

THE REGULATION OF AGRICULTURE IN DEVELOPING EAST ASIA

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Enabling
the **Business**
of **Agriculture**



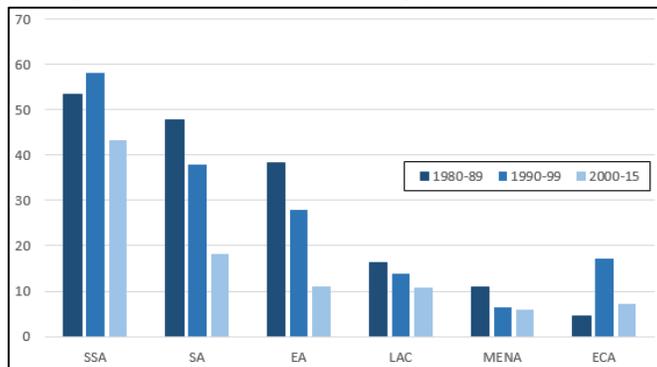
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Structural change and poverty reduction

Economic growth and poverty reduction rates in East Asia have been remarkable over the past four decades.¹ Over a single generation, newly industrialized economies like Hong Kong, China; Singapore; Taipei, China; and the Republic of Korea, undertook a process of socioeconomic development that took centuries to achieve in Western Europe. The dramatic improvement in the quality of life that accompanied this remarkable economic transformation has virtually abolished extreme poverty in these societies. More recently, a number of developing countries in South East Asia have also made impressive progress in economic development. Despite the effect of the 1997-98 financial crisis, poverty among East Asian developing countries went down from 38% in the 80s to 11% on average in the 2000s (Figure 1).

Figure 1. Poverty reduction across regions

Poverty Headcount Ratio at 1.90 \$/day (% of total population)



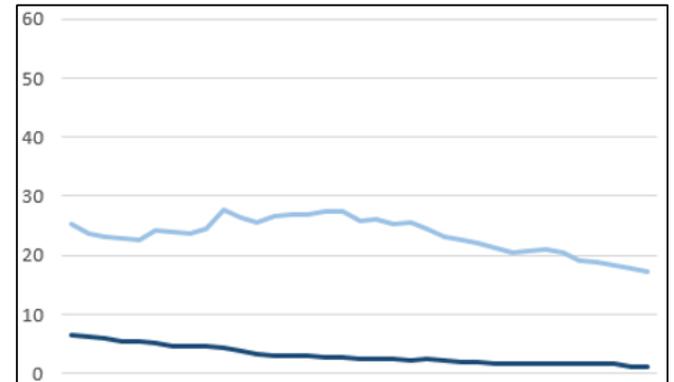
Source: Authors' calculations based on WDI data

This process has been outstanding in China and Indonesia where poverty fell by 62% and 49% respectively over this period. Poverty rates have fell significantly also in other East Asian economies such as Thailand, the Philippines and Vietnam. The role of agriculture throughout this process has been debated. As economies in the region developed, agriculture's relative size reduced in favor of other sectors (Figure 2). Such decline has often led analysts to downplay agriculture's contribution to East Asia's development. These views result from classical dual economy models, which posit capital accumulation as a result of growth of the manufacturing sector (e.g., Lewis 1954, Jorgenson 1967). The deriving notion of the implicit backwardness and limited potential of agriculture greatly influenced policymakers. In fact, postwar development strategies in

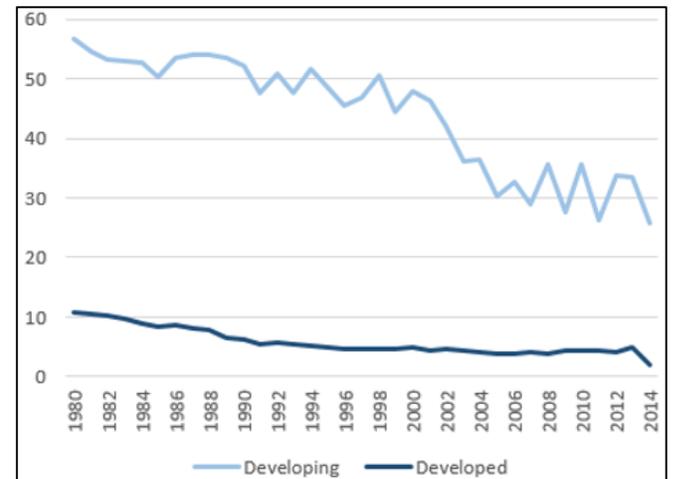
many developing countries aimed at rapid industrialization with a strong "urban bias" (Lipton 1977, Bezemer and Headey 2007).

Figure 2. Size of agriculture in East Asian economies

Value Added (% of GDP)



Employment (% of total employment)

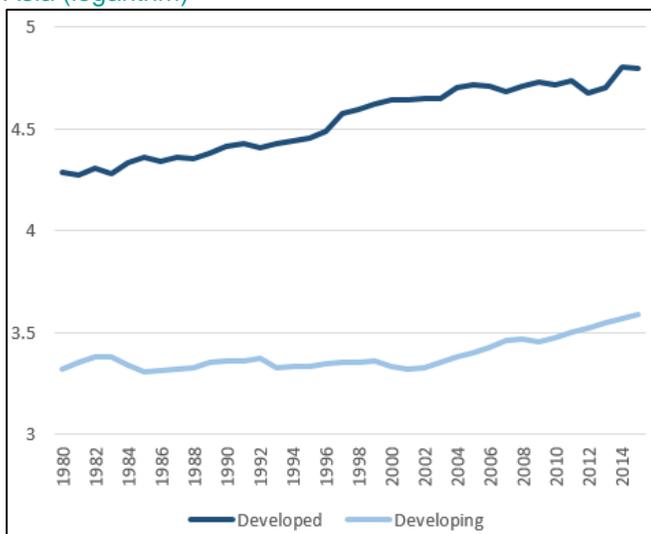


Source: Authors' calculations based on WDI data.

An alternative view emerged drawing on the success of the Green Revolution and highlighting agriculture's role as a driver of growth in the early stages of industrialization (Johnston and Mellor 1961). Its advocates did not oppose agriculture's relative decline in size, but rather rejected the notion of its marginality with regards to the development process (Timmer 1988). Some emphasized agriculture's modernization potential, in contrast with the traditional view of agriculture as an inherently less productive sector (Hayami and Ruttan 1985; North 1959; Schultz 1964). Others called attention to agriculture's growth linkages and multiplier effects to highlight the sector's importance for broader economic development (Adelman 1984; Hsieh and Sadoulet 2007; Mellor 1998).

Removing the obstacles to rural-urban migration is key to overall poverty reduction in many developing countries. In others, however, focusing on urbanization by itself is likely to intensify urban unemployment, congestion and urban poverty (Ravallion et al. 2007). Urbanization efforts must be matched by investments in rural development. On one hand, these should facilitate migration out of agriculture into the rural economy and secondary towns, which tends to be more poverty reducing than rapid urban agglomeration (Christiaensen and Todo 2013). On the other hand, governments should continue to reform their agricultural sectors to bridge the productivity gap that still exists with respect to the early developers in the region (Figure 4).

Figure 4. Agriculture value-added per worker in East Asia (logarithm)



Notes: Values expressed in constant (2010) US dollars.
Source: Authors' calculations based on WDI data.

A modernized agricultural sector will enable countries to take full advantage of emerging trade opportunities. Rising incomes and urbanization are shifting the composition of domestic food expenditure from basic and unprocessed staple foods to meat, horticulture and processed foods (Reardon 2015). Relative to cereals, these products have considerably higher returns on land. What's more, they generate more employment on and off the farm through related processing, packaging, and marketing activities. Similarly, high yield rates, suitability to local climatic conditions and low production costs have intensified the production of biofuels from palm oil in Malaysia and Indonesia (Mukherjee and Sovacool 2014). In 1970 cereal production accounted on average for 45 percent of total agricultural output in East Asian

developing countries. In 2013 this figure fell by 13 percentage points, with countries like China, Vietnam and Myanmar showing the greatest shift away from cereal production. Over the same period, the weight of livestock over total agricultural output increased by 18 percentage points in China and 13 percentage points in Myanmar. Likewise, horticulture's contribution to agricultural production increased by 25 and 10 percentage points respectively in China and Lao PDR.ⁱⁱ

The pace of economic development throughout East Asia has been unprecedented. Agriculture has played an important role in promoting industrialization for early developers in the region and it continues to do so. As today's developing economies grow and transform, the role and nature of their agricultural sectors is also changing. Regulation can affect the speed of such transformation and determine the pathways of agricultural development in the years to come.

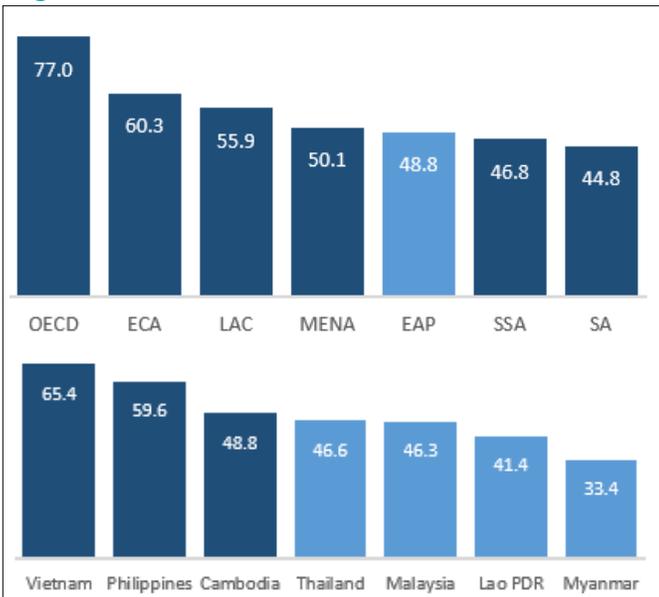
The Regulation of Agriculture in East Asia

Regulation is a key business environment component due to its impact on costs, risks and barriers to competition for various players in the value chain (Christy et al. 2009). Agricultural production has unique and evolving dimensions through which it interacts with relevant laws and regulations. These include agricultural input markets such as seed and fertilizer, and regulations that enable small scale and remote farmers to access finance and markets. By setting the right institutional and regulatory framework, governments can help increase the competitiveness of farmers and agricultural entrepreneurs, enabling them to integrate into regional and global markets. The World Bank Group's Enabling the Business of Agriculture (EBA) project measures regulatory good practices and transaction costs affecting agribusinesses. EBA indicators cover a range of regulatory domains: seed, fertilizer, agricultural machinery, water, access to markets, finance, transport, information and communication technology (ICT). For each of these areas EBA indicators provide an aggregate picture of how supportive regulation is for agribusinesses.ⁱⁱⁱ

The EBA overall score provides a first indication on East Asia's performance. Compared to other regions, East Asia is outperformed by OECD, Europe and Central Asia, Latin America, Middle East and North Africa. However, the countries across the region show varying results with Vietnam displaying the most supportive agribusiness

regulation and Myanmar the least supportive one (Figure 5).

Figure 5. Overall EBA scores

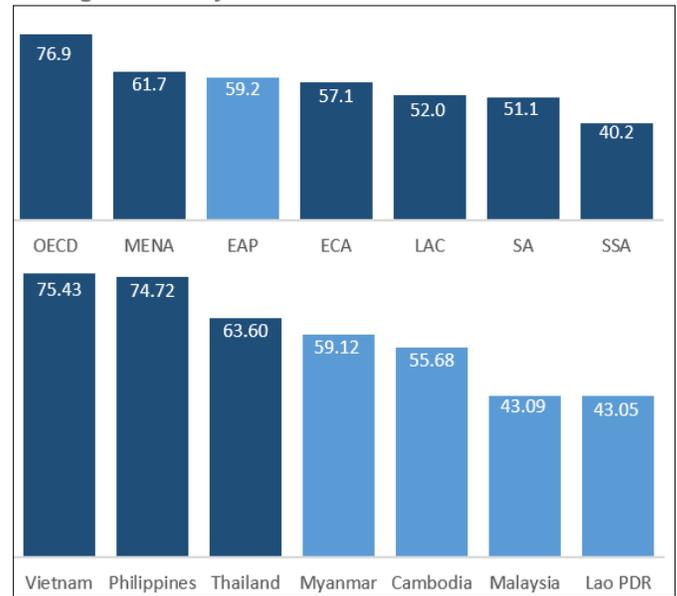


Source: EBA data.

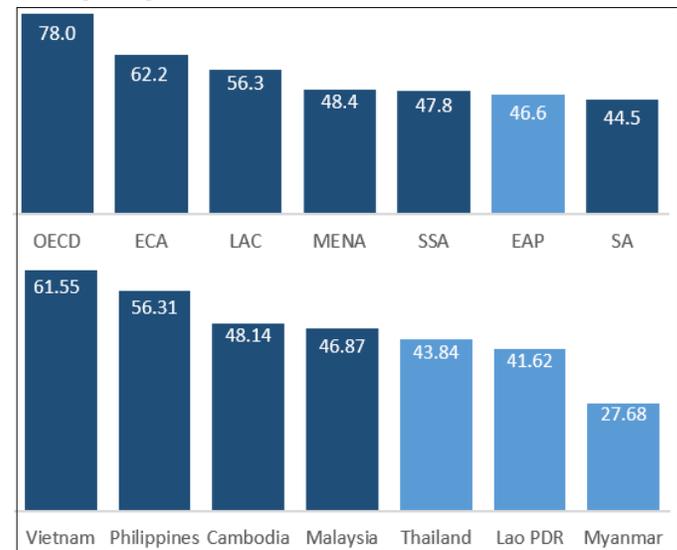
Notes: A score of 0 (100) reflects the worst (best) performance.

EBA data feature two types of indicators. *Legal* indicators reflect the number of regulatory good practices that countries enact to correct market failures. Conversely, *efficiency* indicators measure the transaction costs regulations impose on businesses. Disaggregating the overall scores into these two components highlights how regulatory shortcomings in East Asian economies pertain mostly to the legal dimension (Figure 6). This is particularly acute in Myanmar, Thailand, and the Philippines. For example, Vietnam has one of the most efficient fertilizer registration system among the 62 countries covered by EBA. It requires only 15 days to register a chemical fertilizer product, which is the second best performance after Uruguay where it takes 11 days. This efficiency is also supported by a very strong legal framework for fertilizer registration in Vietnam. On the other hand, legal provisions on importing and distributing fertilizer products do not contain many good regulatory practices which not only undermine the monitoring of the supply of fertilizers imported into Vietnam, but also pose complications to importers on logistics and negotiating power.

Figure 6. Efficiency VS Legal indicators
Average Efficiency scores



Average Legal scores



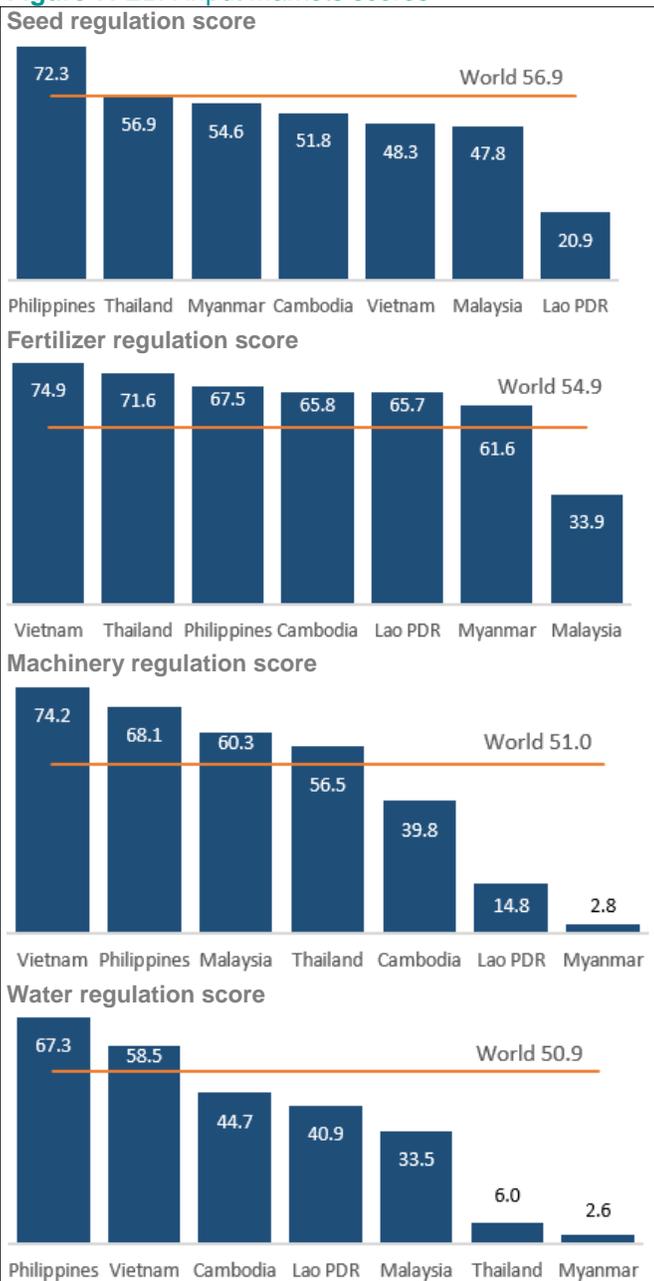
Source: EBA data.

In particular, private sector companies are not required to register as importers and a per-shipment import permit valid for one month only is mandatory in order to import fertilizer products. Such a short term import permit validity restricts departure and arrival time of shipments with fertilizer products and poses additional administrative barriers to importers.

Input market regulations

Seed, fertilizer, machinery and water are key inputs to agriculture and are highly interrelated. The returns to fertilizer are greater when combined with the use of improved seeds and efficient water management (McArthur and McCord 2015; Harou et al. 2014).

Figure 7. EBA input markets scores



Source: EBA data.

Agricultural mechanization boosts the expansion of cultivated areas and enhances the adoption of improved seed varieties, fertilizers and water for irrigation (Negrete 2014). Regulations can support agribusinesses by improving how key agricultural inputs are made available to smallholders (Oseni et al. 2014). Topic-level EBA indicators reveal that countries in East Asia regulate agricultural inputs differently (Figure 7). Most of them perform better than the global average with regards to fertilizer regulation while the same is not true when it comes to seed market regulation. Looking at agricultural machinery and water management regulation, Vietnam and the Philippines display several good practices, while Myanmar lags on both dimensions.

Private sector participation in seed systems

An important feature of seed regulation worldwide is to allow for private sector participation in new variety development to spur innovation and technological adoption. Several countries in East Asia present regulatory barriers in this regard. In Lao PDR, the law does not allow private sector to be involved into production of breeder and foundation seeds. Moreover, private sector representatives are excluded from variety release committees in all countries with the exception of the Philippines. Here, private sector representatives constitute less than one half of the committee size. Although a variety release committee is established by law in Cambodia, it is not functional and does not meet in practice. Only in the Philippines and Vietnam private seed companies are accredited in practice for the performance of certification activities.

Market oversight of fertilizer products

Global fertilizer production is consolidated among few countries. As most countries rely on imports, fertilizer registration procedures are important to ensure that the products entering domestic markets satisfy health and environmental standards. All countries in the region require fertilizer products to be registered in order to be commercialized with the exception of Malaysia. Regulations not only set up a formal registration process, they also establish how long – once obtained – a registration certificate is valid for. In Lao PDR, Myanmar, Cambodia, Thailand, and the Philippines fertilizer registration is valid for less than 10 years. This increases the burden on companies which have to undergo the registration process again. Conversely, in Vietnam the validity of fertilizer registration is not time-limited which

indicates a good regulatory practice. Moreover, regulation plays an important role in ensuring fertilizer quality and preventing adulteration. For example, it is common for countries to interdict the sale of mislabeled or open fertilizer bags and to set penalties for retailers that violate such provision. In East Asia, however, only Lao PDR prohibits the sale of fertilizer products from opened bags while it doesn't establish penalties for non-compliance.

Agricultural machinery

Agricultural machinery is another agricultural input where countries often rely on imports. Cumbersome tractor import procedures increase the cost of agricultural machinery and discourage its use. In Lao PDR and Myanmar importers are required to obtain an import permit for each individual tractor shipment. Conversely, Cambodia, Malaysia, Thailand and Vietnam do not impose individual import permits – the practice which streamlines import procedures and trade. Further, regulation can ensure performance, durability and safety of agricultural machinery through quality standards and certification procedures – many of which are harmonized internationally. In Malaysia and the Philippines, the law requires tractors to be equipped with protective structures and seatbelts to ensure operations safety. Cambodia, Myanmar and Lao PDR, on the other hand, do not regulate tractor standards which undermines technical reliability and poses safety threats to farmers.

Water allocation

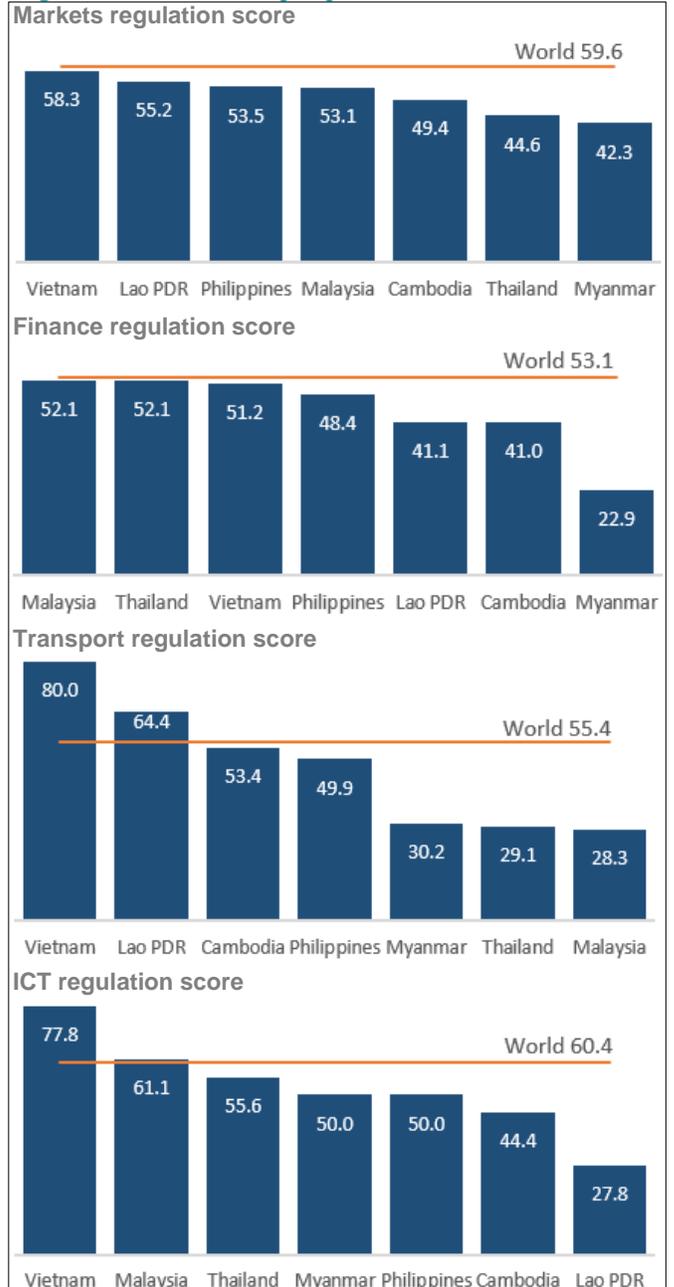
Water withdrawals for agricultural use account for 90% of total renewable water resources in East Asia with Vietnam and Cambodia reaching more than 94%. Regulating water use permits effectively allows farmers to access water while ensuring better management of scarce resources. In Thailand and Myanmar water use permits are not regulated, which increases the risk of insufficient water supply for future crop cycles. Vietnam and the Philippines, on the contrary, enact advanced regulatory frameworks which promote efficient water use by allowing water permit transfers among farmers.

Non-input regulations

A second set of EBA indicators focus on areas where regulation can enable smallholders and remote farmers to participate to agricultural markets. These include access to export markets, financial, transportation and information and communication technology (ICT)

services. EBA scores for all East Asian countries are comparatively low with regards to access to agricultural markets and financial services. The picture is more nuanced for transport and ICT regulations. Vietnam displays the most advanced regulatory framework scoring well above the world average in both areas (Figure 8).

Figure 8. EBA enabling regulations scores



Source: EBA data

Access to agricultural markets

Agricultural products can access markets after satisfying several regulatory provisions such as registrations, licenses and sanitary standards. Trade is facilitated where these are limited in number, quick to comply with and economical. Many countries, however, impose additional regulatory burden on agricultural traders. Traders in the Philippines, Vietnam, Malaysia and Thailand need to obtain individual export licenses with time validity as low as one year. Additional costs and time are required to obtain these licenses. Strong plant protection regulations ensure reliable pest management in the field and robust inspection and verification practices at the border. Pest and disease outbreaks can lead to infested products, reduced yields or even crop failures. The laws of Myanmar do not include any of the plant protection aspects on the control of pests and diseases hindering cross-border agricultural trade marketability of agricultural products.

Access to finance

Farmers require working capital, seasonal loans, and medium-to long-term credit to finance production, harvest, storage, transport and marketing. In addition to loans, farmers need access to payment services to expand operations. However, rural and agricultural finance are among the most challenging fields of financing. Agricultural production activities are seasonal, weather-dependent and spatially dispersed, making agricultural loans riskier and costlier. Microfinance institutions are critical for rural finance since they provide financial services otherwise not accessible through the traditional financial system. Countries which allow deposit-taking microfinance institutions tend to have higher levels of financial inclusion. In this respect Cambodia has included most of the regulatory good practices related to the prudential regulation and risk management of its microfinance institutions. In contrast, in Malaysia, Thailand and the Philippines deposit-taking microfinance institutions are not allowed by law. Financial instruments such as agent banking, electronic money and warehouse receipts can be particularly beneficial for farmers excluded from the financial system. Effective supervision of these sectors manages liquidity risks and protects customer funds. However, agent banking activities are not regulated in Lao PDR, Myanmar, Vietnam and the Philippines. Further, Cambodia and Myanmar lack a framework to regulate e-money. Warehouse receipts as movable collateral are an effective

financing tool for creating liquidity and easing access to credit. Only Thailand and the Philippines have regulations on the operation of warehouse receipts systems.

Access to transport

Transport of agricultural goods has food safety implications. Malaysia and Lao PDR have specific regulatory provisions governing transport of perishable agriculture products safeguarding against food waste, degradation, contamination and foodborne diseases. In particular, Malaysian food regulations impose minimum vehicle cooling and refrigeration standards, mandatory cleaning and disinfection of truck containers, prohibition of co-mingling of certain food items as well as packaging and sealing requirements. Efficient cross-border transportation is essential to facilitate agricultural trade. When domestic and foreign trucks are granted similar transport rights competition in the sector increases. In Malaysia, Myanmar and Thailand foreign trucks are restricted from providing services in their territory. On the contrary, in Vietnam this is allowed. Further, Vietnam is the only country in the region without a quota on cross-border licenses granted indicating openness to foreign competition.

Access to ICT in rural areas

ICT services are instrumental for farmers to access a key information on market prices, weather forecasts and planting techniques. Mobile operators however have often no incentive to invest in network roll-outs to undeserved areas where much of agricultural production takes place. Easing market entry can mobilize the necessary investment. Several countries, for example, establish a general authorization that allows mobile operators to start functioning directly and with minimum additional administrative steps. In East Asia no country has adopted this practice. Vietnam is the country that regulates ICT most effectively thanks to predictable renewal licensing conditions, publicly available license costs and voluntary spectrum trading among mobile operators which ensures optimum use of available and scarce radio frequencies.

Conclusions

Developing countries across East Asia have made impressive progress in economic development. Despite the effect of the 1997-98 financial crisis, poverty rates in the region have been consistently declining. Agriculture played a key role by driving growth in the early stages of industrialization. It also contributed to reducing rural poverty by including smallholders into modern food markets and creating jobs in agriculture and agroindustry. As incomes rise and countries urbanize, the composition of domestic food expenditure is shifting from basic and

unprocessed staple foods to meat, horticulture and processed foods. In order to take full advantage of these emerging trade opportunities policy makers across East Asian countries must support agribusinesses with effective regulations. Benchmarking regulatory frameworks in East Asian economies through the EBA indicators suggests few general trends. First, these countries tend to perform better on efficiency than on legal components. Second, most countries over perform the global average on fertilizer regulations but fail to do so when regulating seed systems. Third, access to markets and finance regulations are two areas where regulation in the region is particularly weak.

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ⁱ For an extensive discussion see World Bank (1993) and ADB (1997).

ⁱⁱ Authors' calculations based on FAOSTAT data.

ⁱⁱⁱ EBA data covers seven developing economies in East Asia: Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, and Vietnam. For details on the EBA methodology see World Bank's *Enabling the Business of Agriculture 2017* report.