

The current account deficit is also projected to widen, owing to a growing trade deficit and lower primary income. Imports will bounce back due to higher domestic demand, mainly as public investment projects require capital goods and construction services that cannot be sourced locally. Exports of goods and services will expand, but from a low base. Primary income – mainly petroleum-related revenues – will gradually decline as petroleum production from the existing field in operation (Bayu-Undan) is expected to cease in early 2022. The financial account surplus will increase, although mainly due to divestments in the Petroleum Fund used to cover both the fiscal and current account deficits. An ASEAN fact-finding mission recently visited Timor-Leste to evaluate the country's preparedness to join the economic bloc. ASEAN membership could enable deeper regional integration in terms of people (migration), goods and services (trade), and finance (investment).

The ratification of the Maritime Boundary Treaty paves the way for the development of the Greater Sunrise petroleum fields. On the 30th August 2019, during the 20th anniversary celebrations of the popular consultation that led to Timor-Leste's independence from Indonesia, the Prime Ministers of Australia and Timor-Leste exchanged diplomatic notes confirming that the treaty between the two nations had entered into force. This enables the development of the offshore Greater Sunrise gas and condensate fields – which are thought to hold reserves worth between \$40-\$60 billion. The treaty establishes a revenue-sharing regime for the untapped Greater Sunrise fields, whereby Timor-Leste will get 80 percent of the (fiscal) revenue if petroleum is piped to Australia, and 70 percent if it is piped to Timor-Leste. The government of Timor-Leste intends to build a pipeline to its south coast and process it into liquified natural gas (LNG) for export. However, the project is both technically and economically challenging, while requiring large upfront capital expenditures – in addition to high operation & maintenance costs. The President recently vetoed additional amendments to petroleum-related laws that would have further weakened the management of the Petroleum Fund.³³ Given Timor-Leste's considerable development needs, it is vital to protect the Petroleum Fund from the commercial risks that are inherent to international energy markets and thus attract private investors for both upstream and downstream activities.³⁴

Growing levels of public expenditure threaten fiscal sustainability, even when not considering the potential upfront costs related to the development of Greater Sunrise. Public spending levels have increased sizeably since petroleum revenues started to flow in 2005. By 2016, Timor-Leste's expenditure-to-GDP ratio ranked fifth in the world at about 72 percent of total GDP. While the 2017-2018 political impasse led to a forced fiscal consolidation, spending is expected to increase in the coming years – according to the 2020 budget proposal. With petroleum production from the remaining field in operation likely to end in early 2022, Petroleum Fund revenues will depend exclusively on investment returns – which tend to be highly volatile. Securing medium-term fiscal sustainability will require a prudent management of the Petroleum Fund, containing public spending – partly by curbing excessive recurrent spending – and strengthening domestic revenue mobilisation.

The quality of public spending should be better scrutinised and new investment proposals carefully assessed and prioritised. Budget allocations to the priority sectors – such as education and health – are expected to rise, which is a positive development. Nonetheless, there are concerns about the perceived lack of economic returns from large-scale public investment projects – since there is limited evidence that these are crowding-in private investment – as well as generous personal benefit transfers that do not seem to be creating tangible assets. For example, nearly \$1 billion were spent on electricity infrastructure since 2008, which has contributed to improve access to electricity across the country. Nonetheless, there is considerable excess capacity, as well as high technical and non-technical

³³ These would have removed the 5 percent cap for 'other eligible investments' – currently invested in Timor Gap, the state-owned oil company – and the 3 percent cap on investments in a single company. This would weaken the safeguards and governance arrangements of the Petroleum Fund by circumventing Parliamentary scrutiny and pre-audit oversight by the Court of Audit.

³⁴ The first Timor-Leste Oil & Gas Summit took place from 3-4 October 2019 – endorsed by the National Petroleum and Minerals Authority (ANPM) – which served to discuss opportunities with prospective investors.

costs, while regular electrical outages continue to impact on firms' costs (see Box 2). Recent large investments in airports (e.g. Oecussi and Suai) and a highway also raise concerns of overcapacity – as current (and expected) usage is very low.³⁵ Overcapacity creates unreasonable operational and management costs, which if not met can shorten the useful life of the infrastructure. Public investment management should therefore be strengthened – particularly regarding project appraisal, prioritisation, and procurement – to ensure an adequate use of public resources.³⁶ The frontloading of physical capital spending needs to be backed by a careful assessment of future needs, considerations for value-for-money, and go hand-in-hand with greater investments in human capital. Investing in sustainable, scalable, multi-purpose infrastructure ought to be a key priority.

Box 2. Electricity sector in Timor-Leste

Timor-Leste has made significant progress in developing its electricity sector since independence.

Electricity infrastructure was severely damaged during the civil conflict that preceded the country's independence – and much of its generating capacity was lost. Since 2008, the government has invested nearly \$1 billion in the sector with a focus on power generation and transmission. The country transitioned from 58 isolated generators producing about 40 megawatts (MW) of electricity, to a centralised transmission and dispatch system with more than 715 kilometres of transmission lines and a total generation capacity of over 300 MW. Four new large generation plants have been built, namely, Hera in 2011 (119.5 MW), Betano in 2013 (136.6 MW), new Comoro in 2011 (27 MW), and Inur Sakato in 2016 (17.3 MW) – the latter in the Oecussi exclave.¹

These investments contributed to increase household access to electricity and the quality of power supply.

Large capital investments were undertaken with a view to rebuilding the nation and enabling future development. The proportion of the population with access to electricity increased from 28 percent in 2003 to 73 percent in 2016, with most of the improvement taking place since 2010. There have also been improvements in the quality of electricity supply, especially through reductions in the frequency of power interruptions.² Investments in the sector have also been driven by a desire to support large scale industrialisation, comprising a liquified natural gas (LNG) plant in Beaço, a refinery and petrochemical complex in Betano, a supply base in Suai, a cement factory in Baucau, as well as exports of manufactured goods – partly through the Special Zones for Social Market Economy in Oecussi.

However, most of the new power generation capacity is severely underutilised. There is significant overcapacity in the sector, with (potential) supply far outstripping demand. The current peak load (i.e. maximum demand) of about 70 MW is less than 25 percent of the total installed capacity (over 300 MW). Although there are no ongoing capacity charge payments, there is a considerable penalty associated with sunk costs and maintenance of idle capacity.

The energy sector remains a burden to the state budget, accounting for about 8 percent of total spending in 2018.

In 2018, the Directorate General of Electricity (under the Ministry of Public Works) spent \$91 million on production, transmission, and distribution services. A significant proportion of these costs relate to the purchase of fuel for generators (\$56 million), as well as outsourced operations and maintenance (O&M) contracts for key assets – such as power plants, transmission lines, and the dispatch centre. The electricity sector accounted for (at least) 8 percent of total public spending in 2018, which peaked at 11 percent in 2013 when international prices reached record highs.³ The main power plants are designed to operate a range of fuels, including automotive diesel oil (ADO), heavy fuel oil (HFO), and natural gas. However, power generators are currently run on diesel, the most expensive option available.

¹ The new Comoro power plant has never been connected to the transmission grid and national dispatch centre, and has never been used.

² However, losses from power outages (as a percentage of firm sales) have increased (see Special Focus).

³ Expenditure on fuel for generators peaked at \$116 million in 2013, but has gradually declined (with some volatility) to the \$56 million spent in 2018.

³⁵ For example, the new \$120 million international airport in the exclave of Oecussi is thought to have capacity for over 1 million passengers per year, even though the region has less than 70,000 inhabitants and limited economic activity.

³⁶ See the 2017 IMF's Article IV (Box 3) for key recommendations to strengthen public investment management, including: consolidating capital and recurrent budget preparation (budget unity), setting capital budget ceilings, developing a standard methodology for project appraisal, developing better selection and prioritisation criteria, and ensuring full cost disclosure.

While revenue collection has improved, the implicit electricity subsidy remains large. There has been significant progress in upgrading and extending electricity metering, particularly for commercial and industrial customers in Dili. Coupled with improved billing, this has contributed to increase revenues from related fees and charges – revenue collection rose from \$14 million in 2013 to \$30 million in 2018. However, the use of diesel thermal generation makes the cost of electricity high, which leads to a large (implicit) electricity subsidy – since tariffs are well below the cost of service (cost recovery).⁴ Moreover, most of the generated capacity is not billed to (or collected from) customers, with only 40 percent of energy generated being collected. High non-technical losses are due to unmetered consumption, some of which owing to illegal connections and meter installation not keeping up with new connections.

Several measures can be undertaken to reduce costs and improve revenues. For instance, switching the fuel used in power plants from diesel to HFO is expected to reduce costs by 30 percent, while small-scale LNG can also reduce costs by 23 percent. Reducing costs would be key to improve overall fiscal sustainability and help attract foreign industry. Moreover, an interconnection with Indonesia would increase power plant utilisation and generate additional revenue. Existing overcapacity could be used to address power shortages in Timor Barat (West Timor), while the regional interconnector could generate \$143 million in additional economic benefits. Finally, further improvements in metering, billing, and collections would improve revenue and thus reduce the current (implicit) government subsidy. This would include enhancing automated meter reading for the largest consumers, particularly since about 1 percent of customers account for nearly half of the total electricity consumed.

Measures are also needed to improve electrification and the quality of the service. While significant investments have been made in power generation and transmission infrastructure, rehabilitating the lower-voltage distribution grid would help improve the efficiency, security, and reliability of electricity provision to consumers. The current state of the distribution network impacts the quality of service – as outages persist – and leads to high technical losses – heat on transmission and distribution lines. Expanding the grid to connect additional locations would further improve access to electricity in households and help reach the targeted 100 percent electrification rate.⁵ Moreover, improved line maintenance procedures – such as clearing tree foliage from distribution lines and better scheduling of line outages – could help reduce the frequency and duration of electricity supply interruptions. Finally, making Electricidade de Timor-Leste (EdTL) – the national utility company – a separate corporate entity with financial and operational autonomy, building the capacity of its human resources, and developing a fit-for-purpose management information system could also lead to significant qualitative service improvements.

⁴ The cost of the electricity service (operating cost) was \$0.42 per kilowatt hour (KWh) in 2012, while the average tariff was \$0.19 per KWh.

⁵ Investments in renewable energy also hold significant potential – such as hydro, solar and wind power. Given the topography of the country, off-grid innovative solutions could help achieve the target of full electrification (e.g. affordable small-scale solar technology).

Despite the ongoing economic recovery, medium-term growth prospects are hampered by a weak private sector. Domestic demand has been ultimately driven by public spending, which also supports private consumption through public sector wages and personal benefit transfers. However, much of this demand leaks into imports of goods and services – as the domestic economy is unable to overcome key supply-side constraints. Accelerating and sustaining economic growth will require a shift towards a more private sector-driven growth model. While the government will continue to play a key role in the economy through strategic public investments and improved social programmes, job creation needs to be driven by the private sector. Developing productive capabilities and energising the incipient private sector will require continued political and macroeconomic stability, targeted investments in high-return connective infrastructure and relevant skills, as well as policy and regulatory reforms that improve the business environment.³⁷ These will contribute to a more dynamic and thriving private sector, which is key to accelerate and sustain economic growth in the medium-term (see Special Focus).

³⁷ Domestic and international connectivity – particularly related to transport and digital infrastructure – remains a challenge. For instance, Timor-Leste only ranked ahead of Yemen with regard to internet speed out of the 207 countries tested by Cable.co.uk.

PART 3.

SPECIAL FOCUS: ENHANCING PRIVATE SECTOR DEVELOPMENT

Only a more dynamic private sector will enable the economy to grow faster and in a more sustainable way.

As the country celebrates the 20th anniversary of the popular consultation that led to its independence, its economy is at a turning point. Construction and public services have been the key drivers of economic performance since independence, partly as an effort to re-build infrastructure, strengthen public institutions, and enhance service delivery. However, achieving the ambitious targets stated in the government program for 2018-2023 – which include an average economic growth rate above 7 percent, an increase in private investment by at least 10 percent per annum, and the creation of at least 60,000 new jobs per year – will require a shift towards a more private sector-driven growth model. Enhancing the competitiveness and performance of private firms will be key to accelerate growth and sustainably raise living standards.

This section sheds light on the main constraints to firm competitiveness and performance in Timor-Leste.

Firm-level data from the World Bank's Enterprise Surveys (ES) is used to examine various aspects of the business environment, as well as their links to firm performance – in terms of employment and productivity growth.³⁸ While addressing the main business environment constraints has emerged as a key objective for the government, an empirical base for policy prioritisation is currently lacking. Investigating the main challenges confronted by the (formal) private sector and providing evidence on their relationship with firm performance will support policy makers design better interventions to encourage private sector development.³⁹

³⁸ Enterprise Surveys have been conducted in 2009 and 2015 in Timor-Leste. The key regional comparators included are Cambodia, Indonesia, Lao PDR, Myanmar, Papua New Guinea, Philippines, Solomon Islands, and Vietnam. Some are closer to Timor-Leste in terms of GDP per capita, while others are 'aspirational' – such as Indonesia, Philippines and Vietnam. It should be noted that comparisons across countries may reflect structural and sampling differences (e.g. sector composition).

³⁹ Although only a small proportion of the labour force is currently employed in the formal private sector (less than 5 percent), the development trajectories of emerging market economies suggest that the sector is key to generate a sufficient number of (good) jobs opportunities.

Table 1. Firm samples for Timor-Leste

Characteristic	ES 2009	ES 2015	Excluded from sample	Included in ES sample
Sector			Sectors	Sectors
Manufacturing	63	60	Agriculture (A)	Manufacturing (D)
Services	87	66	Fishing (B)	Construction (F)
Size			Mining (C)	Wholesale & retail trade, etc. (G)
Small (5-19)	98	83	Public utilities (E)	Hotels & restaurants (H)
Medium (20-99)	43	34	Financial intermediation (J)	Transp., storage & comm. (I)
Large (100+)	9	9	Real estate (K)	
Ownership			Public administration (L)	
Domestic	125	123	Education (M)	
Foreign	25	3	Health and social work (N)	
Top Manager			Other service activities (O-Q)	
Female	-	34	Additional criteria	Additional criteria
Male	-	92	Less than 5 employees	Five or more employees
Exporter type			Informal firms	Formal (registered) firms
Exporter	4	44	100% state-owned firms	Minimum 1% private ownership
Non-exporter	146	82		
Firms surveyed	150	126		

Note: All firms are located in Dili. 'Foreign' means 10 percent or more foreign ownership. 'Exporter' means that direct exports are 10 percent or more of sales. ISIC revision 3.1 sections in brackets (A to Q).

Source: World Bank Enterprise Surveys

FIRM CHARACTERISTICS

Firms are relatively younger and smaller than those in the East Asia and Pacific (EAP) region, and are more likely to be managed by a woman. In Timor-Leste, the average age of the establishment was 11 years in 2015 – a significant increase from the 6 years in 2009 – compared to 16 years in the EAP region. The average firm is also relatively small in terms of the number of permanent full-time workers (25 versus 38 in the EAP region) and in terms of sales (\$0.3 million versus \$10.7 million in the EAP region). However, 27 percent of firms have a female top manager, which is higher than some of its regional peers.⁴⁰ Foreign ownership levels declined from 18 to 2 percent, which is now lower than the regional average of 16 percent. The proportion of firms with an internationally-recognised quality certification increased from 2 to 6 percent, but remains below the regional average of 14 percent. Sole proprietorship (legal status) is high at 91 percent, while the proportion of private domestic ownership in a firm (89 percent) is broadly in line with most of its peers. In terms of innovation, only 15 percent of firms have their own website – the lowest level in the region except for Myanmar – while only 43 percent of firms use e-mail to interact with clients/suppliers, compared to the regional average of 68 percent.

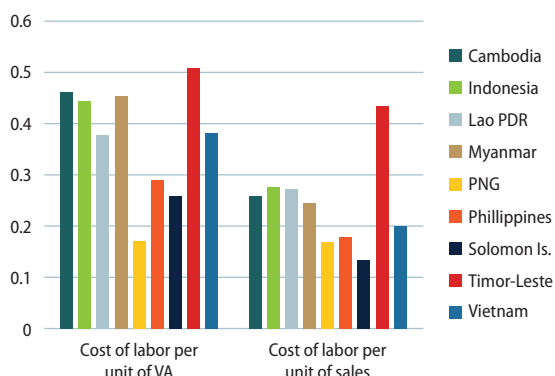
Firms face a relatively higher proportion of labour costs, especially when compared to their regional peers. Labour costs – which include wages, salaries, bonuses and other benefits paid to workers – accounted for 41 percent of total production costs in 2015. This is higher than in regional peers and considerably above the average for the EAP region (27 percent). Unit labour costs – measuring labour costs as a proportion of value added and/or total sales – are also substantially higher than in comparator countries.⁴¹ For the average firm in Timor-Leste, unit labour costs

⁴⁰ Most of the data reported is taken from custom queries available from www.enterprisesurveys.org.

⁴¹ True 'unit labour cost' measures output in physical units (not monetary values), but this is not possible due to data limitations

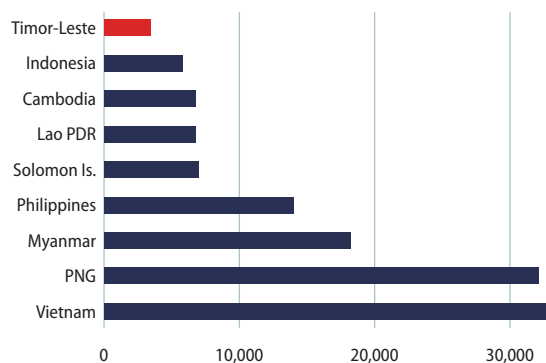
represented 51 percent of value added and 43 percent of sales, higher than the average firm in the EAP region – 35 and 21 percent, respectively (Figure 35). This might be due to high labour costs (in US dollar terms per worker) and/or lower capital intensity.

Figure 35. Unit labour costs



Source: World Bank Enterprise Surveys 2015-2016

Figure 36. Capital per worker (USD)



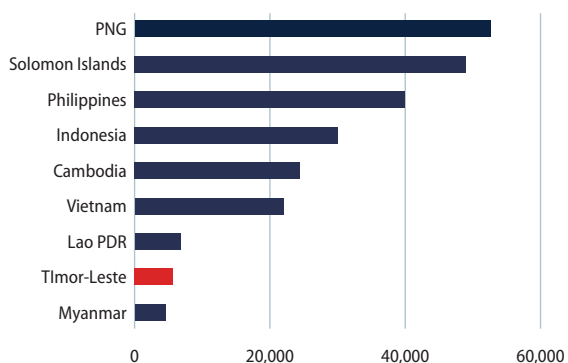
Source: World Bank Enterprise Surveys 2015-2016

Firms are less capital intensive than their regional peers. The average firm in Timor-Leste reported \$3,407 of capital for each worker, almost 10 times lower than for the average firm in Vietnam (Figure 36). Timor-Leste also compares poorly with the average for the EAP region (\$14,184). Moreover, firms are also the least capital intensive among comparators when considering median values, with the median firm reporting \$345 capital per worker. This suggests that there are a few (capital-intensive) firms skewing the results upwards – partly a reflection of the structure of the economy. For instance, Papua New Guinea has a high capital per worker ratio because of its large oil and gas sector.

FIRM PERFORMANCE

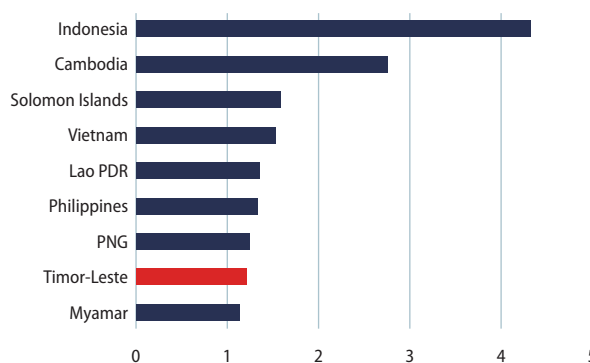
Labour productivity, as measured by value added per worker, is lower than for firms in peer countries. In 2015, value added per worker in the average (manufacturing) firm in Timor-Leste was about \$6,000, outperforming only the average firm in Myanmar (Figure 37). This is also considerably below the average for the EAP region (\$48,922). Timor-Leste also recorded the lowest labour productivity levels when using sales per worker as a proxy.⁴²

Figure 37. Value added per worker (USD)



Note: Values are in constant 2009 US dollars.
Source: World Bank Enterprise Surveys 2015-2016

Figure 38. Total-factor productivity levels



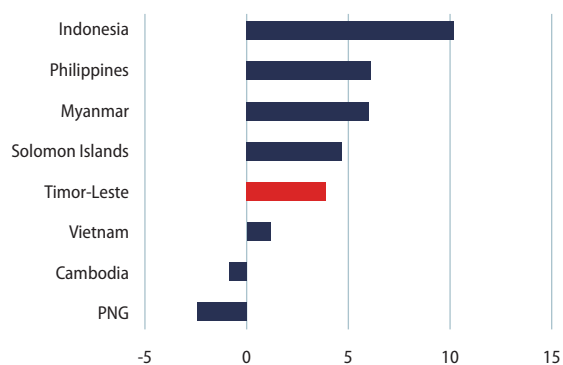
Source: World Bank Enterprise Surveys 2015-2016

⁴² Labour productivity is calculated in two different ways. The first uses value added per worker by subtracting raw materials and intermediate inputs from sales and dividing that amount by the number of full-time workers. However, this calculation is only feasible for manufacturing firms and for the 2015 survey. Therefore, a simple ratio of sales to workers is used to assess variations across time and sectors – even if it is a poorer measure of performance since it includes intermediate inputs.

Timor-Leste also lags comparators when considering firm-level total-factor productivity. Unlike labour productivity, total factor productivity (TFP) takes into account the firm's use of capital and the quality/quantity of labour. The focus is on manufacturing firms interviewed in 2015 since data availability constrains comparisons across time and the calculation of growth rates.⁴³ The TFP level for the average firm in Timor-Leste was lower than that for most peer countries (Figure 38).⁴⁴ It was significantly below the EAP region's average (2.7) and that for lower middle-income countries (2.5). Timor-Leste's relative performance is weaker when considering median TFP values.

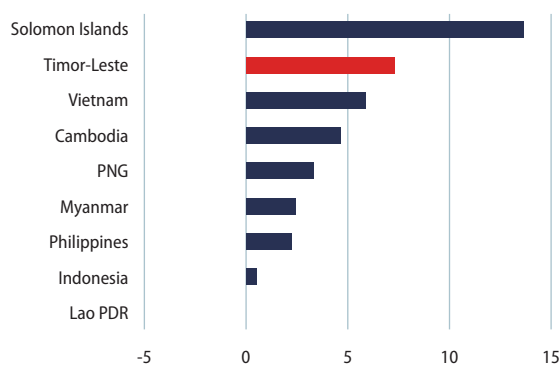
Labour productivity growth decelerated and was lower than for most peers. Enterprise surveys collect information on sales and workers for the current year and the two preceding years. Labour productivity growth – as measured by the rate of change in sales per worker – declined between the periods 2007-2009 and 2013-2015. In both periods, labour productivity growth was higher for firms in the services sector than for manufacturing. Compared to its peers, firms experienced mediocre labour productivity growth between 2013 and 2015 (Figure 39). Labour productivity growth (3.8 percent) was lower than in Solomon Islands, Myanmar, Philippines, and Indonesia, but it compared favourably with Papua New Guinea, Cambodia and Vietnam.

Figure 39. Labour productivity growth (%)



Source: World Bank Enterprise Surveys 2015-2016

Figure 40. Annual average employment growth (%)



Source: World Bank Enterprise Surveys 2015-2016

Employment growth rates improved between 2009 and 2015, particularly for manufacturing firms, and compare favourably with other EAP countries. Expansion in firms' employment – namely, growth in permanent full-time employees – can be used as a proxy for firm performance.⁴⁵ In Timor-Leste, the average annual growth rate of employment accelerated from 5.6 percent in 2006-2009 to 7.3 percent in 2012-2015. However, employment growth in services decelerated in the period under consideration. In fact, there is significant variation across types of firms and industries, with firms in the food and garments sectors experiencing the highest employment growth rates in 2015. Firms grew more in terms of average employees than firms in all peer countries, except for Solomon Islands. The average employment growth rate across firms in the EAP region sampled between 2014 and 2017 (5 percent) is below the employment growth rate for firms in Timor-Leste in 2015 (Figure 40). Nonetheless, firms in Timor-Leste are smaller (in terms of numbers of employees) and face relatively higher labour costs than firms in peer countries – as mentioned earlier.

⁴³ In theory, TFP is a better measure of firm productivity than value added per worker – since it considers the firm's use of both capital and labour. However, poor measurement of capital (or even lack of data) mean that this may not be the case in practice.

⁴⁴ Here, TFP is calculated through the income-capital-materials-labour (YKML) method – as the residuals from the estimation of a log-linear Cobb-Douglas production function.

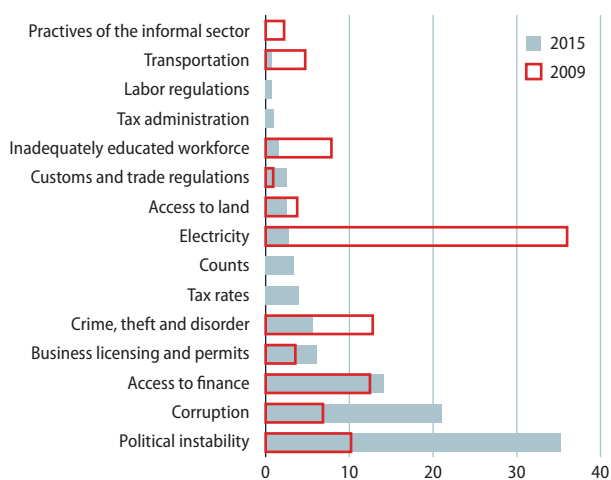
⁴⁵ Enterprise Surveys contain information on employment levels at the end of the last complete fiscal year before the survey was administered (t) and at the end of 'three fiscal years ago', which enables the calculation of average employment growth over a two-year period.

PERCEIVED CONSTRAINTS

Managers and owners are a key source of information on otherwise difficult to measure aspects of the business environment. Enterprise Surveys ask firm managers and business owners to report on the main business environment constraints that they face. It is assumed that they are more knowledgeable about the challenges faced by their firms than outside analysts, although data on perceptions can have shortcomings.⁴⁶ Enterprise surveys contain two types of questions aimed at probing respondents' perceived obstacles to firm performance. First, firm representatives are asked to identify the element of the business environment that represents the "biggest obstacle faced by this establishment" from a list of 15 different items. Second, the survey asks them to rate how big of a constraint each of these are to the current operations of the firm. Respondents must rate each of these potential constraints on a five-point scale, from 'no obstacle' to 'very severe obstacle'.⁴⁷ The ranking and rating measures provide information on the breadth of the problem, by revealing the number of firms that share a particular concern. In addition, the ranking measure provides information on the depth or severity of each constraint.

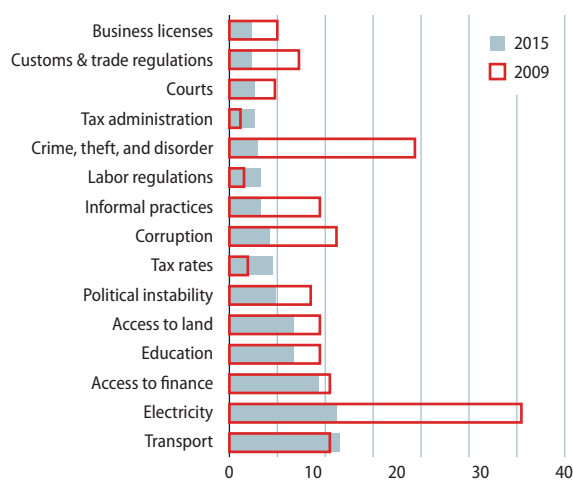
Political instability, corruption, and access to finance emerged as the biggest perceived obstacles to firm performance in 2015. The ranking measure reports the proportion of firms in Timor-Leste that have identified each of these areas as the top (or biggest) obstacle to their operations (Figure 41). The main perceived constraint to firm performance in Timor-Leste changed between these two periods. In 2015, political instability was ranked as the biggest obstacle by 35 percent of firms, followed by corruption and access to finance – with 21 and 14 percent, respectively. The fourth and fifth top obstacle were business licensing and crime – with about 6 percent each. Electricity, which was viewed as the top constraint by the highest proportion of firms in 2009 (36 percent), was perceived more favourably in 2015 – since only 3 percent of firms identified it as the biggest obstacle. Moreover, the percentage of firms that identified crime as the top constraint to their performance more than halved between 2009 and 2015. The share of firms that selected access to finance increased slightly between the two periods – from 12 to 14 percent. Overall, the largest changes between 2009 and 2015 were related to the rise of political instability and corruption as the biggest obstacles, while electricity was considerably reduced.⁴⁸

Figure 41. Biggest obstacle (% firms)



Source: World Bank Enterprise Surveys

Figure 42. Major obstacle (% firms)



Source: World Bank Enterprise Surveys

⁴⁶ Managers may not be honest, they may be unaware of or misinterpret the actual constraints faced by the firm, or may not answer questions reliably for other reasons.

⁴⁷ The full scale is: 'no obstacle' (0), 'minor obstacle' (1), 'moderate obstacle' (2), 'major obstacle' (3) and 'very severe obstacle' (4). In this section, 'major' combines 3 and 4.

⁴⁸ These results are likely to depend on the timing of the survey, with recent events perhaps weighing in disproportionately on perceptions.

Transport, electricity, access to finance, education, and access to land were identified by firms as (the main) major obstacles.

The rating measure reports the percentage of firms that have identified each of these areas as a major obstacle (at least) to their operations (Figure 42). Infrastructure, finance, and workforce were identified as major obstacles by the largest number of firms. In particular, electricity was identified as a major obstacle by the largest proportion of firms in both 2009 and 2015. However, the proportion of firms viewing electricity as a major problem fell from 61 to 23 percent, suggesting an improvement in access and/or quality of the service (see Box 2). Transport, which was selected as a biggest obstacle by 1 percent of the firms in 2015, emerged as the second in importance when looking at the proportion of firms considering it a major obstacle. Moreover, while the quality of workforce education was selected as the top obstacle for only 1 percent of respondents, almost 14 percent of firms reported it as a major problem, making it the fourth main obstacle. There was more consistency when considering access to finance, which came third in the ranking of both top and major obstacles in 2015. By contrast, political stability and corruption, the top two obstacles when considering the ranking measure, was only chosen as a major obstacle by 10 and 8 percent of firms, respectively, in 2015. Indeed, both obstacles appear to have decreased in importance between 2009 and 2015, while tax rates, tax administration, and labour regulations gained salience as major perceived constraints to firm performance.⁴⁹

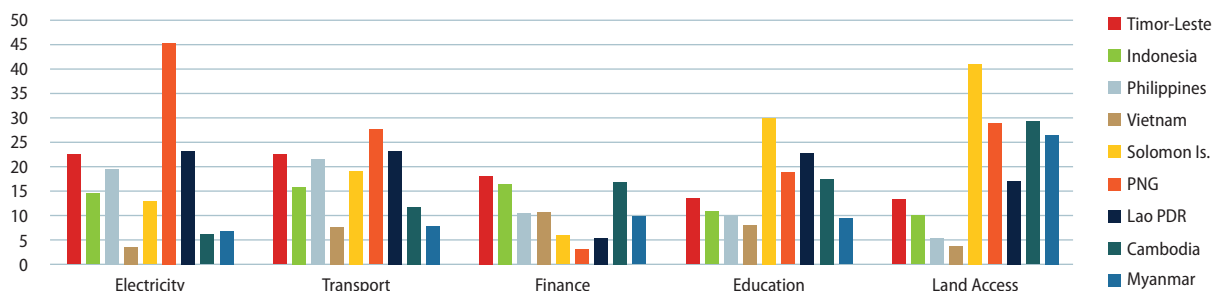
Despite some inconsistencies on perceived constraints (across the two measures), backbone services and infrastructure emerge as key obstacles.

Some level of inconsistency is inevitable due the nature of the questions. For the ranking question, managers must decide which constraint is the most binding for their firm; while for the rating question, managers can potentially say that every problem (or none) was a major constraint. For example, corruption emerged as a top constraint in 2015 but it is not among the main three major obstacles when considering the rating indicator. Nonetheless, the combined data suggests that firms in Timor-Leste feel constrained by the low quality of backbone services and infrastructure – including finance, electricity, and transportation – as well as by a weak and unstable regulatory environment that enables corruption, crime, and insecurity. An inadequately educated workforce is also widely perceived as a major obstacle to firm performance. Perceptions on major constraints are broadly consistent across manufacturing and services firms.

On average, firms in Timor-Leste have more negative perceptions of access to finance and the quality of backbone services and infrastructure than firms in other EAP countries.

The proportion of firms that considered electricity, finance, and transport as major obstacles in 2015 was considerably above the average for the EAP region for 2011-2018 (Figure 43). Firms in Timor-Leste are among the most negative in their assessment of the quality of electricity and transportation. When considering access to finance, only Indonesia records a higher proportion of firms identifying this issue as a major constraint than Timor-Leste. On the other hand, firms appear to have more positive perceptions than some of their peers of other aspects of the business environment.

Figure 43. Major obstacle (% firms)



Source: World Bank Enterprise Surveys 2015-2016

⁴⁹ It is possible for a large proportion of firms to consider a specific issue as the top obstacle while that issue does not emerge as major obstacle for most firms. For example, only 9 firms (out of 126) stated that corruption was a major problem in 2015, while 26 firms chose corruption as their biggest obstacle. While this may seem inconsistent, the surveys are meant to measure manager’s perceptions – which may not be fully accurate or consistent.

Box 3. Enterprise Survey versus Doing Business

Enterprise Surveys and Doing Business are different (but complementary) approaches to benchmarking the quality of the business environment across countries. An Enterprise Survey is a firm-level survey of a representative sample of the private sector in an economy. The surveys cover a broad range of business environment topics including access to finance, corruption, infrastructure, crime, competition, and performance measures. Doing Business focuses on measuring the complexity of business regulations and quantifying the ease of doing business across countries via indicator sets and rankings. The indicators cover common transactions such as starting a business or registering property based on standardised case-studies.

Enterprise Survey versus Doing Business

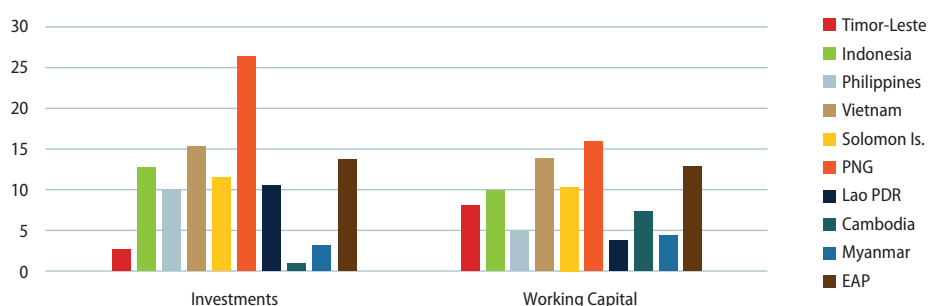
	Enterprise Surveys	Doing Business
Coverage	Covers 139 economies and aims to conduct a survey once every 4-5 years.	Collects data annually for 190 economies .
Data source	Collects firm-level data. Each unit of observation is an enterprise. The business owner or top manager is usually the subject during the face-to-face interview. Businesses surveyed include manufacturing, construction, retail, hotels, transport, and communications.	Collects information through surveys administered to local experts on the subject matter or business transaction such as lawyers, accountants, and architects. The information is confirmed through the underlying laws and regulations.
Observations	150-360 observations in smaller economies; 1200-1800 interviews in larger economies.	Underlying laws and regulations in addition to an average of 39 surveys per economy.
Information gathered	Objective data on the business environment as experienced by firms, performance measures, firm characteristics, and perceptions regarding obstacles to growth.	Time and cost to complete common business transactions based on standardized case-studies; underlying laws and regulations.
Topics	Measures several investment climate topics: firm characteristics, gender participation, access to finance, annual sales, costs of inputs/labor, workforce composition, corruption, licensing, infrastructure, trade, crime, competition, capacity utilization, land and permits, taxation, informality, business-government relations, innovation and technology.	Measures 11 business regulation topics: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, labor market regulation, paying taxes, trading across borders, enforcing contracts, and resolving insolvency. (The labor market regulation topic is not included in the Doing Business rankings).
Inference from the data	Measures what happens to existing firms. For instance, the actual experiences of a firm regarding the payment of taxes: number of meetings with tax officials and the incidence of bribery with tax officials. In addition to actual experiences, the enterprise is asked how much of an obstacle tax rates and tax administration are to business growth	Measures what a standardized firm should expect if everything was done according to the official legal requirements and costs in place. For instance, "paying taxes" measures the number of payments related to all tax and other contributions, how long it typically takes to comply with requirements related to filing and paying taxes, and the tax rates themselves are documented.
Use	Can be used to identify potential areas of reform in the business environment as well as assess the impact of reforms on businesses.	Can be used to identify areas for reform based on bottlenecks or weaknesses in specific areas of private sector regulation, gain insights and learn from practices in other economies around the world.

OBJECTIVE CONSTRAINTS

FINANCE

Firms face (objective) constraints in terms of access to finance. While a relatively high proportion of firms in Timor-Leste have bank accounts (84 percent), only 15 percent of firms have a bank loan or a line of credit. This is less than half of the average for the EAP region, and below the values for most peer countries. In addition, only 3 percent of investments in fixed assets were financed by bank lending, which is much lower than the average for the EAP region (about 14 percent). Timor-Leste is one of the weakest performers among peers. While firms perform slightly better when considering the proportion of working capital financed by banks, they still lag many of its counterparts (Figure 44). Firms rely heavily on internal funds both for investments and working capital. In 2015, on average, 68 percent of fixed assets and 71 percent of working capital were financed with internal funds. However, there has been a significant increase in the use of supplier/customer credit to finance working capital – from negligible levels in 2009 to 28 percent of firms in 2015.

Figure 44. Proportion of investment and working capital financed by banks (%)



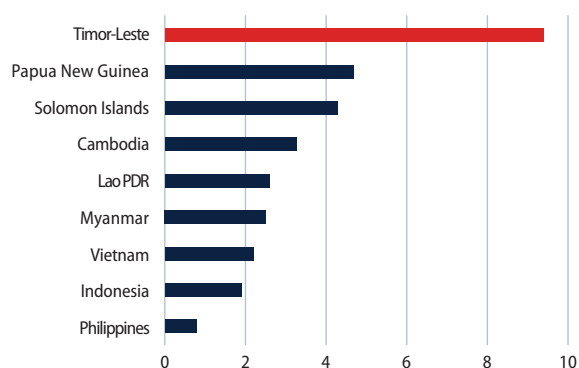
Source: World Bank Enterprise Surveys 2015-2016

In addition to limited access, firms face higher costs for obtaining credit. Firms discouraged from obtaining loans cited overly complex application procedures and unfavourable interest rates as the key reasons. Moreover, about 75 percent of firms who obtained loans were required to provide collateral. This is broadly aligned with the regional average, even if somewhat lower than many of its comparators. However, the relative value of the collateral required to obtain a loan (as a proportion of the loan amount) is generally higher than for firms in other countries in the region – at 235 percent. In terms of the types of collateral required from firms, requesting equipment as collateral appears to be more frequent in Timor-Leste than in other countries: while 70 percent of respondents in Timor-Leste reported using equipment as collateral, only 50 percent of firms used land as collateral to secure a loan. In peer countries, the most common collateral was land. Property rights remain highly uncertain in Timor-Leste, which means that land often cannot be used as collateral.

INFRASTRUCTURE

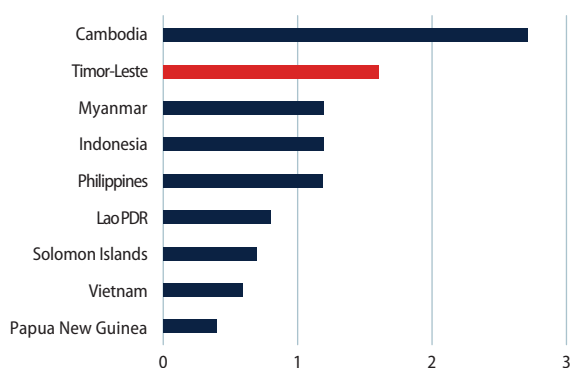
Firms face significant bottlenecks with regard to electricity services. While the average wait time for firms requesting an electric connection and the number of power outages in a typical month are relatively low, the duration of outages is higher than the regional average. A power outage lasts an average of 4 hours in Timor-Leste, which is considerably higher than the duration of outages in Cambodia, Lao PDR, Myanmar, Philippines, and Solomon Islands. In fact, losses resulting from electrical outages are higher in Timor-Leste than in all other peer countries (Figure 45). It should be recalled that electricity was identified as a major obstacle by the highest proportion of firms in Timor-Leste – 23 percent in 2015, higher than the EAP regional average of 15 percent.

Figure 45. Losses due to electrical outages (% sales)



Source: World Bank Enterprise Surveys 2015-2016

Figure 46. Losses during the shipping process (% products)



Source: World Bank Enterprise Surveys 2015-2016

Water outages are also more frequent and last longer in Timor-Leste than the average in East Asia Pacific.

More than 18 percent of firms reported confronting water shortages during the previous fiscal year, only surpassed by Solomon Islands. The average number of water incidents in a typical month is also higher for firms in Timor-Leste than for firms in peers. While the duration of these water insufficiencies in Timor-Leste (20 minutes) is shorter than for several peers, it remains well above the average for EAP (10 minutes).

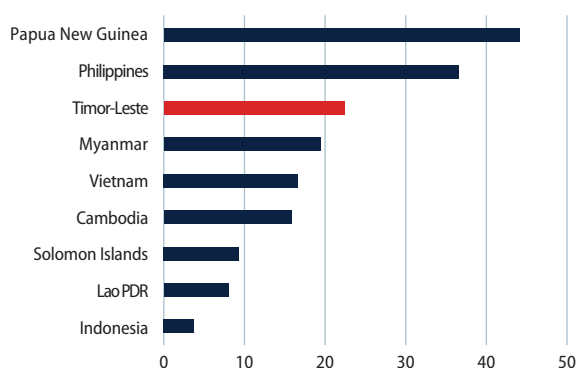
Another indicator of inadequate infrastructure is the percentage of losses during the shipping process. The proportion of products lost due to breakage or spoilage during shipping to domestic markets (1.6 percent) is the highest among peers, except for Cambodia (Figure 46). Moreover, the average firm lost 0.4 percent of its exports due to breakage or spoilage during the transportation process, which is higher than for several peers and it also compares poorly with the regional average for the EAP region (0.25 percent). An even more serious problem appears to be the loss in exports due to theft and other security problems, which also reflects the precariousness of shipping and transportation infrastructure.

REGULATION AND TAXES

There has been mixed progress regarding the processing of permits and licenses since 2009. The number of days firms had to wait to obtain a construction permit fell from 45 in 2009 to 20 in 2015. However, the waiting time to obtain an importing license increased from 19 to 23 days, while for an operating license it remained stable at 17 days (Figure 47). Firms in Timor-Leste wait longer than most peers when applying for operating permits and import licenses. In 2015, firms had to wait more than twice what firms in Indonesia waited to obtain an operating license (17 versus 6 days) and a construction permit (20 versus 6 days). Regarding trade, the time it takes for imports to clear customs decreased from 12 to 9 days, while clearing customs took 6 days for exports.

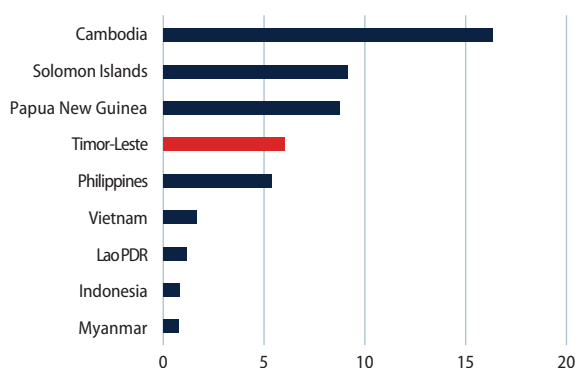
Cumbersome government regulations account for a growing share of senior managers time. The proportion of senior managers' time that is spent dealing with government regulations increased from 4 to 6 percent. In fact, this compares unfavorably to peer countries – except Cambodia, Papua New Guinea, and Solomon Islands – although it is slightly below the regional average of 6.7 percent (Figure 48). Moreover, the percentage of firms that were visited by tax officials grew from 44 to 50 percent during the same period.

Figure 47. Time to obtain an importing license (days)



Source: World Bank Enterprise Surveys 2015-2016

Figure 48. Time spent on business regulations (%)



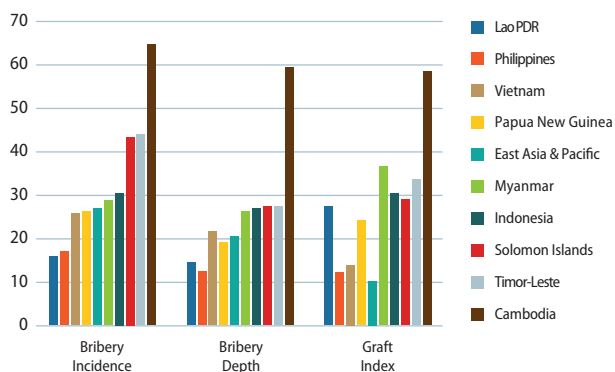
Source: World Bank Enterprise Surveys 2015-2016

CORRUPTION

Corruption and graft appear to be significant constraints to businesses. About 86 percent of firms claimed that they were expected to give gifts to government officials to ‘get things done’. This is a higher proportion than for peers except for Papua New Guinea and Vietnam. More than 80 percent of firms reported gift requests in securing a government contract, which is extremely high when compared to peer countries – except Cambodia. Moreover, the value of the gift expected to secure these contracts in Timor-Leste – almost 15 percent of the value of the contract – is remarkably higher than in peer countries and well above the regional average for EAP (less than 2 percent).

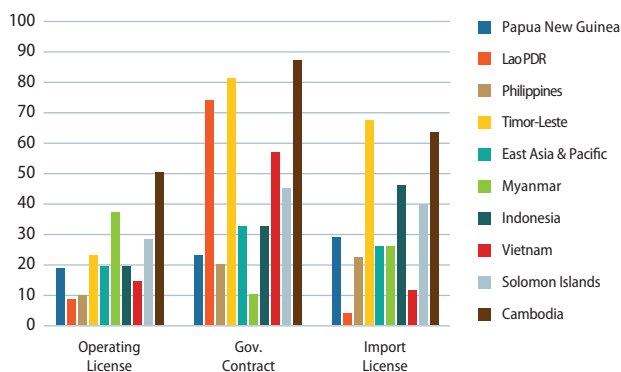
Timor-Leste also compares unfavourably with most of its peers when considering the bribery incidence. Bribery incidence relates to the proportion of firms that have confronted bribe requests. About 44 percent of firms reported having received at least one request for a gift or informal payment in their interactions with government officials (Figure 49). This is well above the average for the EAP region (27 percent) and only lower than for Cambodia (65 percent). Bribery depth – the proportion of public transactions where a gift or informal payment was requested – was higher in Timor-Leste (28 percent) than in most of its peers – except Cambodia and Lao PDR. Requests for informal payments appear to be relatively more frequent in Timor-Leste. Finally, when considering the proportion of instances in which informal payments were requested out of the total number of solicitations for public services, licenses and permits, Timor-Leste also is among the weakest performers. At 34 percent, the graft index for Timor-Leste is only surpassed by Cambodia (47 percent) and is significantly higher than the average for the EAP region (11 percent).

Figure 49. Bribery and graft indexes (%)




Source: World Bank Enterprise Surveys 2015-2016

Figure 50. Frequency of bribe requests (% firms)



Source: World Bank Enterprise Surveys 2015-2016



Bribes and informal payments are more frequent for securing government contracts and obtaining import licenses. More than 80 percent of firms received requests for gifts (or informal payment) when trying to secure a government contract (Figure 50). Moreover, 67 percent of firms reported receiving requests for gifts in exchange for an import license. This is several times above the average for firms in the EAP region (26 percent), as well as the values for peer countries. Bribe requests also appear to be quite frequent when firms seek to install an electrical connection (40 percent), obtain a construction permit (36 percent), and obtain an operating license (23 percent).

CRIME

Firms experienced high losses due to theft, especially when compared to their counterparts in the region. About 16 percent of firms reported experiencing losses due to theft or vandalism. While this figure is below the regional average (nearly 25 percent), it is still higher than for most peer countries. Losses due to theft reached 15 percent of annual sales, significantly above the average for firms in the EAP region (5 percent). In response to this, firms incur additional costs with equipment, personnel, and/or professional security services. Security costs as a proportion of annual sales reached 12 percent in 2015, a much higher proportion than for peer countries – the EAP regional average is 4 percent. It is important to recall that crime, theft, and insecurity were identified as a major constraint by a sizeable proportion of firms.

WORKFORCE

The proportion of skilled labour is broadly in line with peer countries, but formal training opportunities within firms are scarce. In the average firm, nearly 80 percent of full-time employees are considered skilled – as reported by their managers (of manufacturing firms). This is slightly above the average for the EAP region (76 percent), but broadly in line with countries like Cambodia and Lao PDR.⁵⁰ However, the average production worker received 8 years of education, compared to 9 in Cambodia, 10 in Papua New Guinea and Lao PDR, 11 in Indonesia, and 12 in the Philippines. In addition, less than 2 percent of firms offered formal training programs to their full-time permanent employees in 2015, a decline from the 50 percent recorded in 2009 and well below the regional average of 37 percent. It is useful to recall that inadequate education of the workforce was among the top four (perceived) major constraints in Timor-Leste. Firms had more negative perceptions of the education of the workforce (14 percent) than most of its peers.

Firms are relatively weak in terms of qualifications and experience of management staff, but female participation in management and ownership is relatively high. In the average firm, the top manager had 13 years of experience working in the firm's sector of operation. This compares unfavourably with peers and is indeed below the regional average (16 years). However, more than 64 percent of firms reportedly had female participation in ownership, which is higher than in peer countries – except the Philippines. Nonetheless, the share of female full-time permanent employees (31 percent) is lower than the regional average (39 percent).

⁵⁰ It should be noted that the survey does not distinguish between national and foreign workers.

LINKING CONSTRAINTS TO FIRM PERFORMANCE

While a description of (subjective and objective) obstacles is useful, it is crucial to explore their relationship with firm performance. Perceived obstacles may not necessarily correlate with firm performance due to information asymmetries. For instance, managers may not truly know the key obstacles undermining their firm's performance. However, poor factor conditions – such as limited or costly access to finance and deficient backbone and input services – often present significant barriers to firms' productivity and competitiveness. For example, limited access to affordable finance can prevent firms from undertaking investments that will improve productivity and may be a barrier to participation in export markets – given the greater risks and longer payments terms involved in exporting. Hence, an empirical analysis on the main determinants of firm performance is pertinent to inform policy prioritisation to enhance private sector development. This sub-section summarises the key results arising from the regression analysis (see Box 4).

Some perceived constraints are associated with lower firm performance. Firms that view access to land, finance, electricity, tax administration (and rates), and crime as a major challenge, all have lower levels of TFP and lower labour productivity growth. Firms that view transport as a major obstacle also show lower labour productivity growth.

There is also an association between poor access to finance and weaker firm performance – using objective indicators. Firms that rely more heavily on bank financing for investments exhibit higher employment growth, while firms that have access to credit lines or loans have higher employment growth, as well as higher TFP levels. The higher the value of the collateral required for a loan, the lower the firm's labour productivity levels and growth rate.

Weak electricity and water services are also associated with weak performance. The number and duration of power outages appear to negatively affect employment and labour productivity growth. The higher the losses a firm reports due to electrical outages, the lower its TFP levels. Firms experiencing at least one water shortage incident (in a year) tend to have lower TFP levels.

Cumbersome import and business regulations and bribes seem to undermine firm performance. The longer a firm takes to obtain an import license, the weaker its employment growth rate. The longer the delay in obtaining an operating license, the lower the firm's TFP level and the weaker its employment growth rate. Firms that reported facing requests for bribes when applying for an import license have lower labour productivity growth, while bribe requests in government contracts are associated with lower labour productivity levels.

The skills and education of the workforce are also correlated with firm performance. The higher the proportion of unskilled employees in the firm, the lower its TFP levels and its employment growth rates. While firms in Timor-Leste that offer formal training are not significantly more productive than firms that do not, the higher the proportion of employees that received training, the higher the firm's labour productivity levels.

Box 4. Data and Methodology

The objective of the empirical analysis was to examine subjective and objective constraints in the business environment of firms in Timor-Leste and to assess whether these relate to firm performance.

Dataset: The analysis used a global cross-section based on the latest comprehensive Enterprise Survey dataset released by the World Bank in August 2018. This is a sample of pooled data for firms from 139 countries, surveyed between 2008 and 2017. It includes data from 276 firms from Timor-Leste, of which 150 were collected in 2009 and 126 in 2015. This broad sample enables the examination of constraints to firm performance in Timor-Leste in a broader comparative perspective. The descriptive analysis uses data from this pooled cross-section sample.

Outcome variables: Four indicators are used to measure firm performance. Labour productivity and total factor productivity (TFP) are measured in levels, though the regression analysis can provide a more dynamic perspective using these variables. Employment growth and labour productivity growth are measured as average annual growth of the respective levels. Labour productivity (for manufacturing firms) is measured as the ratio of value added (sales minus intermediate goods) to the total number of full-time permanent employees. Because data on the cost of intermediate goods is not available for firms in the services sector, labour productivity is also calculated as the ratio of sales to full-time workers. Data on sales and intermediate goods is converted to United States dollars (USD) using the official exchange rate (period average) and then deflated to 2009 using the GDP deflator for the United States from the relevant reference fiscal year. Total factor productivity (TFP) uses the estimates of revenue-based TFP (TFPR) provided by the Enterprise Analysis Unit. Growth rates are calculated as the standard geometric formula.

Explanatory variables. The empirical analysis includes several variables that capture the objective constraints faced by firms across the different areas, including: access to finance (e.g. credit line, collateral, etc.), electricity and water services (e.g. power outages, losses, etc.), transport (theft, breakage, etc.), labour skills and regulations (e.g. skilled workers, formal training, etc.), business regulation (import licenses, construction permits, etc.), corruption (e.g. bribes), and crime (theft, costs with security, etc.). A full list of variables can be found in the Enterprise Survey website. The sample also contains variables on the perceived (subjective) constraints to business as reported by firms.

Empirical methodology. Regression analysis was used to explore the links between (subjective and objective) constraints and firm performance. The parameters in the linear regression model were estimated through ordinary least squares. Although the cross-section structure of the data does not allow the control for firm-level fixed effects, it is still possible to control for country, year, and sector fixed effects. The main specification is represented below:

$$y_i = \alpha_c + \gamma_s + \sigma_t + \beta \text{Constraint}_i + \phi \text{TLS} * \text{Constraint}_i + \pi z_i + \varepsilon_i$$

where, y_i is the outcome variable of firm i (e.g. employment growth rate and labour productivity), z_i is a vector of firm-specific controls; α_c is the country fixed effect; γ_s is the sector fixed effect; and σ_t is the year fixed effect. The main results are reported in Annex 3.

POLICY IMPLICATIONS

The analysis on firm performance in Timor-Leste provides clear policy implications for private-sector growth.

Overall firm productivity can increase through productivity growth within existing firms, a reallocation of resources from lower-productivity to higher-productivity firms, and/or entry [exit] of high-productivity [low-productivity] firms. This Special Focus looked at constraints to productivity growth within existing firms and related policy implications.⁵¹ Policy priorities include increasing firm access to finance, affordable inputs, and skills as well as easing firm entry and reducing regulatory uncertainty, discretion and related informal payments and bribes. Additional policy areas for reform may include the foreign direct investment (FDI) regime (affecting entry) and the insolvency and creditor rights system (affecting exit).

There are several financial sector constraints that affect access to finance for firms and ask for a policy focus on secured transactions.

Perhaps the biggest challenge firms face in having access to finance is a result of insufficient collateral. Because property rights remain uncertain and often cannot be used as collateral, pledging movable property (such as equipment) as loan security can be an important alternative, but remains ineffective in the absence of special legislation on secured transactions. In the short term, the policy focus could be placed on increasing opportunities for using movable property as loan security. For the use of land as collateral, longer-term reforms are needed to complement the existing Land Law (13/2017) with implementing laws and regulations, cadastral mapping, and increased capacity of the land and property directorate. The uncertainty around property rights is a risk to firms that goes beyond access to finance. It discourages entry and can affect existing firms, when suddenly confronted with competing claims to the same land.⁵² Moreover, the lack of a proper mechanism to enforce contracts and solve disputes undermines the predictability of commercial relationships – as courts lack expertise in commercial law.

With regard to electricity, improving service quality would be critical to support firm performance.

Although firm perceptions on electricity have improved considerably, costs associated with power outages are very large. Reducing production costs and improving revenue collection would create some fiscal space to enable necessary investments in the distribution network – which would improve the efficiency, security, and reliability of electricity provision to consumers (see Box 2). For instance, switching fuel from diesel to either heavy fuel oil or natural gas could reduce costs by 20-30 percent, while an interconnection with Indonesia could generate additional revenue. Making Electricidade de Timor-Leste (EdTL) – the national utility company – a separate corporate entity with financial and operational autonomy, building the capacity of its human resources, and developing a fit-for-purpose management information system could also lead to significant qualitative service improvements.

Removing trade restrictions and barriers could help Timor-Leste's integration in global value chains.


In today's global value chains, firms need easy access to inputs to be able to export. Timor-Leste's cumbersome import and export processes and related bribes seem to undermine firm performance. Reforms to reduce the time and cost to trade requires reform of relevant trade regulations, such as the Customs Code, General Quarantine Regulation, Customs Tax Regulations, and Quarantine and Sanitary Control of Import and Export Goods. The country's ambition to access the World Trade Organisation (WTO) and ASEAN provide a promising framework for these reforms.

Business regulatory reforms need to be complemented by better implementation so that firms can benefit from them.

SERVE – the country's one-stop-shop for business registration, licensing, and tax number application – commenced operations in 2013. In practice, however, SERVE is not a one-stop-shop for business registration. Firms continue to have to interact with sectoral ministries, and processes have been duplicated instead of eliminated – especially for business licenses. Moreover, while there are only three public notaries in the country familiar with

⁵¹ The Special Focus of the TLER October 2018 focused on the related topic of structural change.

⁵² Improving procedures for long-term leasing of state-owned land would allow for a shorter term solution to address access to land concerns, especially for foreign investors – who cannot own land.



commercial issues, they are the only ones authorised to validate corporate documents for business registration. Similarly, the Inspection and Supervision Authority for Economic, Health and Food Activities (AIFAESA) was designed to bring together (into one agency) all professionals from distinct institutions that have to do inspections – known as ‘vistoria’. However, the migration of those professionals from relevant ministries has not been concluded, resulting in processes being duplicated instead of streamlined. As a result, the inspection process for businesses remains unclear and discretionary. For SERVE and AIFAESA to deliver on their mandates, it is crucial to rethink the role of public notaries, task the Ministry of State for Coordinating Economic Affairs (MECAE) to regularly convene relevant ministries to address issues related to business licensing and inspections, build capacity of SERVE and AIFAESA, and complete the transfer of inspectors to AIFAESA.

Addressing gaps and improving the regulatory framework for trade and investment is important, but needs to be complemented by strengthening the institutional and human capacity to implement this. Several gaps in the legal framework remain. These gaps are related to competition, insolvency and credit rights, secured transactions, contractual law and commercial code. More importantly, institutional and human capacity remains weak. Without institutions with the mandate to implement the law and staffed with qualified people to do so, the legal framework will not fulfil its intended role.

For firms to have access to the skills they require, it is important to simplify the process for working visas and better align the TVET system with private sector needs. As skills and education of the workforce are also correlated with firm performance, it is vital to ensure that firms have access to the skills they need. In the short term, the worker visa application process could be more efficient. Worker visas can only be applied for once the workers are in Timor-Leste, and their processing is cumbersome, time-consuming, and arbitrary. On the Technical and Vocational Education and Training (TVET) system, in the short term, competence frameworks should be finalized, possibly adapting existing competence frameworks in the region like those developed by ASEAN in close collaboration with the private sector. Medium to longer term improvements of Timor-Leste’s TVET system should embrace the developed competences and ensure that there is the right supply of training institutions to deliver those skills and an adequate quality system in place.

Political stability is fundamental to create a conducive environment for businesses, while fighting corruption will also yield significant benefits. Political stability and corruption were cited as the biggest obstacles faced by businesses in 2015. The recent political stalemate that spanned 2017-2018, and its subsequent economic impacts, have highlighted the vital role that stability (be it political, economic or social) has in upholding consumer confidence and private investment. A more constructive dialogue that cuts across political lines to reach difficult compromises is needed to avoid the repetition of recent setbacks. Moreover, endemic corruption entails significant economic and social costs.⁵³ In this regard, the approval and implementation of the new anti-corruption and omnibus procurement laws are important to reduce bribery and graft, promote competition in public tenders, and drive innovation.

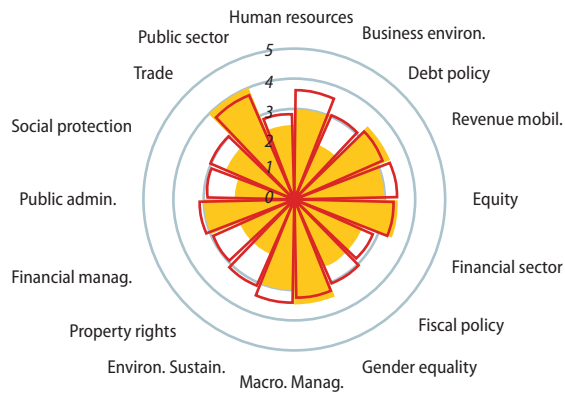
⁵³ See “The Cost of Corruption: Graft results in lost tax revenue, but it also takes a social toll” available at <https://www.imf.org/external/pubs/ft/fandd/2019/09/the-true-cost-of-global-corruption-mauro.htm>

ANNEX 1: KEY INDICATORS

	2014	2015	2016	2017	2018
REAL SECTOR	<i>(annual percentage change, constant)</i>				
Gross domestic product	4.7	3.5	5.1	-3.5	-1.1
Final consumption expenditure	8.6	1.3	3.3	-2.3	-5.0
Gross fixed capital formation	6.1	-3.6	15.3	-16.7	11.9
Consumer price index, period average	0.9	0.6	-1.5	0.5	2.3
FISCAL SECTOR	<i>(percentage of non-oil GDP)</i>				
Total Revenue	55	51	44	42	47
Domestic revenue	12	11	12	12	12
Estimated Sustainable Income	44	40	32	30	35
Total expenditure	93	84	97	75	74
Recurrent expenditure	63	64	61	58	52
Capital expenditure	29	19	36	17	22
Fiscal balance	-37	-33	-53	-33	-27
Financing	37	33	53	33	27
Cash balances	29	-9	9	-7	-3
Excess PF withdrawals	7	40	42	37	28
Loans	1	2	2	2	2
MONETARY AND FINANCIAL SECTOR	<i>(as stated)</i>				
Credit to the private sector (% growth)	-0.1	9.1	-5.3	24.5	-2.4
Lending interest rate (%)	13.9	14.5	12.5	14.5	0.0
Nominal effective exchange rate (index)	112	125	126	126	96
Real effective exchange rate (index)	129	141	137	135	111
EXTERNAL SECTOR	<i>(percentage of non-oil GDP)</i>				
Current account	75	13	-32	-18	-12
Goods and services	-82	-76	-66	-60	-60
Primary income	147	81	32	46	54
Secondary income	11	8	2	-4	-6
Capital account	1	2	3	2	3
Financial account	-95	2	29	31	15
Direct investment	3	2	0	0	3
Portfolio investment	-95	9	41	21	12
Other investment	-2	-9	-12	10	0
Net errors and omissions	-7	-3	-9	1	2
Change in reserves	26	-14	9	-17	-8
MEMORANDUM ITEMS	<i>(as stated)</i>				
Oil production (million BOE)	45	48	49	41	38
Petroleum Fund, closing balance (USD million)	16,539	16,218	15,844	16,799	15,804

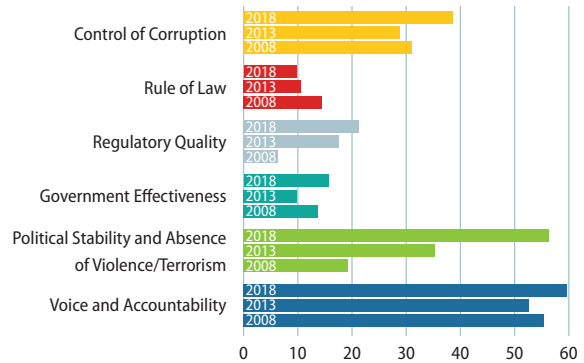
ANNEX 2: ADDITIONAL INDICATORS

Figure 51. CPIA 2018 (Timor-Leste vs. IDA average)



Source: World Bank

Figure 52. WGI (percentile rank)



Source: World Bank (World Governance Indicators)

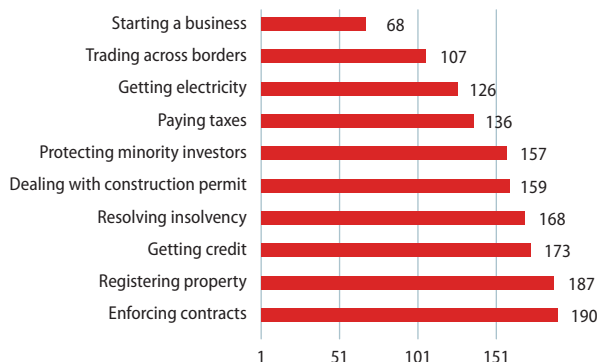
Figure 53. Doing Business 2020 (scores)

Doing Business Scores	Starting a business	Dealing with construction permits	Getting electricity	Registering property	Getting credit	Protecting minority investors	Paying taxes	Trading across borders	Enforcing contract	Resolving insolvency
2020	89	55	63	0	20	28	62	70	6	0
2019	89	55	63	0	20	28	65	70	6	0
2018	73	55	63	0	20	28	65	70	6	0
2017	74	55	63	0	20	28	65	70	6	0
2016	81	56	68	0	20	28	65	70	6	0
2015	81	56	68	0	20	28	86	70	4	0
2014	58	68	91	0	20	28	86	72	4	0
2013	58	68	91	0	13	43	86	72	4	0
2012	52	67	89	0	13	43	93	72	4	0
2011	46	67	92	0	13	43	93	72	4	0
2010	42	67	92	0	13	43	90	71	2	0
2009	39	67		0	13	43	60	71	2	0
2008	34	66		0	13	43	52	71	2	0
2007	24	66		0	13	43	52	67	2	0
2006	20	65		0	13	43	52	67	2	0
2005	16			0	13				2	0

Source: World Bank

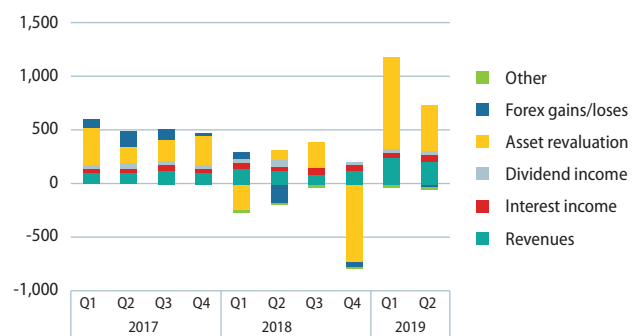
Note: Black lines denote a change in methodology.

Figure 54. Doing Business 2020 (rank)



Source: World Bank

Figure 55. Petroleum Fund receipts (USD million)



Source: Central Bank

ANNEX 3: EMPIRICAL ANALYSIS

Dimension	Outcome	Constraint	Estimate	s.d.	t	Significance
Finance						
	Employment growth	Internal funds investment	-0.09	0.05	-1.84	**
	Employment growth	Bank financing investment	0.6	0.35	1.72	**
	TFP	Credit line	1.58	0.96	1.64	*
	Labor prod growth	Credit line	2.77	1.48	1.86	**
	TFP	Collateral value	-0.03	0.01	-3.45	***
Electricity						
	Labor prod growth	Power outages #	-0.01	0.01	-1.7	**
	Employment growth	Power outages #	-0.04	0.02	-2.37	***
	Labor prod growth	Power outages duration	-0.04	0.012	-2.31	**
	TFP	Losses due to outages	-0.04	0.03	-1.43	*
	TFP	Water shortage	-1.06	0.63	-1.68	**
	Employment growth	Water shortage	-5.38	2.72	-1.97	**
Business regulations						
	TFP	Operating lic wait	-0.03	0.01	-2.36	***
	Labor prod growth	Operating lic wait	-0.05	0.03	-1.66	**
	Employment growth	Import lic wait	-0.07	0.03	-2.05	**
	Employment growth	Import lic bribe request	-0.07	0.03	-2.61	***
Labour skills						
	TFP	Unskilled %	-0.11	0.07	-1.57	*
	Labor prod growth	Unskilled %	-0.42	0.23	-1.79	**
	Labor prod levels	Trained %	3676.5	2283	1.61	*
Perceptions (Major/Severe Obstacles)						
	TFP	Access to land	-0.23	0.1604	-1.47	*
	Labor prod growth	Access to land	-0.61	0.25	-2.39	***
	Employment growth	Access to land	-0.47	0.23	-1.99	**
	TFP	Finance	-0.12	0.081	-1.51	*
	Labor prod growth	Finance	-0.301	0.11	-2.73	***
	TFP	Electricity	-0.20	0.09	-2.23	**
	Labor prod growth	Electricity	-0.26	0.135	-1.95	**
	Labor prod growth	Tax rates	-0.65	0.38	-1.69	**
	TFP	Tax administration	-0.28	0.149	-1.89	**
	Labor prod growth	Tax administration	-1.35	0.54	-2.47	***
	TFP	Crime	-0.33	0.16	-2.00	**
	Labor prod growth	Transportation	-0.83	0.36	-2.31	**

Notes: The estimated coefficients are for the interaction between the objective/perceptive constraint and a dummy variable for Timor-Leste, which is the estimated effect of the constraint on Timorese firms. For perceptions, peer averages are used based on clusters defined by industry and size and excluding the observation from establishment.

