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TAKING STOCK

AN UPDATE ON VIETNAM'S RECENT ECONOMIC DEVELOPMENTS

Special Focus: Transforming Vietnamese Agriculture - Gaining More from Less

December, 2016

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Section I of this report was written by Viet Tuan Dinh and Sebastian Eckardt (Macroeconomics and Fiscal Management GP) and Section II was prepared by Steven Jaffee (Agriculture GP). Valuable contribution provided by Anh Viet Nguyen (Governance GP), Ahmad Ahsan (Office of the EAP Chief Economist) and Alwaleed Alatabani (Finance and Market GP). Administrative assistance was provided by Linh Anh Thi Vu (World Bank Vietnam). The team is grateful for the overall guidance of Mathew Verghis (Practice Manager) and Ousmane Dione (Country Director).

ACRONYMS AND ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
CDS	Credit Default Swap
CIT	Corporate Income Tax
CPI	Consumer Price Index
EAP	East Asia and Pacific
FDI	Foreign Direct Investment
FPT	Corporation for Financing and Promoting Technology
FTA	Free trade agreement
GDP	Gross Domestic Product
GDC	General Department of Customs
GSO	General Statistics Office
ILO	International Labor Organization
IMF	International Monetary Fund
MOF	Ministry of Finance
MOIT	Ministry of Industry and Trade
MPI	Ministry of Planning and Investment
NTM	Non-tariff measure
ODA	Official Development Assistance
OOG	Office of Government
PIM	Public Investment Management
PIT	Personal Income Tax
PMI	Purchasing Manager Index
PPP	Purchasing Power Parity
SBV	State Bank of Vietnam
SOCBs	State-owned commercial banks
SOEs	State-owned Enterprises
SEGs	State Economic Groups
TPP	Trans Pacific Partnership Agreement
VAMC	Vietnam Asset Management Company
VAT	Value Added Tax
WB	World Bank
WTO	World Trade Organization

OFFICIAL INTERBANK EXCHANGE RATE: US$ = VND 22,120

Government Fiscal Year: January 1 to December 31

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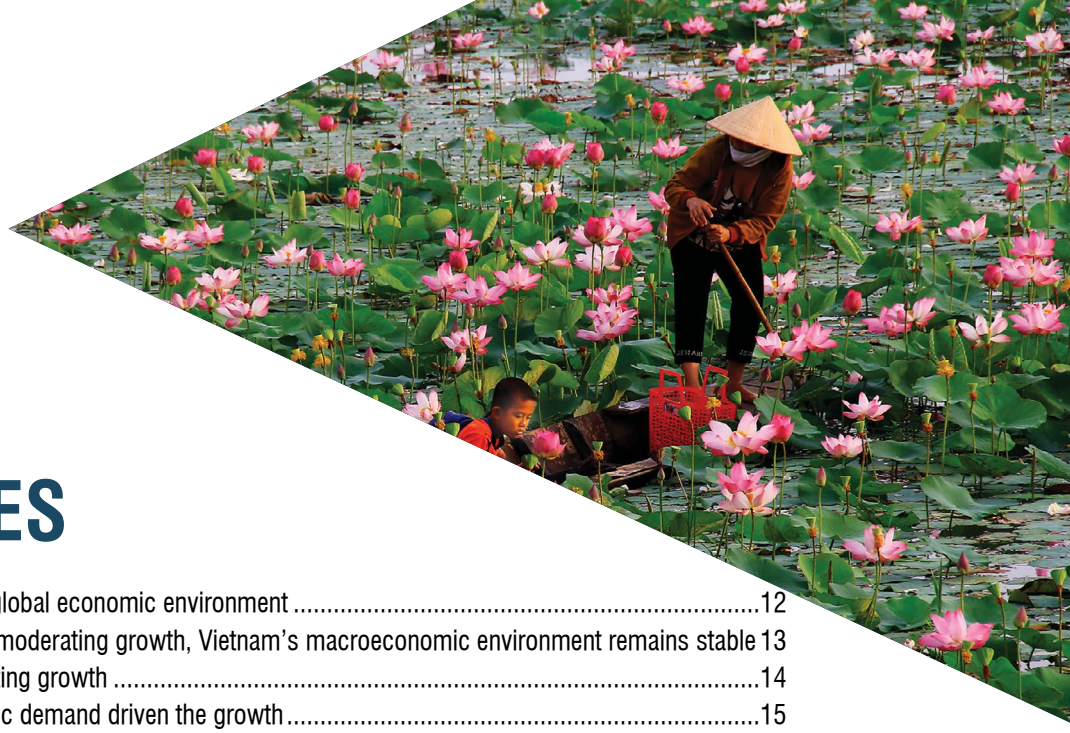

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OVERVIEW

The global economic environment remains fragile. Global growth in 2016 looks set to be softer than anticipated, reflecting in large part weaker momentum in major advanced economies and commodity-exporting emerging markets. Driven by sluggish import demand in advanced economies, global trade remains weak with trade volumes contracting in the first quarter and stagnating in the second quarter of 2016. Amidst lackluster global growth prospects, developing East Asia Pacific continues to perform relatively well with weak external demand being largely offset by robust domestic demand, supported by accommodative monetary and fiscal policies across most countries in the region.

Faced with global headwinds, Vietnam's economy is showing resilience, supported by robust domestic demand and export-oriented manufacturing. Growth decelerated to 5.9 percent during the first three quarters of the year, mainly due to the impact of a severe drought on agricultural output, cuts in oil production, and slowing external demand. But the underlying fundamental drivers of growth -resilient domestic demand and export oriented manufacturing- remain broadly intact. However, Vietnam's economic performance owes in part to rapid credit growth and an accommodative fiscal stance, which may support growth in the short term but may amplify existing medium-term financial and fiscal risks.

Resilient growth was accompanied by low inflation and a strengthening external position. After falling to record lows in 2015, inflation has picked up mainly due administrative price hikes for health and education services but core inflation remains subdued and headline inflation is expected to stay below the official target of 5 percent. Externally, the current account surplus widened mainly as a result of slowing import growth. FDI inflows remain robust and Vietnam's limited exposure to portfolio investment contained the impact of recent global financial volatility. Bolstered by the strengthening external position, the exchange rate has been relatively stable through the year though Vietnam dong started to depreciate recently due to sharp rise of the US dollar. The SBV gradually rebuild foreign reserves, albeit they still remain at a relatively low 2.6 months of imports. However, in the context of a strengthening US dollar and sharper depreciation of currencies of major Vietnam trading partners, concerns of real exchange rate appreciation of the dong and its possible negative impacts on Vietnam's export competitiveness remain.

However, monetary conditions have eased considerably and credit growth remains elevated, potentially exacerbating existing macroeconomic and financial vulnerabilities. As a result of largely unsterilized foreign reserve accumulation, money supply expanded rapidly throughout the year, growing at about twice the rate of nominal GDP. Ample liquidity together with some easing of macro-prudential requirements fueled credit growth which accelerated to 19 percent (year-on-year) in October 2016. While inflationary pressures remain subdued, there are concerns that sustained rapid monetary expansion and credit growth may -as in the past- exert pressure on asset prices and ignite inflationary effects down the line. In addition, existing risks to medium-term financial stability may intensify, particularly since Vietnam's credit to GDP ratio - 112% at present- is already high for country of its income level and the overhang of past non-performing loans has not been fully resolved.

The fiscal deficit also remains sizable, but the government has reinforced its commitment to achieve fiscal consolidation over the medium term. The fiscal deficit averaged 5.5 percent of GDP over the past five years and is expected to remain at about 6 percent of GDP this year. While the risk of acute debt distress is still relatively

low, public debt has risen fast and is approaching the statutory limit of 65 percent of GDP. To address concerns about medium term fiscal sustainability, the Medium Term Financing Plan 2016-20, adopted by the National Assembly on November 9th 2016 aims to gradually reduce the fiscal deficit to 3.5 percent of GDP by 2020. It is now crucial to underpin these targets with specific policy measures to achieve a quality adjustment through a balanced combination of revenue and expenditure measures and a strong focus on spending efficiency gains, as opposed to across-the-board curtailment of discretionary spending and investment.

Building on steady progress, deepening and accelerating structural reforms remains crucial to support a more productivity-led growth model. There are signs that the current economic growth model is facing growing structural constraints. Economic growth has become overly reliant on factor accumulation (capital, natural resources and low skilled labor) and macroeconomic stimulus (loose fiscal and credit policies) while the contribution of productivity increases (total factor productivity) has declined. Recognizing this critical challenge, the economic restructuring plan 2016-20, adopted by the National Assembly in November, also reconfirms key structural reform priorities of the government for the coming five years, including further reforms to enhance banking system stability and build deeper capital markets, improve efficiency of the SOE sector, strengthen public investment and enable a more productive and dynamic private sector. These plans are important steps in the direction of structural reforms and – if implemented consistently – would help address some of the emerging structural constraints in the economy.

Vietnam key short-term indicators

	2013	2014	2015/e	2016/f	2017/f
GDP growth (%)	5.4	6.0	6.7	6.0	6.3
CPI (annual average, %)	6.6	4.1	0.6	2.7	4.5
CPI (year-end, %)	6.0	1.8	0.6	4.9	3.7
Current account balance (% GDP)	4.5	5.1	0.5	1.5	0.8
Fiscal balance (% GDP)	-7.4	-6.2	-6.0	-6.0	-4.5
Public debt (% GDP)	54.5	59.6	62.2	64.6	65.2

Source: GSO, MOF, SBV and WB

Vietnam's medium term outlook remains favorable. GDP is expected to expand by around 6 percent in 2016 underpinned by robust domestic demand and export oriented manufacturing. GDP is projected to accelerate slightly to 6.3 in 2017 predicated on a recovery in agriculture and improving global prospects. Inflation is expected to come in just below the official target of 5 percent this year and then moderate next year as administrative price hike -which were the main driver of inflation this year- moderate. The external accounts are expected to remain favorable thanks to an improved trade balance, but the current account surplus is expected to decline next year, as import growth recovers. The fiscal deficit is projected to remain high at about 6 percent of GDP this year but expected to adjust over the medium term in line with Government commitments.

The outlook is subject to pronounced downside risks. Domestically, delayed implementation of structural and fiscal reforms could intensify macroeconomic vulnerabilities and lower potential growth. Externally, a further slowdown in the global economy and waning prospects of TPP could dim Vietnam's growth outlook through trade and investment channels. Meanwhile, fragile global financial market conditions and the prospect of rising interest

rates due to anticipated monetary tightening in the US are of some concern, as Vietnam is planning to tap global markets to meet some of its fiscal financing needs.

Special focus: TRANSFORMING VIETNAMESE AGRICULTURE - GAINING MORE FROM LESS

Over recent decades, Vietnam's agricultural sector has made enormous progress, realizing major gains in productivity and output and contributing to national goals related to food security, poverty reduction, social stability, and trade. Nevertheless, there are growing concerns related to the quality and sustainability of Vietnam's agricultural growth and related patterns of development. A comparatively low quality of growth is manifested by low smallholder farmer profitability, considerable under-employment among agricultural workers, mixed or uncertain product quality and food safety, low value addition, and limited technological or institutional innovation. Some agricultural growth has come at the expense of the environment in the forms of deforestation, biodiversity loss, land degradation, water pollution, and greenhouse gas emissions. In most locations, agricultural growth has involved an increase in cropping areas or intensities and ever higher uses of inputs and natural resources. Hence, more output has come from more and more inputs and increasing environmental costs.

Vietnamese agriculture now sits at a turning point. The sector now faces growing domestic competition—from cities, industry, and services—for labor, land and water. Rising labor costs are beginning to inhibit the sector's ability to compete internationally as a low cost producer of bulk undifferentiated commodities. The country's rural youth have rising aspirations for living standards. Vietnam's expanding consumer class and trade partners are expecting higher standards, both for products and production practices. Going forward, Vietnam's agriculture will need to generate 'more from less'. That is, it will need to generate more economic value—and farmer and consumer welfare—using less natural and human resources and without degrading the environment. It will need to rebrand itself and increasingly compete on the bases of innovation, reliable supply, predictable quality, and assured food safety and environmental protection.

The Vietnamese government has played a major and, in some areas, a leading role in the past development of agriculture. Some of its past functions—including those of land use planner, production target setter, manager of farms, commodity trader and dominant technology supplier---will be less important or even detrimental in the process of shifting toward a more flexible, market-driven, and knowledge-based agriculture. Government can undertake less direct investment in agriculture if it is effective at facilitating private investment and private provision of technical services. That should free up resources to achieve excellence in the application of important regulatory functions (e.g. environmental, biosecurity, and food safety risk management). Government will need to play a continuing role in facilitating a more active agricultural land market, in supporting rural infrastructure and other elements which impact the transaction costs of farmers and agro-enterprises and in revitalizing the country's agricultural innovation system. In sum, the government will need to 'lead less yet facilitate more' in the step-wise transformation of Vietnam's agriculture and agro-food system.

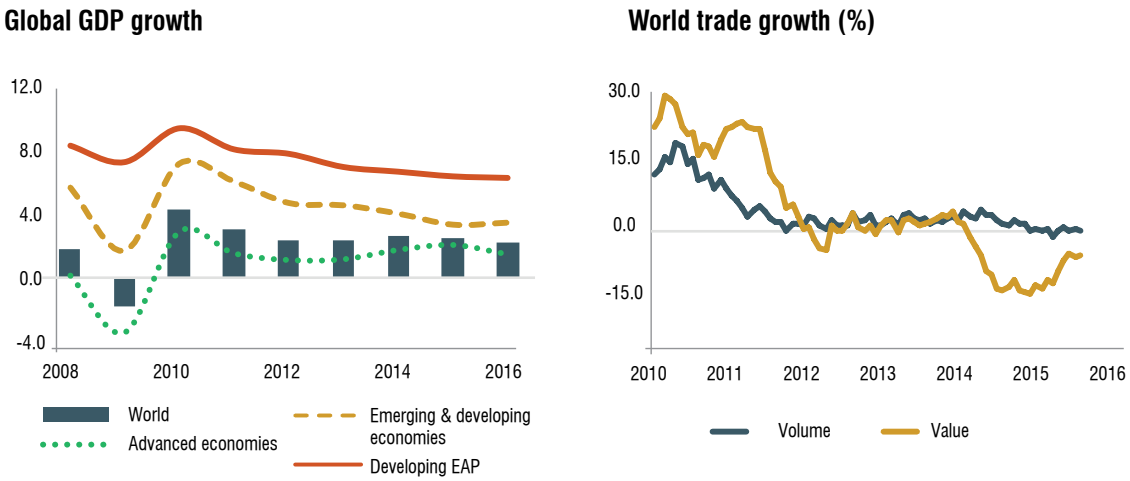
SECTION I

RECENT ECONOMIC DEVELOPMENTS

A. External Economic Environment

The global economic environment remains fragile. Global growth in 2016 looks set to be softer than anticipated, reflecting in large part further weakening momentum in major advanced economies (figure 1). In particular, growth prospects in the Euro Area, the United Kingdom, and the United States, have deteriorated since June. In addition, commodity-exporting emerging market and developing economies continue to struggle to adjust to low commodity prices. Driven by weak import demand in advanced economies, global trade remains sluggish with trade volumes contracting in the first quarter and stagnating in the second quarter of 2016.

Figure 1: Fragile global economic environment



Source: East Asia Pacific Update, World Bank, October 2016

Global headwinds notwithstanding, growth in developing EAP remains resilient. Developing EAP continues to perform well relative to other developing regions (table 1). Weak external demand was largely offset by robust domestic demand, supported by accommodative monetary and fiscal policies across most countries in the region. However, policy space is increasingly limited as budget deficits have increased across much of the region, largely reflecting rising public expenditure, which is being used partly to scale up investment but also to meet growing current expenses. Thanks in part to low commodity prices, inflation remains muted across most of the region. Financial market turbulence and capital outflows from emerging markets triggered by political uncertainty and anticipated policy shifts in the US have spilled over to the region, in particular to countries with deeper financial integration.

Table 1: East Asia Pacific GDP Growth projections

	2014	2015/e	2016/f	2017/f	2018/f
Developing East Asia and Pacific	6.8	6.5	6.4	6.2	6.0
China	7.3	6.9	6.7	6.5	6.3
Indonesia	5.0	4.8	5.1	5.3	5.5
Malaysia	6.0	5.0	4.2	4.3	4.5
Philippines	6.2	5.9	6.4	6.2	6.2
Thailand	0.8	2.8	3.1	3.1	3.3
Vietnam	6.0	6.7	6.0	6.3	6.3
Cambodia	7.1	7.0	7.0	6.9	6.9
Lao PDR	7.5	7.4	7.0	7.0	6.8
Myanmar	8.5	7.0	7.8	8.4	8.3
Mongolia	7.9	2.3	0.1	2.0	3.5
Memo: Developing East Asia excl. China	4.7	4.8	4.8	5.0	5.1
Memo: ASEAN	4.6	4.8	4.9	5.0	5.2

Source: East Asia Pacific Update, World Bank, October 2016

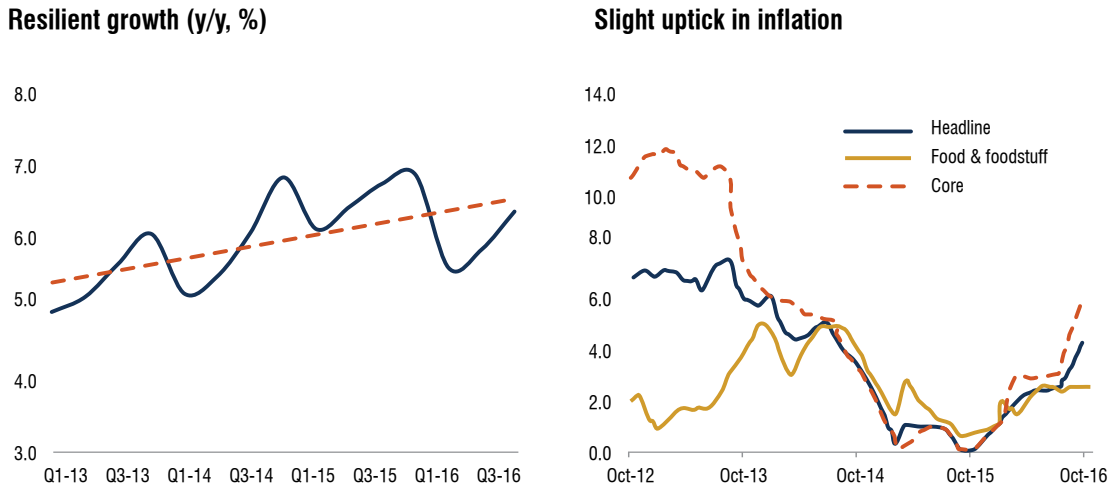
The external environment remains challenging for Vietnam's economy. The global recovery is expected to continue at a slow pace with pronounced downside risks. Vietnam's economy remains susceptible to a further slowdown in the global economy, since fiscal and monetary policy buffers are increasingly limited leaving little room for additional accommodation to counteract further negative shocks. Short-term risks include a sharper-than-expected slowdown in China as well as political uncertainties and prospective monetary policy tightening by the U.S. Federal Reserve. Financial market conditions remain fragile and subject to sudden bouts of volatility. While Vietnam's more limited exposure to volatile capital flows have contained immediate spillovers of global volatility (compared to more financially integrated markets), rising interest rates and tightening global liquidity are of some concern as Vietnam is planning to increasingly tap international capital markets to meet its fiscal financing needs over the medium term. In addition, protectionist rhetoric and in particular the waning prospects of TPP may affect Vietnam's future prospects, given its strong trade-exposure to the US market and the expectation that it would become a major TPP beneficiary.

B. Recent Economic Developments in Vietnam

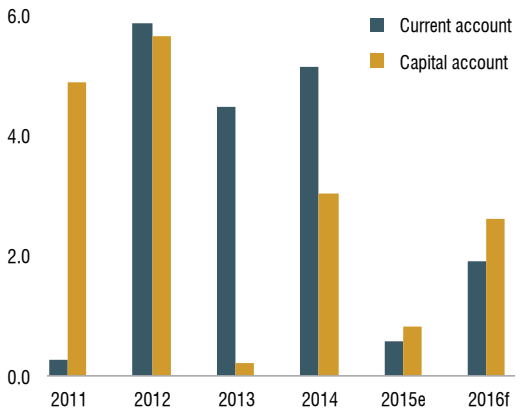
Stable macroeconomic conditions amidst moderating growth

Although growth has moderated somewhat during 2016, Vietnam's macroeconomic environment remains favorable. Growth decelerated slightly to 5.9 percent during the first three quarters of the year, mainly due to the impact of the drought on agricultural output, cuts in oil production, and slowing external demand. But the underlying fundamental drivers of growth -resilient domestic demand and export oriented manufacturing- remain intact. After falling to record lows in 2015, inflation has picked up slightly -mainly due administrative price hikes for health and education services- but headline inflation remains below the official target of 5 percent (figure 2). Externally, the current account surplus widened mainly as a result of slowing import growth. Meanwhile, FDI inflows remain robust and Vietnam's limited exposure to portfolio investment contained the impact of recent global financial volatility. Bolstered by the strengthening external position, the exchange rate has been relatively stable through the year though Vietnam dong started to depreciate recently due to sharp rise of the US dollar. The SBV gradually rebuild foreign reserves, albeit they still remain at a relatively low 2.6 months of imports. On the downside, some of Vietnam's economic performance owes to rapid credit growth and an accommodative fiscal stance, which may support growth in the short term but -if continued for too long- may amplify existing financial and fiscal risks.

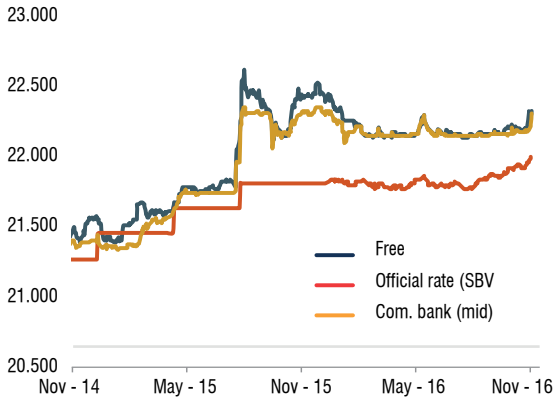
Figure 2: Amidst moderating growth, Vietnam's macroeconomic environment remains stable



Widening current account surplus



Stable nominal exchange rate

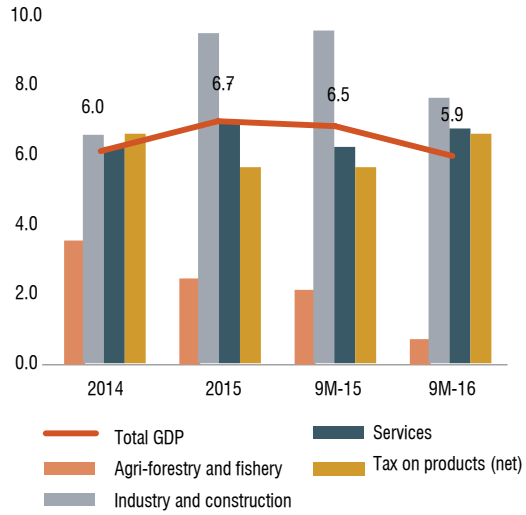


Souce: GSO, SBV and WB

Despite a challenging global environment, Vietnam's economy is showing resilience, supported by robust domestic demand and export oriented manufacturing. Preliminary data shows that Vietnam's GDP growth for the first three quarters of 2016 came in at 5.9 percent (y/y). On the production side, agriculture and the mining sector slowed down significantly, but this was offset by sustained, albeit moderating growth in manufacturing, construction and service sectors (figure 3). On the demand side, domestic demand has remained robust, supported by accommodative monetary, credit and fiscal policies. Investment growth has picked up fueled by sustained public investment, FDI inflows and strong credit growth. Meanwhile, private and public consumption also remain buoyant, underpinned by wage hikes in the public sector, rising real incomes and resilient consumer confidence.

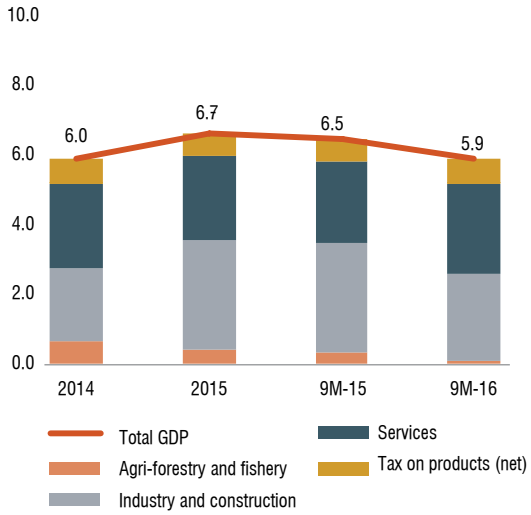
Figure 3: Moderating growth

GDP growth (y/y, %)



Source: GSO

Contribution to GDP growth (pct)



Source: GSO

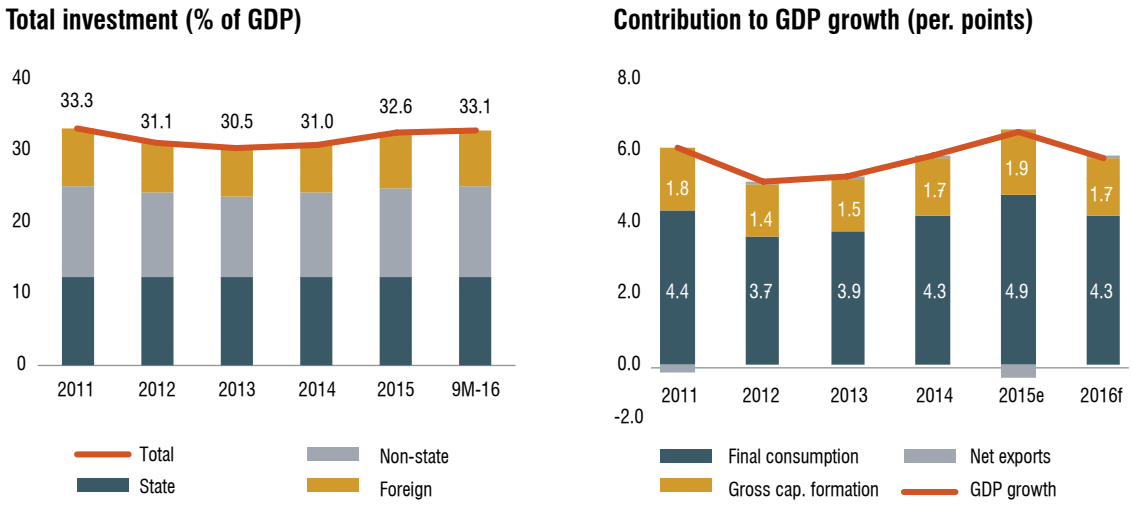
A severe drought affected agricultural output. A severe drought and salinity intrusion in the Mekong delta and South Central Coastal regions led to a contraction of agricultural output of 1.2 percent during the first quarter. Growth returned to positive territory in the second quarter (0.4 percent) and then further strengthened to 2.1

percent in the third quarter. However, despite the gradual recovery the agricultural sector expanded by only 0.7 percent in the first nine months of 2016, compared 2.1 percent during the same period last year. Aside of these short term fluctuations, the agricultural sector faces significant opportunities to contribute more strongly to growth, but also substantial challenges in terms modernizing production, raising productivity and linking more effectively with agribusiness value chains. Vietnam's agriculture will need to generate 'more from less'. That is, it will need to generate more economic value—and farmer and consumer welfare—using less natural and human resources and without degrading the environment. These structural opportunities and challenges are examined in more detail in the special topic note of this report.

Industrial output remains a key growth driver, but it decelerated slightly due to sharp contraction of oil output and subdued external demand. Overall, the value added of industrial and construction sectors grew by 7.5 percent (y/y) during the first nine months of this year. While this was below the growth rate of 9.9 percent in same period last year, industrial still contributed about half of the overall GDP growth this year. Mining output contracted sharply by 7.1 percent in the first three quarters of the year, mainly reflecting cuts in oil production due to the still subdued global oil price. However, this was offset by sustained performance of export-oriented manufacturing, mainly in the FDI sector and construction activity which benefited from availability of ample credit and a recovery in the real estate sector.

On the demand side, domestic demand remains resilient, underpinned by buoyant investment and consumption growth. Final consumption and capital formation are expected to contribute 4.3 and 1.7 percentage points respectively to the overall GDP growth of 2016 (figure 4). In the first nine months of 2016, investment growth picked up 9.6 percent (y/y) in nominal term bring gross capital formation to about 33% GDP. Capital disbursement for FDI sector Vietnam rose 12.4% (y/y) and accounted for nearly a quarter of total investment outlays of Vietnam. In addition, public investment remains strong, contributing about 38 percent to gross capital formation while private domestic investment was supported by availability of ample banking sector credit. Fueled by rising real incomes and still subdued inflation, retail sale rose steadily by 9.5%, indicating robust underlying consumption growth.

Figure 4: Domestic demand driven the growth



Source: GSO

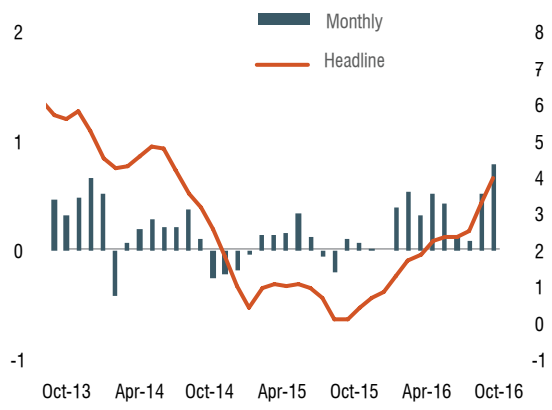
Inflation picked up slightly, driven by hikes in administered prices

Headline inflation accelerated in recent months reflecting a series of increases in the administered prices, mainly for education and health services. Headline inflation (y/y) was at 4.1 percent in October 2016, accelerating from 0.6 percent in December 2015 (figure 5). Hikes in administered prices contributed about 67 percent of total inflation. In effort to move closer to cost recovery, prices of healthcare and education services were adjusted

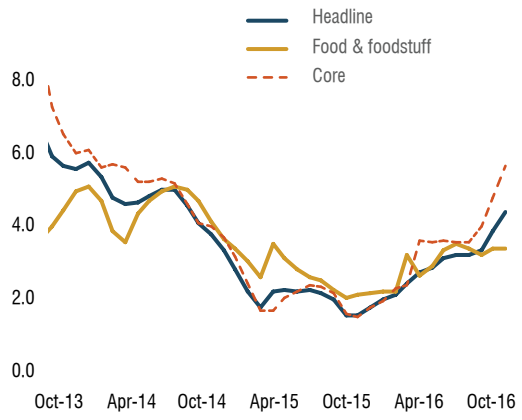
sharply by 46.8 percent and 10.9 percent (y/y) respectively in October 2016 following adjustments in fees for healthcare services, prices of medicine and tuition fees. In addition, the drought and associated supply shock to agricultural output exerted pressure on food prices, especially in the early part of the year which climbed from 1 percent in December 2015 to 2.6 percent (y/y) in October 2016.

Figure 5: Inflation has been ticking up in recent months

Monthly headline CPI (%)



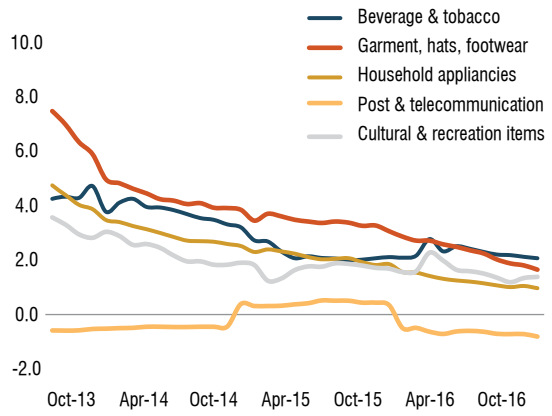
Year-on-year CPI (%)



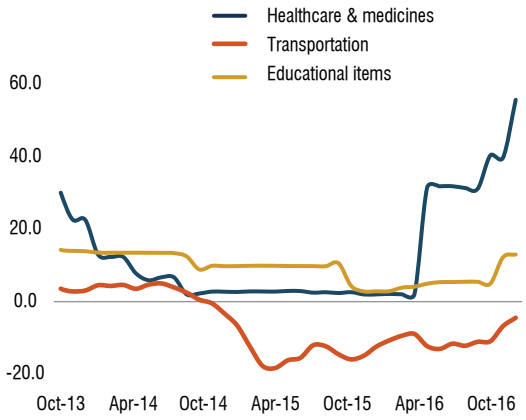
Source: GSO

Figure 6: Inflation across different goods and services

Market driven prices



Administrative-managed prices



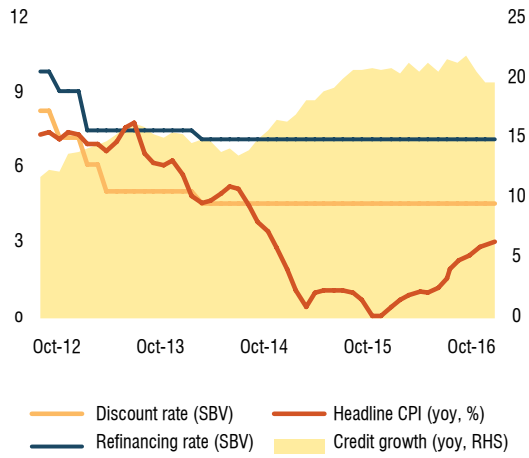
Source: GSO

Monetary conditions have eased considerably throughout the year mostly as a result of unsterilized foreign reserve accumulation. Strong forex inflows stemming from a strengthening external BOP position have allowed the SBV to rebuild foreign reserves, but reserve accumulation was not fully sterilized. Reflecting ample liquidity short-term interbank interest rates decreased to below one percent, diverging significantly from the official policy rate. While inflationary pressures remain subdued, there are concerns that sustained monetary expansion may -as in the past- exert pressure on asset prices and ignite inflationary effects down the line.

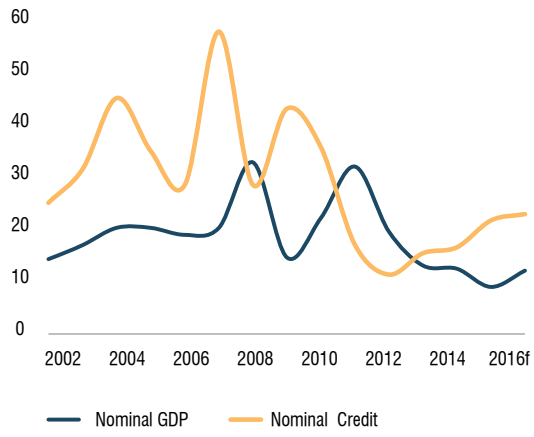
Credit growth remains elevated, raising concerns that it may amplify risks to medium term financial stability. In pursuit of the official credit growth target the State Bank resorted to macro-prudential easing, including adjustment in risk weights and the long term lending to short term deposit ratio which together with ample liquidity helped achieve the credit growth target of 19 percent (year-on-year) in October 2016. This rapid expansion of credit –more than twice the growth rate of nominal GDP (figure 7)- may amplify existing risks to financial stability, particularly since the credit to GDP ratio - 112% at present- is already high for country of Vietnam's income level (figure 8). These concerns are reinforced by the fact that the overhang of past non-performing loans have not been fully resolved and remain a drag on bank's balance sheet. It is also noteworthy that the credit intensity of growth seems to be rising with high credit growth delivering increasingly small incremental output gains.

Figure 7: Growth, Inflation and Credit

Policy rate and credit growth (%)



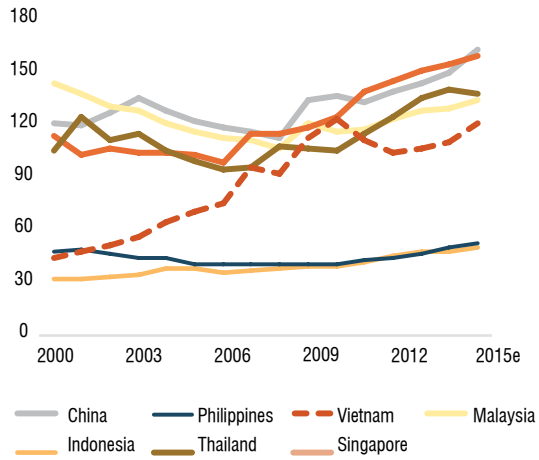
Credit vs. GDP growth (%)



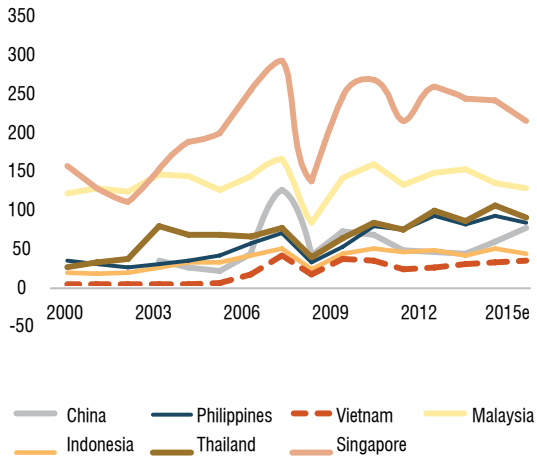
Source: GSO and SBV

Figure 8: Bank lending and equity market

Credit to private sector (% of GDP)



Market capitalization of listed firms (% GDP)

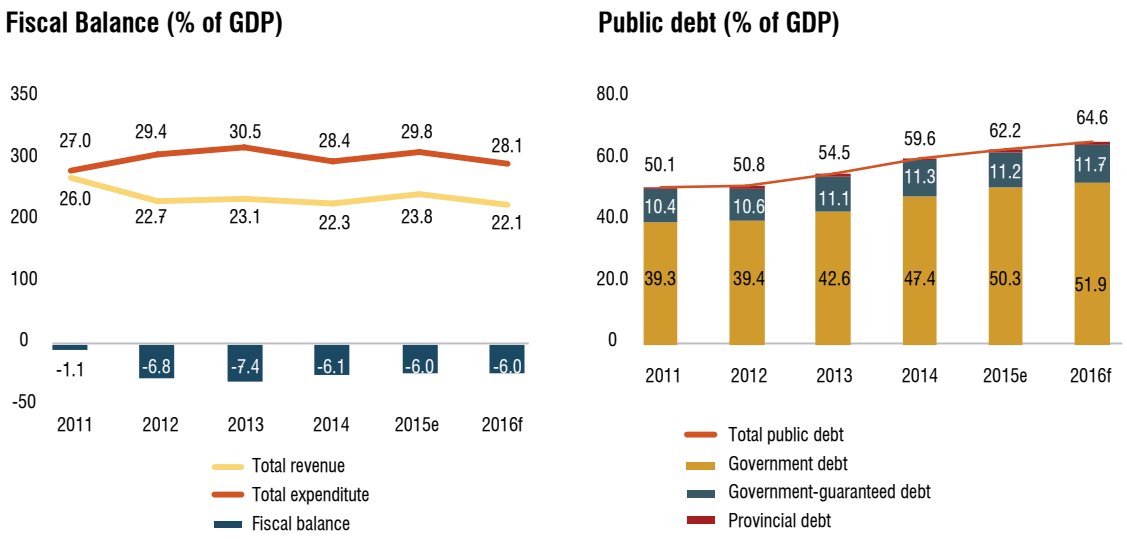


Source: SBV, MOF and WB

Persistent fiscal pressures require decisive action

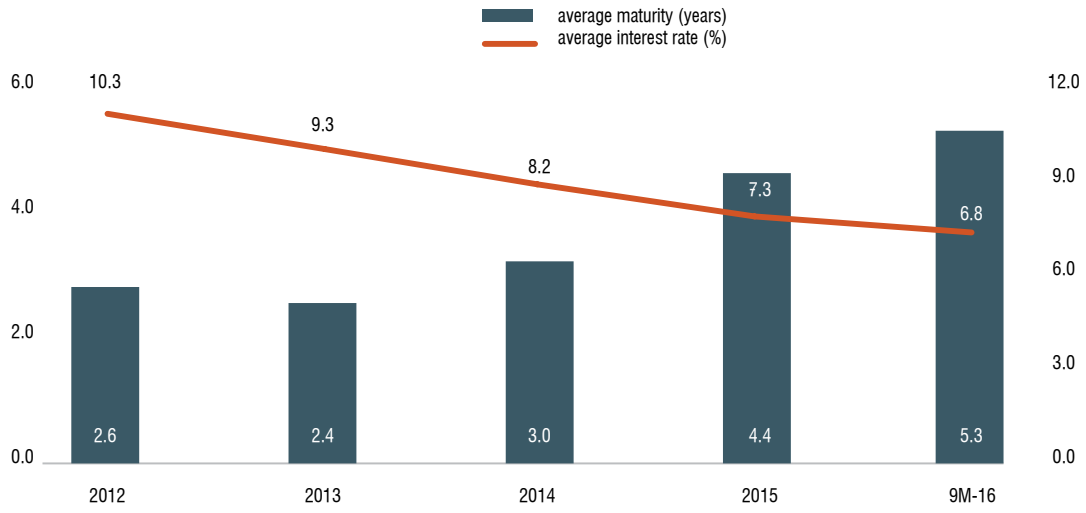
Sizable fiscal deficits have emerged in recent years. The fiscal deficit averaged 5.5 percent of GDP over the past five years, leading to a rapid increase in public debt. While the risk of acute debt distress is still relatively low, public debt has risen fast and is approaching the statutory limit of 65 percent of GDP. The Ministry of Finance reported that, by the end of 2015, Vietnam's total outstanding public debt (government, publicly-guaranteed and local government) was estimated at 62.2 percent of GDP, about 12 percentage points higher than the level in 2011 and inching quickly toward the legally-mandated ceiling of 65 percent of GDP (figure 9). Moreover, medium term fiscal financing needs –including for the redemption of short term domestic debt (figure 10)—are substantial and interest expenditure is on the rise. At the same time, access to concessional external financing will naturally continue to tighten as Vietnam solidifies its middle income status and becomes more reliant on international and external capital markets as a source of governance financing.

Figure 9: Persistent Fiscal Deficit and Rising Public Debt



Source: MOF, IMF and WB

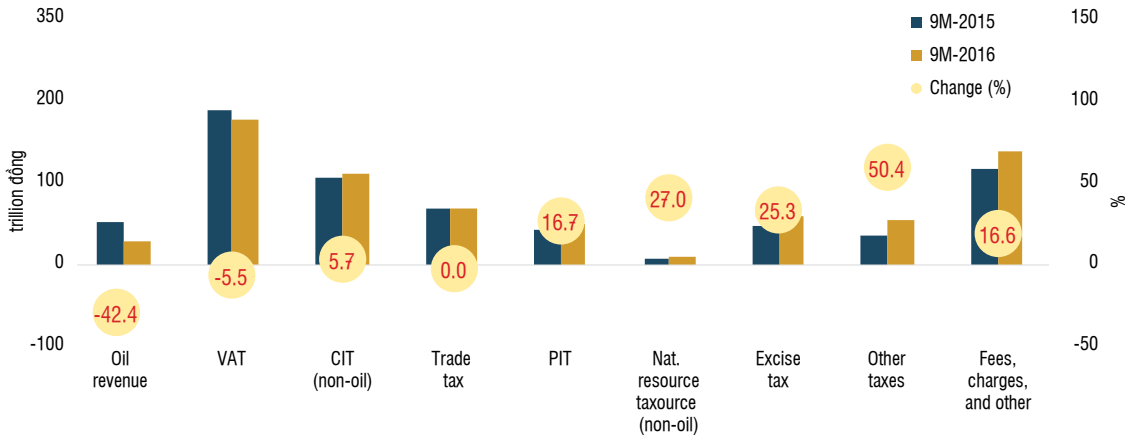
Figure 10: The composition of public domestic debt



Source: MOF

Fiscal outturns in the first months of 2016 continued to show persistent budget pressures. Revenue collection in the first 9 months of 2016 is estimated to have increased by 5.2 percent (year-on-year), nominally, achieving 71 percent of the budget plan. Revenue performance was mainly driven by higher collection of non-tax revenue. In contract, collections from major taxes underperformed, compared to the budget target. The collection of VAT declined 5.5 percent, trade tax collections was flat and CIT (excluding oil sector) rose 5.7 percent. Prolonged weakness in the oil price and the reduction in production volumes added pressure on oil related revenue which came in at about half of the annual target. Weak collection on tax was partially offset by rising non-tax revenues which increased 24 percent and accounted for nearly 30 percent of total revenues. Since these sources of revenue do not present recurrent revenue sources, there are concerns about whether the recent increases are sustainable (figure 11).

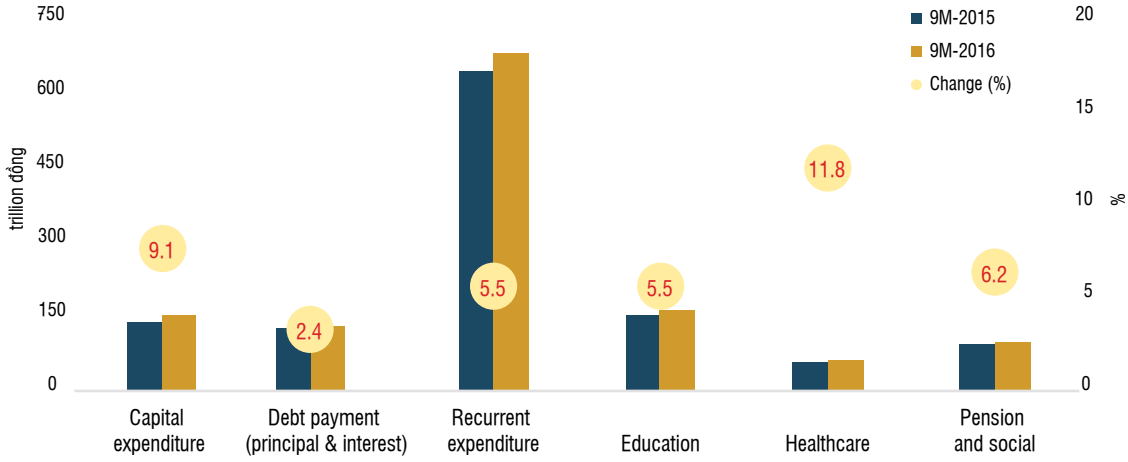
Figure 11: Slower budget revenues



Source: MOF

Public expenditure continued to stay on an expansionary trend mainly on the back of rising investment. Total public expenditure increased by 6.2 percent in nominal terms in the first nine months of 2016 compared to the same period last year, reaching 67 percent of 2016 budget plan (figure 12). While recurrent expenditure rose by 5.5 percent, capital spending increased 9.1 percent on account of large public investment projects. Debt service payments (including interest payment and amortization) also continued to rise in 2016 and now account for 16.2 percent of total revenue.

Figure 12: Expanding budget expenditures



Source: MOF

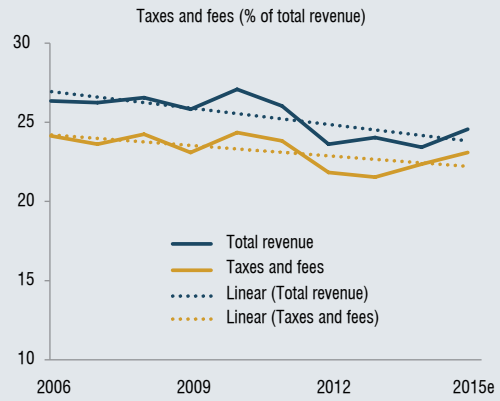
The government has reinforced its commitment to rein in the fiscal deficit over the medium term in order to contain further increases in the public debt to GDP ratio. The medium term financing plan 2016-20, adopted by the National Assembly on November 9th 2016 envisages a gradual fiscal adjustment over the coming four years. The plan aims to reduce the fiscal deficit to 3.5 percent of GDP by 2020. It is now critical to underpin these targets with specific policy measures to achieve the envisaged adjustment. The quality of the adjustment, including a balanced combination of revenue and expenditure measures and a strong focus on spending efficiency gains, as opposed to across-the-board curtailment of discretionary spending and investment is therefore important. Equally, the need for budget discipline will have to be balance with the need to ensure fiscal space for critical investments in infrastructure and spending on essential public services.

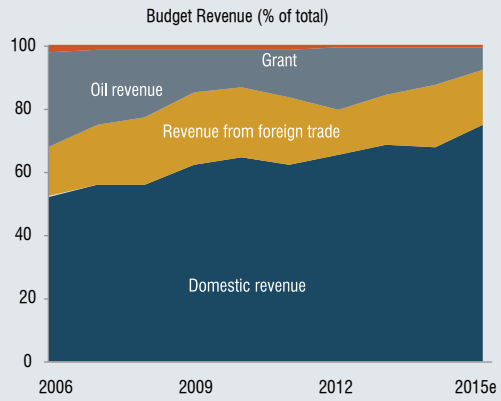
The government is paying more attention on spending consolidation. In June 2016, the Prime Minister issued Directive No. 22/CT-TTg aimed to enhance the implementation of the State budget and finance tasks in 2016. Accordingly, strengthening the effectiveness and efficiency of public investment is among the most important tasks for the consolidation of capital spending. At the same time, decisive measures are needed to stabilize and rationalize recurrent expenditures. Overall spending in the 2016 State budget is planned to increase about 3.5 percent in nominal terms over the 2015 estimated outturns, compared to an average of 14 percent in 2011-15. On the capital budget side, attention has been focused on completing ongoing projects; new projects are approved only in exceptional cases. For capital investments there are now stricter provisions on spending of revenue collected over what was planned in the original budget.

The government is also focusing on strengthening revenue mobilization. It will require continued efforts to enhance further policy improvements and revenue administration. On the tax policy front, it will be important to continue to reform tax policies towards strengthening domestic revenue mobilization. Several specific policy options for further consideration that could help bolster revenue performance include: (i) Broadening VAT base; (ii) Broadening CIT base and rationalizing tax expenditures; (iii) Increasing excise rates; (iv) Building a modern property tax system; and (v) Rationalizing the policies on natural resources-related revenues. In parallel with tax policy changes, tax administration reform remains a priority. The next phase of tax administration reform will include a more systemic review and implementation of business process re-engineering, a move towards transparent information-based taxation operations, and the application of risk-based audit for better compliance management. If implemented properly, these measures will help not only to strengthen the tax administration's efficiency and effectiveness in maximizing revenue mobilization, but also help to reduce the compliance cost for taxpayers and improve the business environment in a fundamental manner (box 1).

Box 1: Tax Reforms for Economic Growth

Vietnam's revenue performance remains strong, but has been falling in recent years. The share of total revenue and of taxes in GDP went down from 26 percent and 23 percent in the period of 2006-10 to 23 percent and 20.4 percent, respectively, in the period of 2011-15. Three factors contributed to the structural decline: (1) a decrease in the oil revenue; (2) sharp reduction of trade taxes due to deepening global integration; and (3) lower land revenue collection. However, at the same time the revenue structure has seen positive change with collection relying on more sustainable revenue sources. Domestic revenue in total revenue increased substantially from just 52 percent in 2001-05 to over 68 percent in 2011-15.





The government overall tax reform strategy is to revert the declining trend in revenue collection and to stabilize it at around 22-23 percent of GDP. A reform implementation plan for 2016-2020 is being drafted and expected to be adopted by MOF by end of 2016. A good tax reform plan will help to address the challenges of the fiscal balance, the falling trade revenue and growing base erosion resulted from global integration and to improve the investment climate.

Immediate administration reforms are being taken with the objectives to enhance collections and improve the investment climate. Vietnam has embarked in a series of indicator-based reforms to lower the tax compliance costs through three Government Resolutions No.19 which has helped Vietnam to move up 11 places in the Paying Taxes indicator of the Doing Business Report 2017. Vietnam is in the initial process to establish the legal framework and to develop institutional structure and capacity to join the BEPS agenda and implement BEPS actions. A government decree is being drafted to address the transfer pricing challenges such as asymmetry of information, or excessive interest deductibility. At the same time the Large Tax Office is being upgraded with more functions to enhance the effectiveness of tax administration of this critical group of taxpayers. Risk-based management is being adopted for key functions such as audit and refund. In medium term, MOF has indicated continued reforms in these areas, as well as on reengineering of current business processes based on an enhanced IT system.

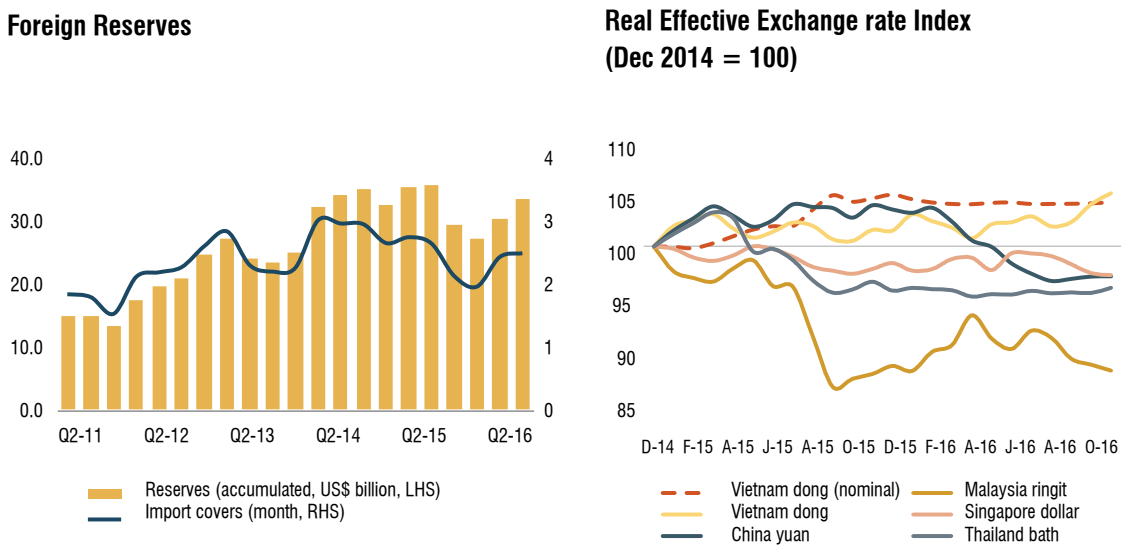
Tax policy reforms are expected to be implemented over the medium term. Major policy reforms have completed such as the reduction of the standard CIT rate to 20 percent as of January 1, 2016, or the introduction of the VAT threshold in 2013. Over the medium term, the government may consider unifying the VAT rate structure or to remove the exemptions to broaden the base. On CIT, incentives that have eroded the CIT base may be rationalized but this will have to proceed cautiously to ensure this does not harm investment attraction. Other options in line with the objective to strengthen the domestic resources mobilization would include the introduction of the Property Tax, as well as improving the current tax laws on Natural Resources, Environment and Excise.

Strengthening external position despite lackluster global demand

Vietnam's external position strengthened underpinned by a widening current account surplus and robust FDI inflows. Vietnam merchandise trade balance recorded a widening surplus in 2016, with a slowdown in import growth more than offsetting decelerating exports. While repatriation of profits and dividends continue to expand owing to Vietnam's sizable FDI sector, this is partly offset by robust remittances inflows and overall the current account surplus widened during the first months of the year. The capital account surplus also remains sizeable due to sustained FDI inflows and Vietnam's continuing access to concessional financing. The improved balance

of payments situation allowed the SBV to shore up foreign reserves to about 2.6 months of import cover by the end of Q2-2016. Meanwhile the nominal exchange rate remained stable, leading appreciation of the real effective exchange rate (REER) by about 5.4 percent since the beginning of 2015. This contrasts with most of currencies in the region which depreciated by the rage from 3 percent to 13 percent in real terms over the same period and may over time affect Vietnam's export competitiveness (figure 13).

Figure 13: International reserves and exchange rate



Source: SBV and WB

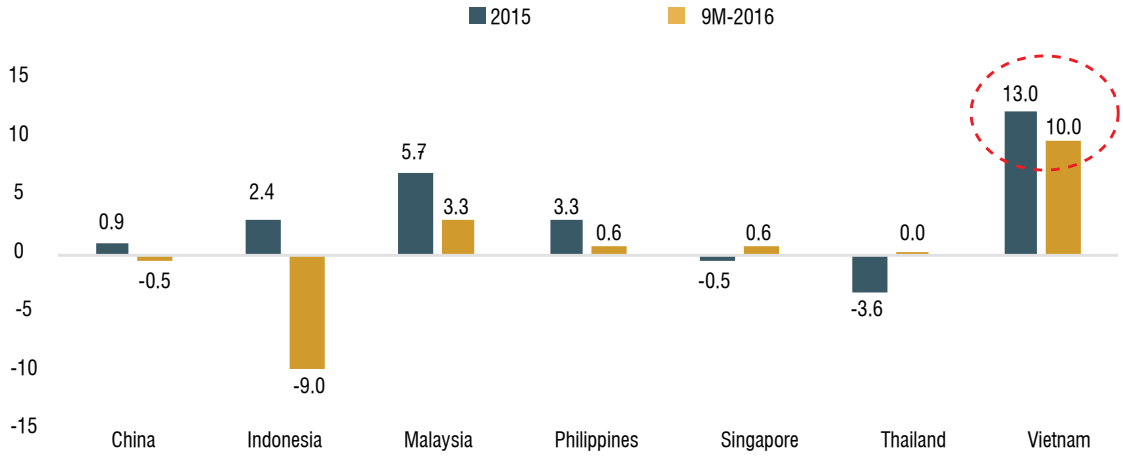
Export growth moderated somewhat during the first ten months of 2016. Vietnam's total exports are estimated to have expanded by 7 percent in the first ten months of 2016, mainly reflecting low commodity prices and weak external demand (table 2). Low oil prices compressed oil exports which declined by 41 percent in value and 25 percent in volume terms. Rice exports also were down by 17 percent in value and 22 percent in volume terms. However, the slowdown of rice exports was offset by strong exports of vegetable and fruits, coffee, black pepper, cashew nut, rubber, as well as seafood. Exports of vegetable and fruit increased by 31 percent (year-on-year) to US$ 2 billion in the first ten months of 2016, bypassing export earnings of rice (1.88 billion), as well as crude oil (US$ 1.92 billion). At the same time, weakening external demand has dampened export growth. Most labor-intensive manufacturing exports such as garment, footwear, phones, and computer continue to record growth, albeit at a lower level than last year. Despite the slowdown, Vietnam's exports continue to outperform many peer countries in the region (figure 14).

Table 2: Vietnam's export performance

	Share of total (%)			Growth (%, yoy)		
	2014	2015	10M-16	2014	2015	10M-16
Total export value	100.0	100.0	100.0	13.8	7.9	7.0
Crude oil	4.8	2.3	1.3	-0.2	-48.5	-41.2
Non-oil	95.2	97.7	98.7	14.6	10.8	8.2
Agriculture and fishery products	14.7	12.7	12.7	12.1	-6.9	7.3
Rice	2.0	1.7	1.3	0.4	-4.5	-17.4
Fishery products	5.2	4.1	4.0	16.9	-16.0	6.4
Low value manufacturing	49.4	49.2	49.0	17.2	7.6	7.5
Garment	13.9	14.1	13.7	16.6	9.1	4.1
Footwear	6.9	7.4	7.3	22.9	16.3	7.8
Technology manufacturing	24.8	30.1	31.6	11.3	31.0	11.1
Phones and parts	15.7	18.6	19.7	11.1	27.9	10.4
Computer and electronics	7.6	9.6	10.3	7.9	36.5	15.6
Domestic sector	*32.6*	*29.5*	*28.6*	*11.8*	*-2.5*	*4.0*
Foreign invested sector	*67.4*	*70.5*	*71.4*	*14.8*	*13.0*	*8.2*
Foreign invested sector (excl. oil and phones)	*58.9*	*62.7*	*63.8*	*17.9*	*14.3*	*9.8*

Source: General Department of Customs

Figure 14: Merchandise exports growth in developing EAP (%)
(Constant 2010 US$, seasonally adjusted)



Source: World Bank

Import growth slowed markedly in the first ten months of 2016. In value terms imports expanded by about 2.2 percent during the first ten months of the year, compared to 13.4 percent over the period last year. This is mostly related to declining imports of fuel, machinery and equipment as well as slowing demand for material and intermediate good for export processing. After a strong surge in past three years, imports of machinery and equipment by foreign invested firms declined by 15 percent in the first ten months of 2016, indicating a maturing investment cycle. However, imports of machinery and equipment by domestic firms increased by 20 percent, reflecting the completion phase of many major public and domestic investment projects. Imports of raw materials and intermediate goods (steel, chemical, wooden materials, fertilizer, animal feed, cotton, fabrics, phone parts and electronics accessories) have also substantially slowing down, reflecting falling external demand for Vietnam's exports and growing inventory. Imports of automobiles fell sharply partly because of a hike in taxes and fees on private vehicles. The slowdown of growth rate of imports in general reflects the broader slowdown of the economy (table 3).

Table 3: Vietnam's import performance

	Share of total (%)			Growth (%, yoy)		
	2014	2015	10M-16	2014	2015	10M-16
Total import value	100.0	100.0	100.0	12.0	12.0	2.2
Petroleum products	6.3	4.2	3.4	9.8	-26.2	-17.9
Machinery & equipment	15.2	16.7	16.0	20.0	23.1	-1.7
Materials & intermediate goods	65.3	65.2	66.3	9.2	11.9	3.5
Consumer products	8.3	9.0	9.3	19.6	21.3	8.1
Domestic sector	*43.0*	*41.3*	*40.8*	*10.5*	*7.5*	*2.5*
Foreign sector	*57.0*	*58.7*	*59.2*	*13.1*	*15.5*	*2.0*

Source: General Department of Customs

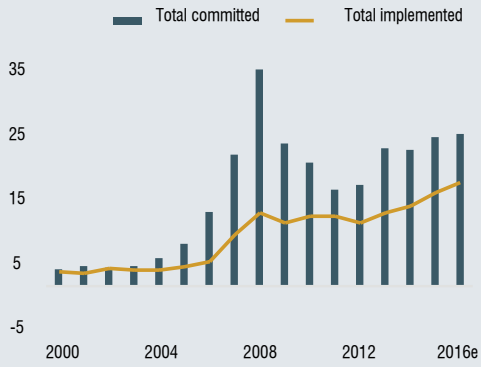
Foreign direct investment (FDI) remains an important driver of Vietnam's trade and more generally economic performance. With some of the lowest labor costs in the world, strong openness to trade (Vietnam has signed more trade agreements than any other country in the region) and an advantageous geographical location, Vietnam has been major destination of FDI. By the end of October 2016, Vietnam had investments from more than 100 countries and territories, with total accumulated FDI commitments of around US$ 290 billion (equal to about 150 percent of GDP) in a broad and diversified range of investment activities. The foreign-invested sector contributes about 18 percent of Vietnam's GDP, nearly a quarter of total investment, two thirds of total exports and has created millions of direct and indirect jobs. Aside of capital investment, FDI is also bringing frontier technologies, management capacity and market knowledge to Vietnam, contributing to industrial upgrading and productivity growth (box 2).

However, linkages of FDI firms with domestic firms as suppliers remain relatively weak. On the other hand, there are domestic firms which are largely inward oriented and serving the domestic market. The linkages between these two segments are very limited. As such, the FDI sector operates in isolation rather than serving as a broader catalyst for growth, with limited spillovers to the domestic private sector in the form of increased demand for inputs, access to new technology and managerial techniques, demonstration effects and agglomeration benefits. The expanding labor intensive manufacturing sector has not stimulated the development of supplier industries such as cotton and synthetic cloth, dyes, chemicals, plastics and steel. As the experience of Japan, Korea, Taiwan (China), Singapore, and now China shows, export value added can be enhanced through heightened technological intensity in exported products and services. These examples also show that an export model that is primarily based on low labor cost and labor intensive, low technology exports will ultimately diminish as wages inevitably rise.

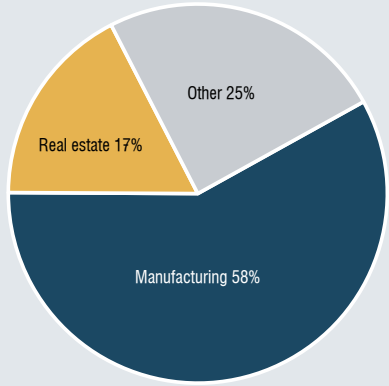
Box 2: Increasing role of FDI in Vietnam economic developments

At a glance

FDI to Vietnam



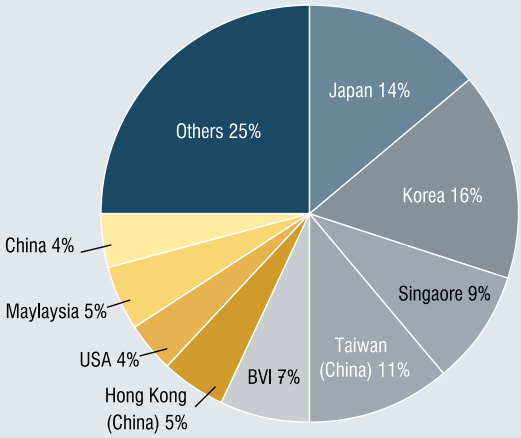
FDI Stocks Composition



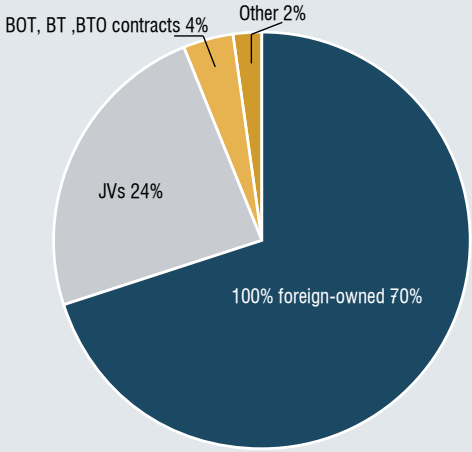
Most FDI in Vietnam has gone to labor intensive manufacturing, accounting for 58 percent of all FDI inflows in since 1988. As a result, Vietnam has emerged as global manufacturing and assembly hub, integrated in major supply chains. Most investment is concentrated in light industries such in textile and garments, computers, mobile phones and other electronics.

While there is a diversified investor base, regional investors are most active in Vietnam. Despite Vietnam is host country for investors from around 100 countries and territories around the world, the majority of FDI in Vietnam came from East Asia, in which Korea, Japan, China, Hong Kong (China), and Taiwan (China) accounted for a half of total registered capital. ASEAN countries accounted for around 20 percent of the FDI inflows. FDI from the United States and Europe only accounted for small amount of less than 10 percent of total capital.

FDI by sources



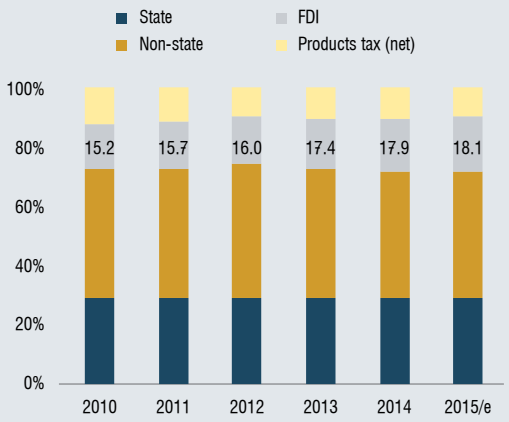
FDI by forms



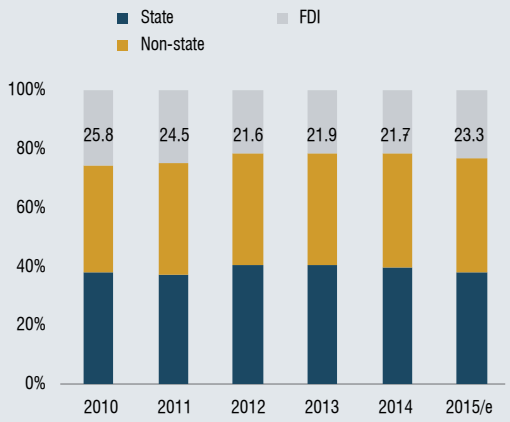
Most FDI in Vietnam are greenfield investments that are fully owned and operated by foreign investors. Foreign investors have overwhelmingly chosen to invest via 100 percent foreign-owned enterprises – currently accounting for 70 percent of all Vietnamese FDI projects with joint ventures and business cooperation contracts making the remainder.

Thanks to sustained inflows, the share of the FDI sector in output and total investment has increased steadily. By the end of 2016, FDI sector consisted of about 18 percent of Vietnam's GDP from about 10 percent in 2000. FDI also accounts for nearly a quarter of Vietnam total investment - approximately 8 percent of GDP. The FDI sector also created 3.9 million jobs – about 30 percent of total employment in enterprise sector or 7 percent of Vietnam's labor force.

Share of GDP

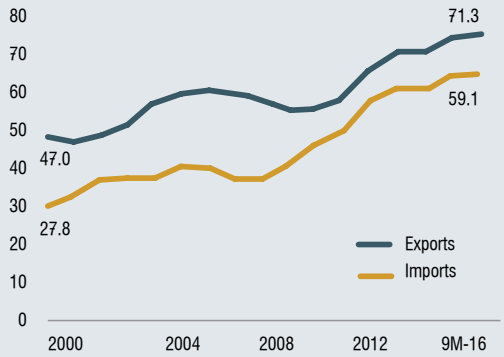


Share of total investment

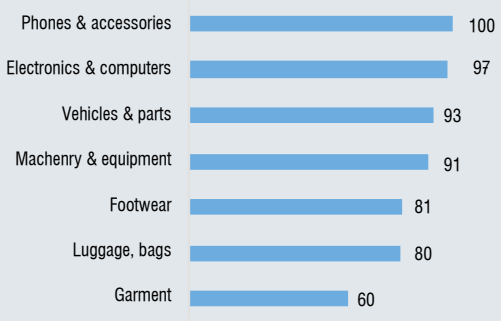


FDI sector continued to be an engine for Vietnam's trade performance. The FDI sector accounts for 70 percent of Vietnam's total exports and its non-oil export value is growing by a staggering 25 percent on average over the last decade. Thanks to export-oriented manufacturing FDI sector, Vietnam's export composition has shifted and become much more diversified- from agricultural and primary commodities to labor-intensive manufacturing and technology goods. Noteworthy FDI driven additions to the export basket include smart phones, computers and chips, cameras and electronics and more recently transportation vehicles. These higher valued export items have increased from less than 5 percent to around a third of Vietnam's total exports now. At the same time, the FDI sector has boosted import activities, especially for capital goods, such as machinery and equipment for investment expansion as all as materials and intermediate goods for export processing and manufacturing. Strong export surplus of FDI have helped Vietnam to mitigate its persistent trade deficit which in turn, will contribute to stabilize Vietnam's macroeconomic balances.

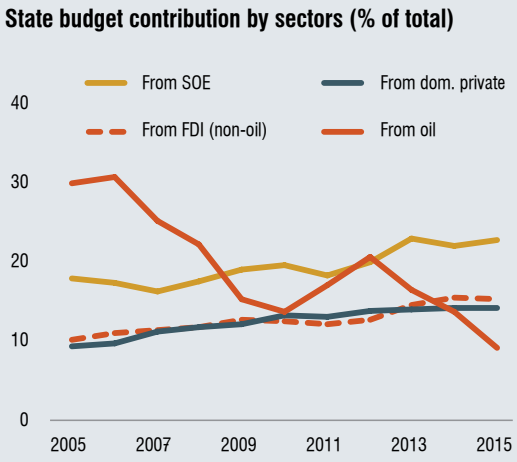
Share of FDI in Vietnam's exports-imports (% of total)

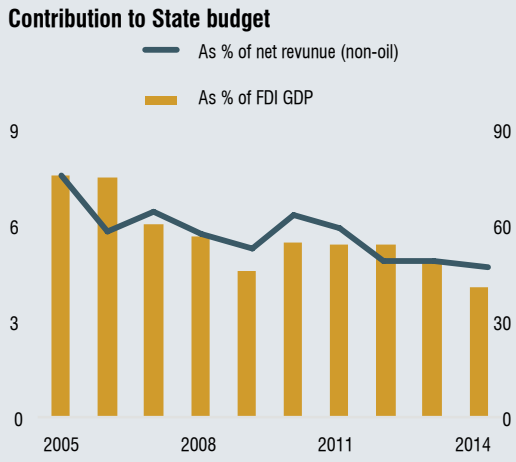


Dominance of FDI in key manufacturing exports (% of total)



FDI enterprises also account for about 14 percent of fiscal revenue. Contributions (tax and fees) of non-oil FDI enterprises to Vietnam's total budget revenues have almost doubled from 7.4 percent in 2005 to 14.1 percent in 2015. However, at the same time the budget contribution of FDI firms as share of net turnover, declined from 7.7 percent in 2005 to 4.8 percent in 2014. This is most likely reflecting tax incentives extended to foreign investors which may help attract more FDI but erode revenue performance and also lead to distortions of overall investment climate.





C. Building on Steady Progress, Further Acceleration and Deepening of Structural Reforms Remains Critical

Vietnam has made steady progress in advancing structural reforms. Following adoption of landmark policies, namely Government Resolution 11 (2011) and Prime Minister Decision 339 (2013), macroeconomic stability has been gradually restored and overall economic growth has recovered. There is also progress on key structural reforms – public investment, state-owned enterprises and financial sector.

- **Restructuring of the financial sector has progressed, but challenges remain.** Progress was made in the consolidation of weak credit institutions through mergers and acquisitions, tightening of banking supervision, and creation of the Vietnam Asset Management Company (VAMC) which has absorbed a majority of non-performing loans. However, asset quality problems and associated risks to capital adequacy continue to be a drag on the banking sector, as resolution of bad debt has progressed slowly, hampered by the lack of an enabling legal framework.

- **SOE reforms also progressed, but the focus needs to shift on deepening these reforms.** A large number of state-owned enterprises were equitized and the governance of state owned enterprises was gradually improved. However, many of the equitizations only involve divestment of minority shares, limiting private sector participation and leaving assets effectively under state control. Compliance with the improved requirements for corporate governance and transparency also remains incomplete.

- **On public investment, a new improved legal framework was put in place and is now being implemented.** The Public Investment law of 2014 principally strengthened the institutional and procedural framework for the management of capital spending, including enhanced medium term investment planning and strengthened systems for project appraisal and selection. In line with the provisions of the law the first Medium Term Investment Plan (MTIP) which sets out the investment program for the coming five years has been prepared and deliberated by the National Assembly.

- **Finally, Vietnam is also making progress in improving its business climate.** Following adoption of Resolution 19/2014 and Resolution 19/2015 several aspects of the business environment have been improved. As a result, Vietnam moved up in the World Bank's Doing Business from rank 91 (of 189 countries) in 2011 to rank

82 (of 190 countries) in the most recently released Doing Business 2017 report. Nevertheless, Vietnam is still lagging compared to more advanced economies in the region, including Singapore, Malaysia and Thailand. Building on recent progress, it is important for Vietnam to sustain these reforms to enable businesses to flourish and create more jobs in the country (Box 3).

Box 3: Vietnam Implements Reforms to Improve Business Environment

The 2017 Doing Business survey ranked Vietnam 82nd out of 190 economies worldwide thanks to several reforms making it easier to do business in Vietnam: Paying Taxes, Protecting Minority Investors, Trading across Borders and Getting Electricity. Last year Vietnam was ranked 91st in the same survey.

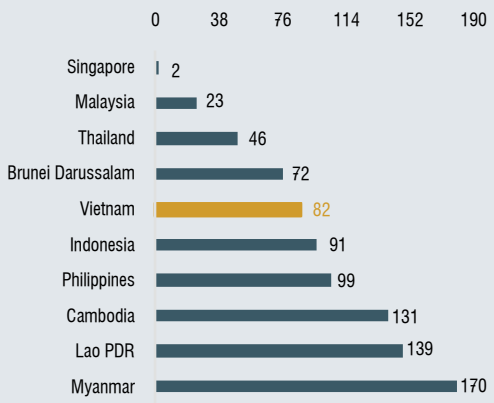
Topics	DB 2017 Rank	DB 2016 Rank	Change in Rank	DB 2017 DTF	DB 2016 DTF	Change in DTF
Overall	82	91	+9	63.8	61.1	2.7
Starting a Business i	121	111	-10	81.8	82.7	-1.0
Dealing with Construction Permits	24	21	-3	78.9	78.9	0.0
Getting Electricity h	96	101	+5	69.1	65.5	3.7
Registering Property	59	58	-1	70.6	70.6	0.0
Getting Credit	32	29	-3	70.0	70.0	0.0
Protecting Minority Investors h	87	118	+31	53.3	45.0	8.3
Paying Taxes h	167	178	+11	49.4	38.4	11.0
Trading across Borders h	93	108	+15	69.9	65.6	4.3
Enforcing Contracts	69	68	-1	60.2	60.2	0.0
Resolving Insolvency	125	126	-1	35.1	34.3	0.8

Note: h Doing Business reform making it easier to do business. i Negative=Change making it more difficult to do business.

However, the modest ranking improvement still positions Vietnam behind many regional countries. Strong performers include Singapore, standing at 2nd, Malaysia (23rd), and Thailand (46th). While Vietnam outperformed ASEAN-4 (Indonesia, Malaysia, Philippines, Thailand) in some business environment dimensions such as "Stating a Business", "Dealing with Construction Permits", "Getting Credit", it is still lagging behind in important topics like "Paying Taxes"; "Resolving Insolvency", "Getting Electricity"…

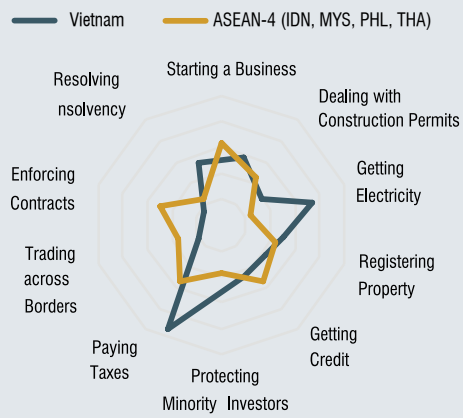
Ease of Doing Business

Overall Rank of ASEAN



Ease of Doing Business

Vietnam and ASEAN-4

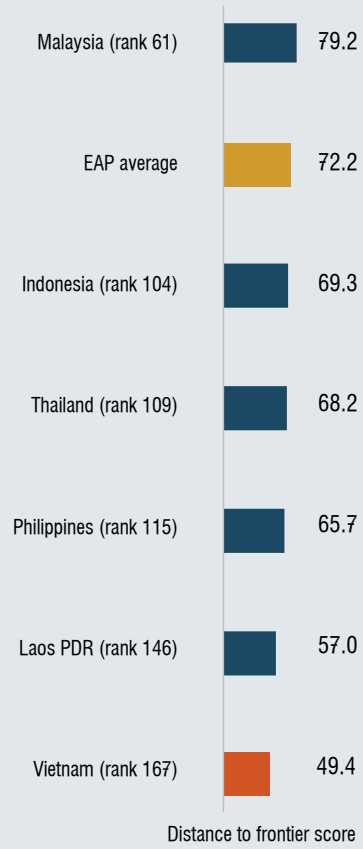


The focus on further improvement of the taxes environment is essential. Economies around the world have made paying taxes faster, easier and less costly for businesses. The below table highlights what tax reforms has Doing Business recorded in Vietnam since 2011. Despite these efforts of the authorities, Vietnam stands at 167 in the ranking of 190 economies globally on the ease of paying taxes.

How Has Vietnam Made Paying Taxes Easier or Not?

DB year	Reform
DB 2011	The government of Vietnam eased paying taxes by reducing corporate income tax rate.
DB 2014	Vietnam made paying taxes more costly for companies by increasing employers' social security contribution rate.
DB 2015	Vietnam made paying taxes less costly for companies by reducing the corporate income tax rate.
DB 2016	Vietnam made paying taxes less costly for companies by reducing the corporate income tax rate—and made it easier by reducing the number of procedures and documents for filing VAT and social security contributions, reducing the number of filings for VAT and replacing quarterly filings of corporate income tax with quarterly advance payments. On the other hand, Vietnam increased the rate for social security contributions paid by employers.
DB 2017	Vietnam made paying taxes easier and less costly by streamlining the administrative process of complying with tax obligations and abolishing environmental protection fees.

Rank on Ease of Paying Taxes



How Has Vietnam Cut Time for Paying Taxes?

Tax or mandatory contribution	Payments (number)		Time (hours)	
	2016	2017	2016	2017
Employer paid - Social Security contributions	12	12	273	189
Corporate income tax	5	5	204	132
Value added tax (VAT)	10	4	293	219
Totals	**27**	**21**	**770**	**540**

Source: Doing Business 2017

Ease of Paying Taxes Rank Change

Looking ahead, the Government has reinforced its commitment to continue to move forward with structural reforms to support a more productivity-led growth model. There are signs that the current economic growth model is facing growing structural constraints. The pace of economic growth is losing momentum and the macroeconomic outlook implies rising uncertainty and downside risks. Economic growth has become overly reliant on factor accumulation (capital, natural resources and low skilled labor) and stimulus (loose fiscal and credit policies) while the contribution of productivity increases (total factor productivity) has declined. Labor productivity growth has leveled around 4 percent (average over the past 5 years) and rates of return to capital have diminished. The environmental footprint is growing, reflected for example, by rapidly rising carbon intensity of Vietnam's economy with greenhouse gas emissions outgrowing GDP growth. These trends reinforce the need to focus on the quality of growth, enhancing labor productivity and competitiveness of the economy. Recognizing this critical challenge, the Party' Central Committee at its latest meeting (October 2016) highlighted that Vietnam needs to continue its unfinished restructuring agenda by further reforming the growth model. The new growth model will be based on enhancing productivity, strengthening quality and improving economic competitiveness. The allocation of capital and human resources must follow market principles while economic growth must be ensured with macroeconomic stability, social equity, and environmental protection. The economic restructuring plan 2016-20, adopted by the National Assembly on November 2016, also reconfirms the key structural reform priorities of the government for the coming five years (see box 4).

Box 4: Key Components of Proposed Economic Restructuring Plan for the Period 2016 - 2020

Develop a robust private sector in the economy and attract foreign direct investment. The overall objectives are to develop an equal, fair and enabling business environment, reduce barriers to business doing, reduce institutional risks and costs to enterprises. Key tasks in this area include: (i) improve the business environment and facilitate the development of private enterprises at both central and sub-national levels; (ii) strengthen support for small and medium enterprises; (iii) support major private enterprises in their long term investment and establishment of strong brand names as well as domestic and international competitiveness; (iv) enhance the business performance of enterprises by the adoption of fair and strong market competition; (v) attract and relevantly manage foreign direct investment.

Restructure the state owned sector including state owned enterprises, public investment, the state budget and the public service delivery. The overall target in this area is to reduce and rationalize state investment and commercial activities in those sectors of the economy, where the private sector can effectively operate (e.g. all sectors except natural monopolies). The State budget will be consolidated following prudent fiscal policies. The quality and performance of public service delivery will be enhanced by the adoption of the principles of autonomy, self-responsibility, and market based competition.

Restructure financial markets, with emphasis on the restructuring of credit institutions and development of deeper capital markets. The overall objective is to complete the fundamental restructuring of credit institutions to reduce systemic risks, strengthen the depth and breadth in the performance of capital markets. Three important tasks are identified in this area including: (i) refine the legal frameworks on the monetary and banking system; (ii) accelerate the process of dealing with non-performing loans and adopt Basel II standards in credit institutions; (iii) expand and enhance the performance of the stock market, the bond market and the insurance market.

Modernize master planning to enhance productivity, quality, and performance in combination with strengthening international economic integration. The overall objective is to accelerate the modernization of master planning and development planning, gradually establish an economic and regional structure relevant to the advantages of each sector and region, so as to enhance labor productivity and value addition in each sector, region and the whole economy. Prioritize

the development of critical sectors of comparative advantages, and prioritize state resources to support the development of priority economic sectors and regions.

Restructure important factor markets, including the land use right markets, in addition to human resource development, science and technology development. The overall task is to establish consistently the factors of the market economy as the basis for efficient resource allocation in line with the objectives of economic restructuring and growth model transformation.

Source: MPI

D. Medium-Term Economic Outlook and Risks

Vietnam economy is expected to grow at around 6 percent in 2016. GDP continues to be underpinned by robust domestic demand, in turn reflecting strong private consumption and investment growth. With an expected pick-up in global activity, Vietnam's growth prospects may improve to 6.3 percent in 2017-18. Inflation is expected to slightly increase during the last quarter of the year on account of planned rise in administrative prices, adverse impacts of unfavorable weather on food price, and the year-end seasonal factors, with inflation ending the year at around 4.9 percent (end of period). The current account surplus is expected to widen largely thanks to an improved trade balance. The fiscal balance continues to be under pressure with relatively minor adjustment this year. The fiscal deficit is projected to remain high at about 6 percent of GDP this year which would bring the public debt-to-GDP ratio to the statutory limit of 65 percent of GDP. Over the medium term the fiscal account is expected to adjust over the medium term in line with Government commitments to reduce the deficit.

Table 4: Vietnam key short-term indicators

	2013	2014	2015/e	2016/f	2017/f
GDP growth (%)	5.4	6.0	6.7	6.0	6.3
CPI (annual average, %)	6.6	4.1	0.6	2.7	4.5
CPI (year-end, %)	6.0	1.8	0.6	4.9	3.7
Current account balance (% GDP)	4.5	5.1	0.5	1.5	0.8
Fiscal balance (% GDP)	-7.4	-6.2	-6.0	-6.0	-4.5
Public debt (% GDP)	54.5	59.6	62.2	64.6	65.2

Source: GSO, MOF, SBV and WB

This medium-term outlook is subject to several downside risks. Domestically, delayed implementation of structural reforms, this may worsen medium term growth prospects as the current model -based on factor accumulation and loose macroeconomic policies- will ultimately run into constraints. This may in turn intensify demand for further loosening of monetary and fiscal policies, with the risk of stoking inflationary pressures and reversing the recent gains in macroeconomic stability. On the external side, Vietnam's economy remains susceptible to a further slowdown in the global economy through trade and investment channels. Fragile financial

market conditions and rising interest rates are also of some concern as Vietnam is planning to increasingly tap international capital markets to meet its fiscal financing needs over the medium term. Finally, protectionist rhetoric and in particular the waning prospects of TPP may affect Vietnam's future prospects, given its strong trade-exposure to the US market and the expectation that it would become a major TPP beneficiary.

SECTION 2

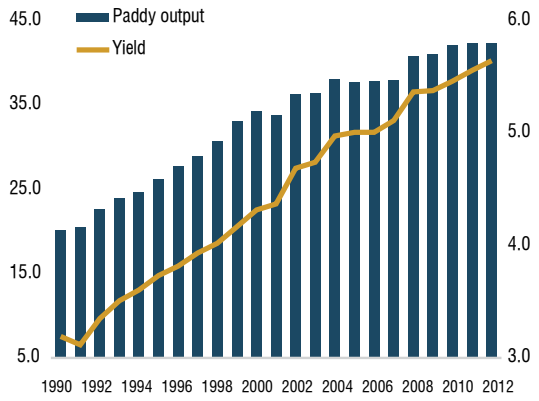
TRANSFORMING VIETNAMESE AGRICULTURE: GAINING MORE FROM LESS[1]

A. Vietnamese Agriculture at a Crossroads

Over the past quarter century, Vietnam's agricultural sector as made enormous progress and the country is regarded as a food security 'success story'. Steady advances in smallholder rice productivity and intensification through the 1990s and beyond have played a central role in Vietnam's successes in reducing poverty, eliminating chronic hunger and ensuring social stability. Vietnam once experienced hunger yet its per capita food availability now ranks among the top tier of middle-income countries. With a comparatively large proportion of its agricultural area serviced by irrigation, Vietnam has not experienced the wide fluctuations in food crop output experienced by other countries (Figure 2.1). Low unit costs of production and a large aggregate surplus supply have contributed to affordable consumer prices for the country's leading food staple (Figure 2.2). Many countries are trying to learn from Vietnam's food security success.

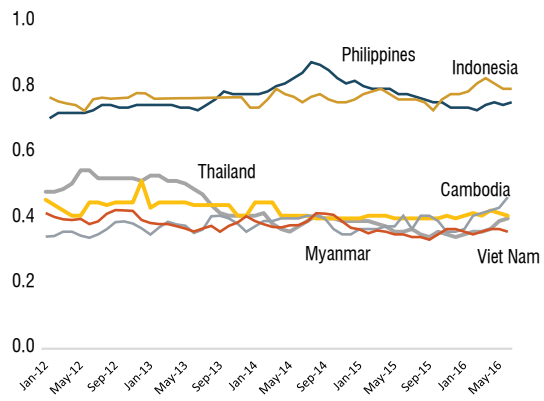
[1] This section was prepared by Steven Jaffee (Lead Agricultural Economist). It draws on the analysis from the Vietnam Development Report 2016, with the same title, which was launched in September 2016. The preparation of this VDR involved close collaboration between the World Bank and various Vietnamese institutions including the Institute for Policy and Strategy in Agriculture and Rural Development (IPSARD).

Figure 2.1: Long-Term Growth in Vietnam's Paddy Output (Millions Tons) and Yield (Ton/Ha)



Source: GSO

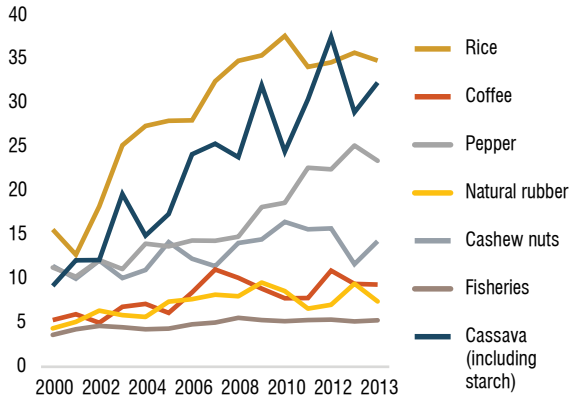
Figure 2.2: Affordable Rice Retail Prices for Vietnamese Consumers



Source: FAOSTAT Data

During this same period, Vietnam has emerged, seemingly out of nowhere, to become a major supplier in international agricultural commodity markets. Both the scale and the breadth of this trade have been very impressive. Vietnam now has more than $1 billion in trade for seven different commodities (or commodity groups), and it ranks among the top five global exporters of each. Figure 2.3 highlights Vietnam's table or growing international market-share for various products. Vietnam's farmers have responded exceptionally well to the opportunities provided by (i) growing global demand for agricultural raw materials and both staple and higher value foods; (ii) Vietnam's entry into the WTO and into various trade agreements; (iii) an improved domestic environment for business and investment; (iv) the country's diverse agro- ecological conditions; and (v) Vietnam's favorable geography nearby to rapidly growing middle-income countries.

Figure 2.3: Vietnam's Share of World Exports of Selected Commodities 2000-13



Source: UN Comtrade data

Vietnam's performance in terms of agricultural yields, output, and exports, however, has been more impressive than its gains in efficiency, farmer welfare, and product quality. Vietnam lags behind regional peers in relation to agricultural land, labor, and water productivity and has, since the mid-2000s, experienced a declining rate of growth in total factor productivity. A gap is widening between farm and non-farm incomes (Table 2.1), while income inequality is rising within rural areas. Most of Vietnam's agricultural trade is in the form of raw commodities, typically sold at prices lower than those of leading competitors due to quality or other differences (Table 2.2). Its less expensive raw materials tend to be blended with those from elsewhere to obtain finished products sold under international brands. Paradoxically, while Vietnamese cuisine is attracting more and more attention in high income countries, most Vietnamese-supplied food products and ingredients remain out invisible

to consumers, in part due to perceptions about food safety and/or environmental risk. This is paralleled at home, where there are growing concerns about the safety of domestically produced animal products, vegetable, tea, and other foods or beverages.

Table 2.1: Changes in the Urban-Rural Income Gap

	2002	2004	2006	2008	2010	2012
Whole country	356	484	636	995	1,387	1,999
Urban	622	815	1,058	1,605	2,129	2,989
Rural	275	387	506	762	1,070	1,579
Urban/Rural ratio	2.3	2.1	2.1	2.1	2.0	1.9
Urban-Rural income gap	347	428	552	843	1,059	1,410

Unit in income per capita in thousand VND.
Source: Based on 2012 VHLSS, GSO

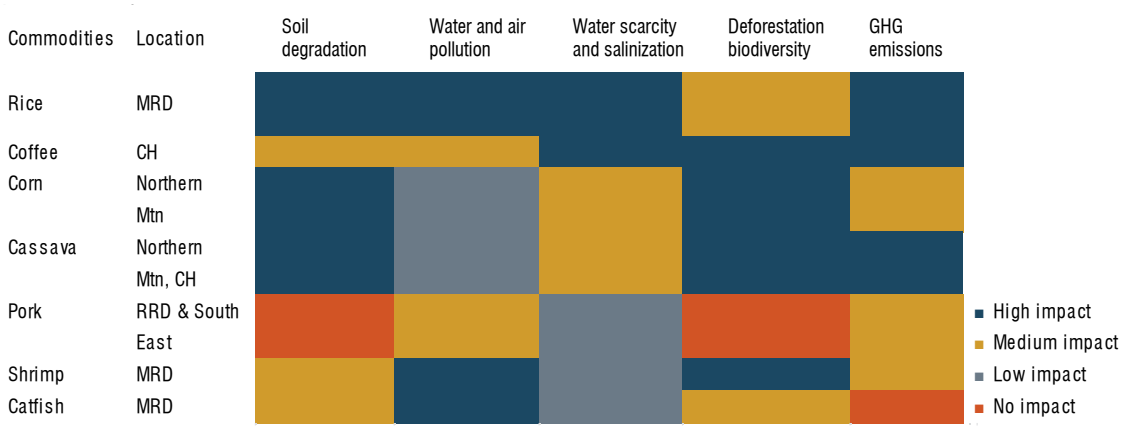
Table 2.2: Vietnam is high ranking commodity exporter - at discount rate

	Global rank (total volume)	Global rank (total value)	Rank among Top-Ten exporters in Unit value
Cashews (shelled)	1	1	6
Black pepper	1	1	8
Coffee (green)	2	2	10
Cassava (dried)	2	2	6
Rice	3	4	10
Rubber	4	4	10

Source: Based on FAOSTAT data

Vietnam's expanded agricultural output has come from more and more inputs, and has sometimes entailed a high environmental cost. A large proportion of Vietnam's agricultural growth has stemmed from expanded or more intensive use of land and other natural resources, and relatively heavy use of fertilizer, other agro-chemicals, and antibiotics. As a result, aspects of Vietnam's agricultural success have come at the expense of the environment. For example, the expansion of coffee and rubber production in the Central Highlands has been an important contributor to deforestation, biodiversity loss, and groundwater depletion. The intensification of rice production has contributed to land degradation, water pollution, and high greenhouse gas emissions. The expansion of shrimp aquaculture in the Mekong Delta has resulted in large-scale destruction of mangroves and has been a major source of water pollution. Figure 2.4 summarizes some of Vietnam's agro-environmental hotspots.

Figure 2.4: Vietnam's Agro-Environmental Hotspots



Source: Khoi et al. 2015.

Vietnamese agriculture now sits at a turning point. The sector now faces growing domestic competition—from cities, industry, and services—for labor, land and water. Rising labor costs are beginning to inhibit the sector's ability to compete globally as a low cost producer of bulk undifferentiated commodities. The pace of agricultural growth has slowed—from 4.5% per annum between 1994 and 2000 to 3.3% from 2001 to 2007, down to 2.6% between 2008 and 2013. The consequences of over-intensive input- and natural resource-use—both for the environment and for farmer profitability—are increasingly coming into view. Some environmental problems are now adversely impacting both productivity and the international position and reputation of Vietnam's commodities. Vietnam faces bright opportunities in both domestic and international agro-food markets, yet effectively competing in these will increasingly depend upon the ability of farmers and firms to deliver (food and other) products with reliability, and with assurances relating to quality, safety, and sustainability.

Going forward, Vietnam's agricultural sector needs to generate "more from less." That is, it must generate more economic value—and farmer and consumer welfare—using less natural and human capital and less harmful intermediate inputs. Future growth can rely primarily on increased efficiency, innovation, diversification, and value- addition. This strategic shift was highlighted in the government's Agricultural Restructuring Plan (ARP), approved by the Prime Minister in June 2014. The ARP defines sector goals in terms of the triple bottom line of economically, socially, and environmentally sustainable development. It lays out expected changes in the roles and spending patterns of the government in the sector and discusses the need to work more closely with other stakeholders, including in the private sector. There are currently many initiatives aiming in these directions. Yet, achieving the shift these represent on a large, sector-wide scale will require reforms in certain economy-wide and sector-specific policies and, over time, major changes and additions to the core institutions servicing agriculture.

B. Early Yet Accelerating Patterns of Structural Transformation Within Agriculture

Consistent with the patterns of economic structural transformation observed elsewhere, the share of (primary) agriculture in Vietnam's national GDP and employment has been declining and is expected to continue doing so. Between 2000 and 2015, agriculture's share in total GDP declined from 22.7% to 17.0%, while its share of employment fell more sharply from 65% to 47%. The GDP share of primary agriculture is expected to decline over the coming two decades, perhaps by 0.5 percent per annum. By the early 2030s, primary agriculture would then account for some 8 percent of Vietnam's GDP. However, agro-industry, together with food distribution and logistical (and other) services could account for nearly double this share. This means that the overall agro-food complex would still account for nearly one-fourth of total GDP. Primary agriculture's share of employment will likely fall to 25%, yet if employment in agro-food related manufacturing and services is also considered, then food and agriculture will still be providing a primary source of livelihood for at least one-third of Vietnam's population in the 2030s.

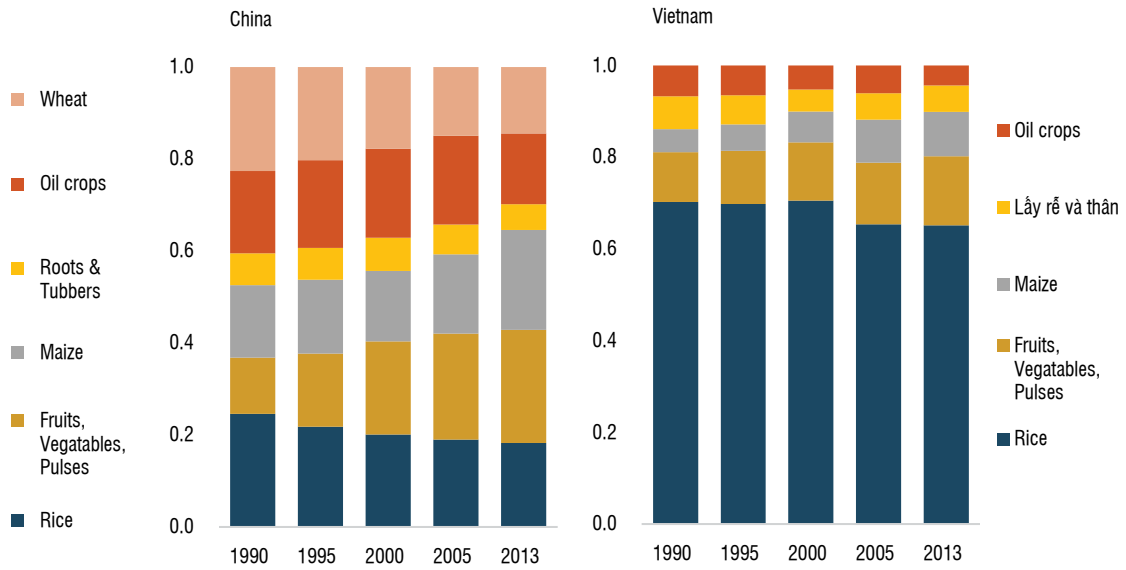
Vietnam is also experiencing a transformation in the national diet and in patterns of food expenditure. As recently as 1996, rice accounted for more than 70% of calories consumed. Over the subsequent decade, per capita rice consumption increased with income growth, yet this pattern began to reverse in the late 2000s. Both per capita and national aggregate rice consumption are now declining and this trend is expected to continue for another two decades before levelling off. Vietnam has been experiencing the region's highest rates of growth in the consumption of meat, milk and eggs. Significant growth has also occurred in the consumption of fish and of a variety of processed foods. Dietary shifts are not confined to the wealthier segments of the population. Some of the most significant shifts in diet and food spending patterns are occurring among Vietnam's poor and near-poor. For example, households in the lowest income quintile spent more than 48% of their food budget in 2002 on rice,

compared with only 18 and 9 percent on animal products and fish, respectively. By 2012, the tide had shifted to protein. Rice accounted for one-third of their food spending, while animal products and seafood accounted for a combined 39%.

Structural changes are also evident in the structure of Vietnam's agricultural production. Agricultural census data suggest that only modest changes are occurring in Vietnam's agrarian structure. In 2011, 'agricultural households' numbered 8.9 million, down from 10.1 million a decade earlier. In 2001, 67% of these farms were less than 0.5 ha; in 2011 the share of such small farms was 69%. The share of such households with more than 2 ha rose only from 5 to 6% during this period. This national picture masks some significant regional contrasts. Land consolidation—and farm mechanization—have been more evident in the Mekong Delta and the Southeast than elsewhere. Just as importantly, it masks over some significant changes which are occurring in the structure of production, especially commercial production. For example, nation-wide the number of rice-growing households exceeds 9 million. However, since 2000, the Mekong Delta accounted for 2/3 of the growth of national production, with most of this growth occurring in about 20 districts. Expanded production from about 300,000 farm households (whose average landholding was 2.74 ha) accounted for most of Vietnam's expanded rice exports since the early to mid-2000s. Likewise, most of the expansion of livestock production has occurred on medium-size farms, with the more recent growth in dairy production featuring several large-scale integrated operations. Perennial crop production (other than for rubber) remains predominantly with small and medium scale farms, yet here too we've seen some tendency toward consolidation.

Changes in agricultural land use have begun and are likely to accelerate in the coming decade. Despite shifting consumer demand, food crop diversification is still at an early stage in Vietnam (See a comparison between China and Vietnam in Figure 2.5). Rice still predominates in large part due to it being the dominant area of focus of public investments in irrigation, agricultural research and extension, but also because of long-standing restrictions on the use of designated 'rice land' for alternative crops and, especially, non-agricultural uses. While the area under paddy has changed little since 2000, due to the intensification toward double and triple cropping, the harvested area increased by 1.7% per annum between 2000 and 2010. Until quite recently, there was little change in the areas planted to other annual food crops. Where there has been more change has been the very large expansion (during the 1990s and through to the mid-2000s) in the area under aquaculture and an outward expansion of coffee and other tree crop plantings in the upland regions. Looking ahead, we expect to see very significant further changes in agricultural land-use. For example, one can anticipate that market, environmental, and other factors will contribute to upward of one-third of the current paddy-land being shifted by 2030 to alternative agricultural land-uses or ecosystem services. Paddy-land affected by saline intrusion will be converted to aquaculture. Much of the paddy-land in peri-urban areas will be used for vegetable or ornamental plant production. Paddy-land near the coast and near ecologically sensitive sites will take on greater multi-functional roles, seeking to maintain or revive biodiversity and support eco-tourism. Where drainage services are improved, some paddy- land will be converted to maize production. Rice-based production systems will also change, incorporating more rotation crops to improve soils and manage pests, and moving toward greater specialization—including in fragrant varieties and organic or other eco-safe production systems. Despite the decline in the rice-growing area, Vietnam will continue to experience production levels providing a significant exportable surplus with a larger share consisting of high quality and specialty variety products which will provide higher profits for farmers and enterprises.

Figure 2.5: Share of Food Crop Area under Selected Crops in China and Vietnam



Source: FAOSTAT data

Less change has been observed in the vertical structure of Vietnam's agricultural value chains. Many value chains remain fragmented and the level of commercially oriented collective action remains very low. There has been a long-standing government policy of supporting farmer cooperatives, but the number of cooperatives has fallen significantly over time and the vast majority of the surviving ones are involved mostly in coordinating water-use and channeling advisory services to members. Of the nearly 9,200 service cooperatives still active in 2012, 84 percent were in regions of the country which account for little of Vietnam's agricultural exports. Less than 1 percent of Vietnam's smallholder coffee farmers are members of commercially oriented cooperatives; the proportion in core sourcing areas for rice exports is similarly very low. In the Mekong Delta there are many thousands of informal collaborative groups, but these have not been permitted to perform business functions. For commercially-oriented cooperatives there are issues of cooperative management and governance, and (local) government interference in decision-making. The paucity of well-functioning cooperatives raises the transaction costs in most commercial supply chains as it is more challenging for downstream firms or intermediaries to communicate with farmers, influence and monitor their practices, and aggregate their production. Contract farming is also much less well developed in Vietnam than in other countries where smallholders play a prominent role in commercial value chains. Most value chains therefore feature large numbers of intermediaries and, in the case of rice, several steps of intermediaries (i.e., local assemblers, first stage millers, sometimes another set of traders or brokers who then supply the larger miller- exporters). Technologies, capabilities, financial strength, and business ethics vary across these intermediaries. And it becomes difficult to track one's supplies. With this, it is difficult to make forward commitments to buyers and assure them that the product's origins are safe and sustainable.

The geography of Vietnamese agriculture is changing. The growth and patterns of specialization of agriculture across Vietnam's different regions has exhibited great diversity (Table 2.3). Several regions, including the Red River Delta and the two Central Coast regions, have seen their rates of growth lag over most of the period since 2000. The Red River Delta, for instance, has seen an absolute decline in agricultural gross value-added in four of the past five years. Urbanization and industrialization are the main drivers of economic development there. The Central Highlands region has witnessed the most robust rates of agricultural growth on the basis of tree crop

expansion and diversification and vibrant clusters for vegetable and flower production. The Southeast has also seen higher- than-average growth through a combination of tree crop and livestock production expansion. The Mekong Delta region, which accounts for about one- third of agricultural gross value-added (AGVA), saw growth taper off between 2009 and 2013 due to some disruptive events in the aquaculture subsector and declining rates of growth in rice value-added. Among regions, Vietnam's two rice bowls—the Mekong and Red River Deltas—have experienced the slowest pace of agricultural growth since 2009. Three regions, the Mekong Delta, the Southeast, and the Central Highlands, now account for about 60 percent of Vietnam's gross agricultural output and more than 80 percent of its agricultural exports. The future trajectory for agriculture in Vietnam's different regions will depend upon many factors. Of course, each region's natural resource endowment and the legacy pattern of agricultural development will be influential. Also influential will be demographic trends, including out-migration and the likely average aging of the household heads engaged in farming in the future. The competition for resources from other sectors will also, increasingly, come into play.

Table 2.3: Composition of Agriculture and Agricultural Growth by Region

	Rate of growth in Agricultural Gross Value-Added by region			Share of National AGVA	
	2009-13	2000-04	2009-13	2000	2013
Total	**3.6**	**3.9**	**2.8**	**100**	**100**
Red River Delta	1.2	1.9	0.3	20	14
North East	4.4	3.4	5.7	9	10
North West area	4.5	4.7	4.2	2	3
North Central Coast	2.5	3.0	1.2	11	9
South Central Coast	2.9	3.1	1.7	7	6
Central Highland	8.7	8.5	8.6	6	11
Southeast	4.6	4.0	5.6	12	14
Mekong Delta	3.5	5.0	1.1	33	32

Source: GSO, MOF, SBV and WB

Looking ahead, continued changes in dietary preferences and food spending patterns will alter the landscape of Vietnam's food security, shift the locus of economic opportunity in the sector, and lend greater importance to emerging areas of public policy concern. Both in Vietnam and elsewhere in the region, we expect to see a declining importance of rice in the aggregate diet, continued growth in consumption of animal products, fruits and vegetables, and processed foods and, with life-style changes, a continually growing importance of out-of-home eating. Vietnam's food security will increasingly relate to the cost and availability of animal feed (ingredients) for which the country has a heavy reliance on imports. The expanded 'consumer class' in Vietnam and in other middle income countries will present farmers with potentially more lucrative market opportunities plus open up many commercial opportunities in the non-farm service and manufacturing segments of the food system. Dietary and eating pattern shifts will put a premium on improving the management of animal health and food safety risks. And, growing attention will need to be given to nutrition awareness in order for Vietnam to avoid the surge of non-communicable diseases which have accompanied dietary and life-style changes in other countries.

C. The Way Forward: Sectoral Aspirations and Reforms Needed to Get From Here to There

In the spirit of the Agricultural Restructuring Plan's sustainable development 'triple bottom line' vision, the ambitions that Vietnam can realistically set for its agro-food sector during the coming 10 to 15 years might include the following:

- **Growth:** The agricultural growth rate will cease its ten-year decline and revert to the pace experienced in years just after the turn of the millennium at between 3.0 and 3.5 percent.

- **Productivity:** This acceleration of growth will come primarily from growth in total factor productivity and the reversal of its recent decline. Akin to patterns observed in other high performing middle-income countries, more than three-fourths of sectoral growth will be due to TFP growth. Agricultural labor productivity will increase substantially, and this will close the gap which currently exists between Vietnam, Thailand, and China. It will also close the gap between Vietnam's agricultural sector and its labor-intensive manufacturing subsectors. The current gap in water productivity in Vietnam's large irrigation schemes (vis-à-vis those in China and other middle-income Asian countries) will be closed as a result of land-use changes and improved water management and irrigation services.

- **Sustainability:** The reality and reputation of Vietnamese agriculture as eco-unfriendly will fundamentally change. In large portions of the sector, the monitoring of agronomic practices against sustainability standards, natural resource management, waste management, and energy efficient methods will have been mainstreamed. Vietnam will be among the leading developing countries in the effective utilization of agricultural wastes—for energy, feed, composting, and other purposes. Dimensions of Vietnamese agriculture will be domestically and internationally recognized for their multi-functionality—including their protection of landscapes and contribution to eco- tourism.

- **Nutritional Security:** The sector will continue to play a major role in meeting national food security, servicing increasingly diverse food demands and meeting domestic consumer expectations for safety, quality, and price. And Vietnam will meet or exceed all of the World Health Assembly nutrition targets for 2025, including those related to under- nutrition (i.e., child stunting), micro-nutrient deficiencies, and obesity. While this is a multi-sector challenge, the agricultural sector will help promote a healthy and diverse diet.

- **Competitiveness:** More than 50 percent of Vietnam's agro-food exports will consist of processed and other value-added products, more than double the current proportion. More than two dozen brands of Vietnamese companies that make agro-food products will be well-recognized in major regional and international markets. Vietnam will rank in the top 10 to 20 percent of developing countries in terms of the proportion of its agricultural commodity export volume which is derived from production areas which are either internationally certified or otherwise recognized for compliance with a broad range of environmental and social standards. In the process of this recognition, the current discrepancy between the high international regard for Vietnamese cuisine and the invisibility of most Vietnamese foods and raw materials abroad will be resolved.

Going forward, Vietnam's changing climate could gain prominence as a driver of sector transformation as well as in changes in the geography, nature, and quality of production. Indeed, temperature and sea-level rise, the disruption of rainfall patterns, and the intensification of weather extremes will alter sector constraints over time, namely with respect to land-use possibilities. That said, with proactive policies and investments that sustain

a fast pace of sector restructuring, Vietnamese agriculture has the opportunity to remain ahead of the race against climate change. In the timeframe of the coming two decades, many of the changes that are anticipated as a result of climate change—including a contraction of rice production, further aquaculture development, and an end to coffee's and other tree crops' physical expansion—will largely be consistent with the sector's potential, not only to adapt, but also to thrive by "producing more from less."

Looking Beyond Traditional Agricultural Policy

Many of the challenges that Vietnamese agriculture faces as it transitions to an efficiency-based and higher value-added sector cannot be addressed exclusively through changes in agricultural policies. Addressing the sector's transitional and longer-term competitiveness and sustainability challenges requires broader, economy-wide reforms, especially in relation to land (ownership/tenure and usage rights), the role and operating conditions of state-owned enterprises and banks, policies and institutions associated with science and technology, and approaches to government decentralization and coordination. Many of the recent special initiatives to support structural and behavioral changes within the agricultural sector have become necessary to countervail the constraining effects of non-agricultural policies, regulations, administrative practices, and so forth.

Likewise, supporting the business of agriculture entails government functions not normally considered the mandate of ministries of agriculture. For example, there is a need to facilitate good corporate governance; provide a level playing field for market participants and potential entrants (e.g., efficient, transparent processes for business licensing and establishment); create a regulatory environment suited to local business and cultural standards and the relevant level of industry development; and establish a transparent system of business and trade taxation, and a clear legal code and redress processes for contracts. There is need for coordinated roles for public institutions. Elsewhere in Asia, ministries of agriculture have found it very challenging to develop capacity for effective, proactive support to agricultural diversification and inclusive agribusiness. Guiding the modernization of agriculture thus involves numerous ministries beside agriculture and the effective coordination of effort.

Leading Less and Facilitating More

To achieve the lofty aspirations laid out above and otherwise support the modernization of Vietnamese agriculture, the government will need to lead less and facilitate more. Administrative controls on land and direct state involvement in both input and output markets were important factors in the sector's stability and inclusive growth over recent decades. However, maintaining these policies and certain legacy institutions could delay the agricultural sector's transformations in directions needed for it to remain in step with a modernizing, middle-income country. Demographic and other domestic changes, as well as changes in the external environment, will deepen the pressures and raise the stakes for the modernization of the sector. Micro-managing these change processes would be exceedingly difficult and ultimately constrain the inherent energy and resilience of Vietnamese farmers, as well as deter investment throughout the agro-food system. For illustration, Table 2.4 identifies some areas where changes are possible in how the government intervenes in relation to agriculture and agribusiness development.

Table 2.4: Shifts in Government Roles in a More Market-Led Vietnamese Agriculture

Less of ….	More of…
• Long-range land-use planning	• Facilitating innovation, including but not limited to R&D, tech transfer, and advisory services
• Managing farms and plantations	• Facilitating and regulating land markets
• Being a leading source of agricultural research and advisory services	• Providing a conducive enabling environment for agribusiness and logistical investment
• Technology push	• Facilitating farmer-agribusiness linkages
• Investing directly in supply chains	• Facilitating, monitoring, and regulating trade
• Being the market for farmers	• Providing information
• Direct commercial role in agro-trade	• Facilitating production and commercial risk management
• Bearing agricultural risks	• Co-managing natural resources and co-regulating food safety

The above also implies that the government will need to invest more selectively, focusing on core public goods and services. In Vietnam, this might mean continuing to invest in rural infrastructure, early warning weather systems, land administration services, basic agricultural research, pest and disease surveillance and reporting, institutional capacity to enforce environmental and input regulation, or to support certification systems, food safety inspection and related regulatory functions, and the provision of safety nets. In addition, by focusing on improving the enabling environment, the government will better be able to leverage public funds to encourage and enable much greater investment by farmers and the private sector. In higher income countries, agro-food chains largely consist of private sector businesses. The levers of intervention for government are limited and essentially exist to create and maintain a supportive enabling environment.

One cross-cutting area in which these (re-)orientations of government will imply significant changes in Vietnam is that of innovation policy. Building the sector's capacity for innovation— that is, for continuous, and sometimes breakthrough improvement in how the business of agriculture is carried out—will be vital for achieving nearly all of Vietnam's aspirations for the sector. And doing so will generally call upon the government to retreat from a number of functions it has proactively filled, including in research and technology transfer, and to assert leadership by helping to draw out the best in the multiplicity of actors now seen as central to innovation. In Vietnam's case, this will involve shifting more resources and effort into, among things, building the capacities of and connections among people, organizations, and systems. This is in the same vain as recent reforms that have sought to make research institutions more demand- responsive, and firms more engaged in developing and absorbing technology.

Facilitating More Efficient Use of Agricultural Land

In order to improve farmer welfare, meet the changing needs of domestic consumers, and reverse the pattern of a declining rate of agricultural growth, much more efficient use will need to be made of Vietnam's agricultural land. Inefficiencies in land-use, at least in the lowland and delta areas, stem from various factors, including (i) the structural legacy of earlier egalitarian land allocation policies; (ii) legal, regulatory, and administrative barriers to

a more active (transfer and leasing) land market; and (iii) the restrictions placed on land-uses, for the large area of land designated as paddy-land.

Land consolidation, in various forms, will be critical for upgrading production systems and product quality, reducing transaction costs within value chains, and enabling households to gain and maintain a middle living standard based at least partly on agriculture. A more active market for agricultural land will facilitate land consolidation in some areas, allow those farms and firms wishing to invest further in agriculture to pursue their plans and enable many households to reduce their livelihood risk, by gaining guaranteed lease income while focusing their labor or entrepreneurial efforts elsewhere. Land consolidation will also allow for increased mechanization, a process which will become increasingly important as labor costs rise.

Enabling greater choice and flexibility in land-uses will be critical for improving farm household welfare, better manage weather, other production and market risks, and spurring investment in agriculture. The government is rightly concerned about widespread and uncontrollable conversion of agricultural land for other purposes. And it wants to ensure that large areas of lowland suitable land continue to cultivate Vietnam's leading staple food—rice. yet, the paddy-land designation policy has resulted in Vietnam far overshooting its food security objectives and generating a massive exportable surplus whose international sale generates only modest incomes for farmers and net returns to the country overall. The costs of the restrictive paddy-land policies have been recognized. The government has set goals for the conversion of some paddy-land and with Decree 35 has set out rules which should provide farmers and local leaders with much greater scope to convert land to other agricultural uses or introduce rotations between seasons. Active technical and other support by government for crop diversification may be needed during the transition phase given lower levels of knowledge and technology availability for the alternative crops and different types of risk which farmers may face. The changes being brought should be carefully monitored. The revised policy still restricts farmers from converting paddy-land for more permanent purposes—i.e., the planting of tree crops. This restriction should be reconsidered after the impacts of the current reform are observed. As noted earlier, over the longer term we might expect upward of one-third of the current paddy-land being shifted over to alternative agricultural land-uses and ecosystem services. Gisseke et al. (2013) project that this type of change will bring very significant benefits and increase the future pace of agricultural growth.

Facilitating More Efficient and Sustainable Use of Irrigation Water

Irrigation facilities have been the government's biggest investment in the agricultural sector. Since the mid-1970s, some $6 billion (present value) have been invested in irrigation—about 80 percent of the government's capital investment in the sector. While irrigation schemes have played a major role in Vietnam's impressive progress with respect to food security and poverty reduction, their utility will come under a stronger spotlight as farmers seek to diversify land-uses and in the face of intensifying competition for land, water and budgetary resources. Irrigated agriculture needs to increase overall factor productivity and better account for its water-use. And the existing infrastructure will need to deliver a range of multi-functional water services—not just irrigation and drainage. Water supply to municipalities, rural centers, industry and maintenance of flows for aquaculture, fluvial transport and environmental services are becoming increasingly important.

In 2014, an irrigation restructuring scheme was announced, calling for an array of sustainable development objectives and pointing toward a combination of technical advances and institutional reforms. As the subsector is fully decentralized, the focus of change and modernization will be at the provincial level. The provinces are responsible for irrigation investment planning, implementation of the investment, and operation and maintenance.

yet the Ministry of Agriculture and Rural Development—working with provincial and user agencies—will need to play a major role in promoting a facilitating a more service oriented approach to irrigation. The implementation of reforms in the subsector will be a long-term effort that needs to be accompanied by measures to resolve the long-term financing of irrigation and drainage management companies, improve their accountability (and oversight), and improve their incentives to deliver requested and reliable irrigation services. Various approaches are being pursued including changes in corporate governance arrangements, use of performance contracts, basing funding on the implementation of business plans, and using improved tools for monitoring the performance of schemes in relation to both technical and higher level objectives. Attention is also needed to strengthen the relationships between IDMCs and water user organizations in order to improve irrigation service delivery. Good practices locally seem to involve a shift from a hierarchical top-down approach to one of regular communications, joint problem solving, and an overall orientation of co-managing the irrigation schemes.

Strengthening Green Agriculture Policies and Implementation Capacities

The government has recently turned its attention to environmental challenges, Vietnam's Green Growth Strategy—which touches upon agriculture-related themes—being emblematic of the attention being paid to the matter at the highest levels of government. However, Vietnam's agricultural policies and public expenditures are still primarily driven by production output objectives (Khoi et al. 2015). Several agricultural promotion policies moreover appear to conflict with environmental protection goals. For example, efforts to conserve fisheries and promote fishery resource (co-)management occur in the same locations where fuel and/or boat-building subsidies are offered to expand local fish processing capacity. Efforts to restrict farmers from cutting trees and cultivating steep slopes may be undermined by the promotion of new investments in nearby ethanol plants with large feedstock requirements. Government waivers and subsidies for water and irrigation service fees temporarily increase farmer incomes, but contribute to improper water management, often in ways that increase greenhouse gas emissions.

In Vietnam as in many other countries, meanwhile, primary attention has been given to putting in place effective regulatory solutions to agro-environmental problems. Yet, regulatory enforcement is often challenging, especially in circumstances like that in Vietnamese agriculture where primary production is highly fragmented. Scherr et al. (2015) highlight a wider range of policy instruments that governments may use, often in combination, to provide the incentives and controls needed to prevent environmentally destructive agricultural activities and otherwise induce sustainable farming and natural resource management practices. These instruments set and allow enforcement of the rules, raise awareness and provide needed information, and enable, through various means, better behavior and technologies. Through incentives and information, whether these surface through procurement, R&D, extension, or quality systems, government can enable and encourage private action. It can directly invest in environmentally protective infrastructure or activities, or help others to mobilize such resources. There are opportunities for interventions at multiple levels. At the farm and community levels, efforts can focus on mainstreaming the adoption of good agricultural practices and promoting the multi-functionality of farming areas (production; ecosystem services; eco-tourism). And, at a landscape level, multiple stakeholders can be mobilized to develop sustainable agro-based ecosystems, such as one for industrial crops and agro-forestry in the Central Highlands.

Managing Climate Change Risks to Vietnamese Agriculture

Growing recognition that climate change risk will interfere with the pursuit of near-term and long-term agricultural development objectives has led a growing number of countries and development partners

to embrace climate-smart agriculture. The concept reflects a desire to integrate or mainstream adaptation and mitigation objectives into ongoing sector development efforts, reorienting these as necessary. Less than a preconceived approach or outcome, climate-smart agriculture implies the embrace, at multiple levels, of processes to identify context-relevant policies and actions that will enable the agriculture sector to better fulfill its multiple functions in a changing climate (e.g., as they relate to production, food security, livelihoods, economic growth, and ecosystem health).

Some adaptations to climate change are likely to occur spontaneously, that is, as the result of farmer rather than public sector initiative. Examples include delaying planting of winter- spring rice in the Red River Delta; switching to drought-resistant crops such as cassava, maize, and groundnut in the Central Region; shifting to salt-tolerant aquaculture as salinity creeps into the coastal parts of the Mekong River Delta; and stepping up the capacity of veterinary services to respond to a higher incidence of vector-borne disease in the livestock sector. Many of these changes can already be observed in Vietnam today. And taken together, shifts such as these can go a long way toward averting the worst sector impacts suggested by "business-as-usual" modeling results, which usually assume zero adaptation. That said, the rapid pace and extent of change that could transpire as global greenhouse gas concentrations rise could test farmers' and other agricultural actors' ability to cope.

This points to a critical need for the government to help bolster the sector's ability to manage both the foreseeable challenges that climate change will bring (such as salinity intrusion, temperature stress, dry season water scarcity, heightened flood and extreme weather risk, and so forth), **as well as the significant amount of uncertainty or unpredictability that climate change implies (**e.g., with respect to rainfall, pests, and disease). In fact, the uncertainty that is intrinsic to climate change points to the relevance of at least three mutually reinforcing approaches when it comes to planning adaptation and other climate-smart agriculture strategies. These are (i) to embrace the tenets of adaptive management; (ii) to strengthen the capacity for learning and innovation within government as well as in the private sector; and (iii) to favor "no regrets" adaptation strategies.

Adaptive management is an approach to making decisions that deals with a context of uncertainty by making learning central to the process (i.e., by making learning about a given system a central objective of decisions that otherwise intend to improve that system). Adaptive management represents the deliberate and systematic use of best available knowledge to guide policy decisions and management practices. Its effectiveness can reflect such things as the quality of leadership; the skills, attitudes and social capital of individuals; the aptness of institutional incentives and culture; and the strength of data and knowledge management systems. Particularly fundamental to its success over time—and the ability to adapt to climate change—is the capacity for innovation and learning, at every level of government, and much more broadly throughout the economy. This adaptive management approach is consistent with the idea of prioritizing no-regrets strategies—actions that can be justified from economic, social, and environmental perspectives whether a given climate change scenario unfolds or not, or actions that are relatively reversible in case of unforeseen developments. Many of these have already been identified and are actively being pursued in Vietnam.

Fostering Learning for Knowledge-Based Agriculture

Vietnam's ability to respond to both environmental and market pressures in years ahead will require it to incorporate increasingly sophisticated levels of knowledge into decision-making, production techniques, and management processes at the farm level and beyond. For example, farmers will be in a better position to compete, while generating more from less, if they are able to base what they grow and how they grow it on a strong, evidence-based grasp of the resources they have to farm with, of weather, phytosanitary and other risks

they face, and of consumer preferences (including for greener production processes) and price dynamics. And they will better be able to compete if they can do this with access to the best solutions science has to offer to the specific challenges they face. Shifting from a resource-intensive to knowledge based agriculture will, among other things, require major changes in the ways in which farmers learn and gain access to technical and commercial information. This has particular implications for Vietnam's extension and advisory services, the training and educational opportunities it offers individuals working in the sector, as well as data management systems, as discussed below.

Agricultural extension. Agricultural extension in Vietnam has traditionally been top-down and supply driven. Large numbers of public extension officers continue to work at provincial, district and local levels, providing training, organizing demonstration models (related to new varieties or different agronomic practices), help farmers to respond to outbreaks of pests or diseases, and supporting the implementation of a variety of localized schemes. The government has recognized the need for and value of socializing advisory services, encouraging the involvement of universities, private enterprises, and NGOs in advising farmers, and encouraging a more multi-directional flow of information. Central government funding for certain extension programs have established a competitive bidding process, enabling non-state entities to increase their activity. Recent projects supported with development assistance funding have also sought to encourage private extension work. Agro-enterprises which are entering into contracts or partnerships with farmer groups are likewise fielding staff to serve advisory and monitoring functions. This will become increasingly important where companies will be needed to have an effective traceability system for their products and raw materials. Yet, despite these developments a broader rethink is needed regarding the objectives (i.e. beyond crop yields), approaches, and methodologies for extension.

The government and traditional public sector extension services may still have an important role to play, though less as the main provider of centralized advisory services and more as a broker, mobilizer and funder of services provided by others. For many extension agencies, moving into these roles will rest on an embrace of structural and cultural changes, both internal and external to their organization. In particular, integrating brokerage functions into traditional extension services will often require these institutions to build new skillsets, reframe their mission, and modify staff incentives by changing performance measurement criteria. Brokering requires specific facilitation skills for managing group processes and building trust; and it cannot be judged by traditional performance indicators such as publications or numbers of trainings. Vietnamese policy-makers might consider how approaches from elsewhere could be applied locally.

Stimulating Innovation throughout Agro-food Value Chains

How effectively it can seize domestic demand opportunities, compete in commodity markets and remain food secure—in a changing climate—will depend upon how well Vietnam innovates. As has already been argued, this will call for continued reforms in Vietnam's innovation policy to sharpen the country's research and absorption capabilities. While Vietnam's agricultural strategy has come to embrace a broad set of themes—including post-harvest management, climate change adaptation, advances in quality and value-addition, and so forth—the focus of most publically funded research programs has remained on agricultural production. In addition, research priorities remain are still identified centrally, to a large extent, and may not be aligned with regional or local (business) needs. Public funding for agricultural research is provided through MARD, provincial governments and the Ministry of Science and Technology, and although the size of the envelope has increased, it is small in comparison to that of Asian peers as a fraction of agricultural GDP. In recent years, competitive processes have gained favor as a means of allocating research funding, as they are seen as a means of encouraging research institutes to become more autonomous, responsive to demand, and commercially driven. Yet, the reform process

of the agricultural research system is still at an early stage. In this respect, Vietnam may find merit in placing increasing emphasis on more demand-responsive and multi-disciplinary research, and on multi-stakeholder consortium models involving research institutes, universities, industry, and farmers.

Vietnam will also want to gravitate toward more effective technology absorption—not only by farmers, but also by agro-enterprise SMEs. The absorption of technology by producers and agro-food enterprises is a weak link in many transitioning agricultural innovation systems, including Vietnam's. A lack of dynamism in firms' embrace of improved processes or tools can be symptomatic of innovation systems in which the development of new technologies or improved ways of doing things is separate from firms' activities, or includes limited involvement of these in innovation processes. It can reflect the notion and reality that technology absorption is separate from innovation, and a resulting weak capacity on the part of firms to absorb technology that they played little role in conceiving or developing. This separation limits firms' opportunities to learn-by-doing, or to shape technology developments that are well-tailored to their day-to-day business needs. Other factors that contribute to weighing down technology absorption by firms include a lack of investment and especially venture funding, inadequate support for the development of business plans and marketing strategies especially, and a lack of tools and appetite for risk-taking.

Fostering Collective Action for Competitive and Inclusive Agricultural Value Chains

Although processes of consolidation have begun, Vietnamese agriculture remains largely characterized by fragmented production and value chain structures. Comparatively low levels of collective action have often prevented the realization of economies of scale, inhibited the development of quality management and product traceability systems, and served to weaken overall subsector governance and coordination. In Vietnam, common types of collective action organizations—including cooperatives and industry associations—have often served political rather than technical or commercial functions. Yet, in recent years, the government has recognized the importance of various forms of institutional collaboration for fostering innovation and improving industry performance. The Agricultural Restructuring Plan advocates for the broader application of public-private partnership and contract farming models.

International experience points to the multiple approaches and benefits of strengthening collective action in its many possible incarnations. Government can support producer and industry organizations in two broad ways: it can invest in institutional strengthening, and it can use its legal and regulatory authority to create a supportive environment. The public sector can help build stronger organizations by funding technical assistance for such efforts as participatory institutional assessments, administrative and governance reforms, leadership building, and the development of learning and information exchange mechanisms. It can also directly fund targeted activities, or personnel such as organizational facilitators and brokers; and deploy economic incentives for businesses and research organizations to work with these organizations, increasing their relevance in the value chain.

While contract farming is primarily private-sector led, government support for such arrangements is not uncommon on the grounds that these can contribute to meeting broader policy objectives such as inclusive growth, food security, or the protection of natural resources. Besides improving the enabling environment (e.g., the rule of law, the quality of infrastructure, health, and education, political stability, financial markets, and so forth), the public sector can encourage contract farming by facilitating interactions and brokering transactions among potential counterparts, establishing a legal framework for farming contracts, putting economic incentives in place, building technical and institutional capacity, and educating counterparts about potential benefits and

risks. That said, the public sector needs to tread carefully. A number of contract farming arrangements have owed their failure to facilitators in the public or non-profit sector getting ahead of value chain actors and pushing for arrangements that were not in line with existing capacities, ambitions, risk-preference, or levels of trust; or that put development objectives ahead of business viability.

Agro-based cluster development will be an appropriate strategy in a number of Vietnamese contexts in which important gains could come from strengthening (cooperative and competitive) linkages among farmers and various commercial players, as well as the infrastructure that underpins these. Cluster development lends itself to incremental forms of public sector support. In an initial phase, the public sector can be involved in sowing the seeds of institutional reform by building trust, encouraging collaboration, and helping to strengthen local infrastructure. And it can focus on supporting a series of small value chain initiatives that accompany process and later product upgrading, and build confidence in cluster activities. In subsequent phases, support can focus on access to finance, incentives for startups, and measures to attract and develop entrepreneurs, and potentially the creation of special economic zones.

Strengthening Systems and Capacities for Managing Emerging Food Safety Risks

The processes of urbanization, industrialization, and income growth, and changes in the composition of consumer diets (favoring animal products and other high value and processed foods) have simultaneously increased the exposure of Vietnamese consumers to food safety risks and increased demand for higher standards of food safety. At stake is the Vietnamese agro-food sector's ability to maintain and gain relevance in the rapidly evolving and growing domestic market—in short, to stake out increasing market share. Vietnam has responded to these challenges by revamping its food safety regulations and investing in laboratories. It has also streamlined institutional structures by reducing the number of ministries in charge of food safety from the previous six to the current three. Having moved to a model that privileges decentralized support for agriculture, with some three fourths of public agricultural expenditure occurring at the provincial level, Vietnam will need to look at ways to make a devolution of food safety responsibilities work well. The government wants to utilize its existing capacity to address food safety, and plans to task agencies that were previously in charge of export food safety to take increasing responsibility for domestic food safety control. As it proceeds with these and other reforms, international experience and global trends in food safety control systems can inform the strategies it employs.

In terms of food safety governance, international experience highlights a move toward the judicious sharing of responsibilities—among levels of government as well as with private sector entities—and proactive, risk-based approaches to protecting consumer safety. Notable trends include the following:

- **Consolidation and coordination.** While a majority of OECD countries maintain several agencies in charge of food safety, the trend in emerging economies has been to consolidate food safety within one government agency (as in China and Kazakhstan). This reflects the desire to reduce barriers for collaboration between multiple agencies. In emerging economies, more than in developed economies, collaboration between government institutions is a major challenge. Through such consolidation governments expect to reduce institutional battles for spheres of influence. That said, high level coordination bodies have become common in many countries (e.g., Germany, South Korea, China) and offer an alternative to single or integrated agency structures.

- **Devolution of authority.** To address the challenge of oversight at the sub-national level, some countries have opted to entirely devolve food safety authority to regional bodies (e.g., Australia), while others—usually small ones—have opted to centralize authority without attempting to replicate national structures at the sub-national level. In the latter case, even local food safety inspectors report to a central national authority as opposed to a regional or local one. There are several trade-offs to consider in deciding between these two approaches. The devolution model allows for greater integration of food safety with other regulatory functions yet also creates the potential for inconsistent applications of national laws and regulations. It can also suffer from a lack of adequate resources being devoted by sub-national government to this function.

- **Pro-active prevention.** Many countries have moved toward approaches to food safety management that give precedence to the prevention of hazards over the inspection of finished products. While this approach has been spearheaded in developed countries, it is of high relevance to more resource-constrained countries. When it comes to prevention, the hazard analysis and critical control points (HACCP) approach is one of the best known and most widely adopted. HACCP is a management system developed in the U.S. in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product (U.S. Food and Drug Administration). Its principles require that (identified and realistic) food safety hazards be prevented, eliminated, or reduced to acceptable levels.

- **Risk-profiling.** One of the defining pillars of pro-active prevention (i.e., HACCP) is the principle of hazard monitoring. One practical way to go about doing this involves auditing and assigning risk profiles to enterprises. Risk-profiling generally entails a shift from the retrospective recording of food safety breaches, to the more pro-active assessment of how likely future problems are going forward. And risk-profiling generally places less emphasis on the safety of end-products than on that of business facilities and practices. Ideally, risk-profiling also takes into account risks that arise through sourcing and primary production of the foods that firms use.

Ultimately, the governance of food safety is only as successful as its ability to widely, consistently, and durably change the behavior of the many: of consumers, of farmers, small food processors, food service workers, and of those working in agro-enterprise more broadly. And the key lesson from international experience in this respect is that it is not effective to manage risk strictly through policing. The public sector needs to seek to influence all of these players to, in essence, motivate them to in large part police themselves.

D. Conclusions

A smooth and successful transformation of Vietnam's agriculture and broader agro-food system will occur if government follows the ethos of the Agricultural Restructuring Plan and undertakes to "lead less yet facilitate more" change and investment in the sector. The Vietnamese government has played a major and, in some areas, a leading role in the past development of agriculture. Some of its past functions—including those of land use planner, manager of farms, commodity trader and technology supplier---will be less important or even detrimental in the movement toward a more flexible, market-driven, and knowledge-based agriculture. Government can undertake less direct investment in agriculture if it is effective at facilitating private investment, including through public-private partnerships. That should free up resources to achieve excellence in the application of important regulatory services (e.g. environmental, plant and animal health, food safety). There will be a continuing role for government in promoting more efficient and sustainable land and water use, the maintenance of rural infrastructure, increased collective action, and other elements which help mitigate the risks and transaction costs faced by farmers and agro-food enterprises.

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Image on 4 page: Bumper harvest

Successful application of new technology helped farmers in Châu Đốc to grow melons that meet VietGAP standard. These melons are being supplied to local supermarkets and fruit sellers.

Photo by Hùynh Cao Khải

Image on 5 page: Rice paddy harvesting

Farmers in My Phong Commune, Tien Giang Province found a new and efficient way to transport rice -- using their bicycles without pedals

Photo by Pham Nhut Thuong

Image on 6 page: Drying fish

Villagers in the coastal commune of Dien Chau, Nghe An province, are drying fish for exports.

Photo by Vũ Đức Phương

Image on 7 page: Going to school

A mother in Thap Muoi rowing a small boat, taking her children to school.

Photo by Kiều Anh Dũng

Image on 11 page: Worker's lightning bolt

A young man is working hard to earn incomes for his big family.

Photo by Trần Phước Thảo

Image on 33 page: Rhymth of rushes

Villagers in Duc My Commune, Cang Long District, Tra Vinh Province have been growing rushes for few decades. Many products made from rush are for exports and bring back more incomes for villagers

Photo by Dương Ngọc Vân Khanh

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