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Trade

What Do Exporters in Malaysia Look Like?

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How do Malaysia's exporting firms perform in areas key to the long-term competitiveness of the country, such as productivity or innovation? What obstacles do they face? This note aims to provide insights into these questions using recent Enterprise Surveys data from the World Bank Group.

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Introduction

Global economic integration has accelerated in the past decades with an unprecedented increase in world trade from 25 percent of GDP in 1960 to 58 percent in 2015.[1] Malaysia, along with many of its regional peers, is one of the biggest beneficiaries of the globalized world. In 2015, Malaysia ranked 14th in merchandise trade share of GDP among 165 economies.[2] Early studies investigating gains from trade focused on inter-sectorial differences across countries, while subsequent research has revolved around imperfect competition, firm-heterogeneity and within industry re-allocation of resources from less to more efficient firms.[3]

Notwithstanding the extensive research on trade, much remains to be done to better understand the drivers and benefits of exporting at the country level. For example, are exporting firms in Malaysia more productive and innovative than non-exporting firms, and is the gap wider than in other countries? Does foreign ownership promote exports for large and small exporters equally? What aspects of the business environment are most troublesome to exporters in Malaysia?

This note explores the above questions for Malaysia's manufacturing sector, drawing on a recent survey of formal private firms conducted by the World Bank's Enterprise Surveys (ES). Note that the survey is representative of all manufacturing firms in the country with 5 or more employees. A common sampling methodology, stratified random sampling, and a common questionnaire ensure cross-country comparability. Data collection for Malaysia was done in 2015-16. For benchmarking, the following comparator groups are used: ASEAN (2015-16) – excludes Malaysia, Singapore, Myanmar and Brunei,[4] high-income Eastern Europe (2013),[5] Turkey (2015) and Sweden (2014). The countries are selected based on their comparability to Malaysia and the availability of recent ES data. Sweden is included in the analysis as a benchmark for an industrialized economy that is among the global leaders in export, productivity, R&D and innovation.

Throughout the analysis, a distinction is made between SMEs vs. large firms and high-tech vs. low-tech firms in order to explore heterogeneity across size and industry. The approach is in line with recent evidence that puts firm-heterogeneity at the forefront of trade analysis.[6] For firm-size, we follow the ES definition of SMEs (less than 100 full-time permanent employees) and large businesses (100 or more employees). High-tech and low-tech industries are determined using standard NACE classification.[7] Throughout, exporting firms are defined as those that export 5 percent or more of their annual sales directly. The sample for Malaysia includes 564 manufacturing firms for which information is available on exports. Of these, 59 percent are SMEs and the rest are large firms; by industry, 48 percent are high-tech and the rest are low-tech firms. The analysis focuses on exporting firms in Malaysia, thus non-exporters in Malaysia as well as exporting firms in other parts of the world are used as benchmarks. There are 260 exporting (46%) and 304 non-exporting (54%) firms in the Malaysia survey sample.

Manufacturing firms in Malaysia export under one-third of their sales, lower than that of firms in other countries

Malaysia has the highest share of exporting firms compared to other economies in the study. Similarly

exports of a typical firm in Malaysia, as a share of its annual sales, are 18 percent, the second highest after high-income Eastern Europe (21%). However, at the aggregate level, the export share of firms is about 30 percent of their total annual sales, higher than Turkey (14%) and Sweden (25%), but lower than ASEAN (35%) and high-income Eastern Europe (37%). This is mainly because exporting activity in Malaysia's manufacturing sector is less inclined towards large firms compared with ASEAN and high-income Eastern Europe (figure 1), adversely affecting its total export share.

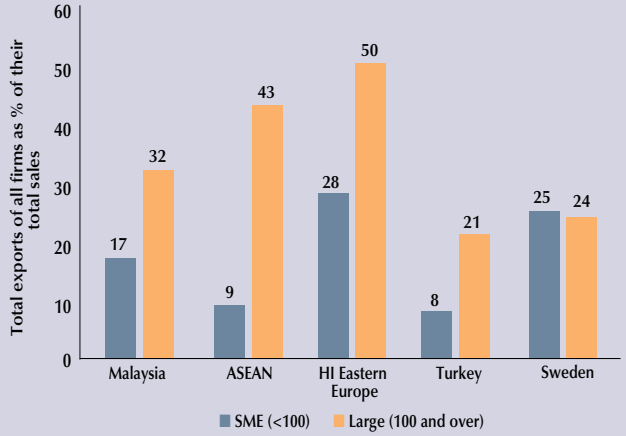
An overwhelmingly large proportion of exporting activity in Malaysia is done by high-tech firms, which include both traditional exports of electrical equipment and chemical products. At the extensive margin, high-tech firms in Malaysia are more than twice as likely to export than low-tech firms (64% of high-tech vs. 31% of low-tech firms export). In contrast, high-tech firms are as likely to export as low-tech firms in ASEAN (14%), less likely in Sweden (44% vs. 59%), and only 1.4 times as likely in Turkey and high-income Eastern Europe. A roughly similar picture emerges regarding exports as a percentage of annual sales of a typical firm. High-tech firms in Malaysia provide about 90 percent of the total exports of all private firms. The corresponding figure for the comparator countries is much lower, ranging between 38 percent (Turkey) and 67 percent (high-income Eastern Europe).

Foreign ownership is associated with higher export share in Malaysia but not as much as elsewhere

Existing literature suggests a strong positive relationship between foreign ownership and exporting activity.[8] Potentially, this happens because foreign ownership improves firm-productivity due to transfer of modern technology and investments, allowing the local firm to compete better in foreign markets; foreign owners also have better information on foreign markets thanks to their global distribution networks and ties with firms located abroad. Consistent with these findings, in Malaysia, foreign-owned firms are much more likely to export than firms that are fully domestically owned (81% vs. 42%, respectively). A similar pattern is observed in the comparator countries with foreign-owned firms being 1.5 to 4.5 times as likely to export as the remaining firms.

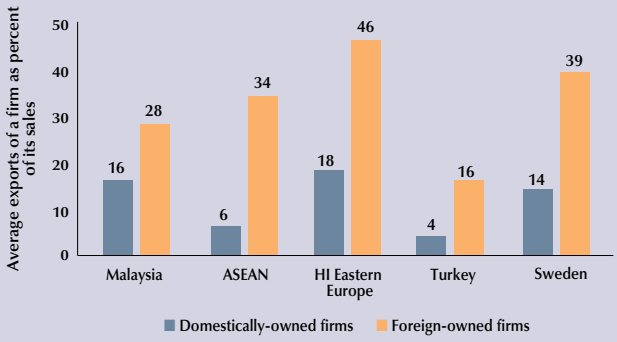
However, the relationship between export volumes and foreign ownership is much weaker in Malaysia than elsewhere (figure 2). Foreign-owned firms account for only 13 percent of the total exports in Malaysia compared with a much higher figure of 60 percent for ASEAN and 75 percent for Sweden. This is despite the fact that the foreign ownership in Malaysian firms is similar to that in the comparator economies. There are a number of potential reasons why foreign ownership may not boost exports much. For instance, foreign investment may simply displace domestic savings adding little to overall investments or it may be concentrated in sectors where the country does not necessarily enjoy a comparative advantage. It may also be the case that transfer

Figure 1 Exporting activity in Malaysia is less prevalent in large firms in contrast to some comparator countries



Source: Enterprise Surveys 2013–2015, World Bank Group. ASEAN excludes Malaysia, Singapore, Myanmar and Brunei.

Figure 2 In Malaysia, firms with foreign ownership contribute less to exporting activity than domestically-owned firms compared to other countries



Source: Enterprise Surveys 2013–2015, World Bank Group. ASEAN excludes Malaysia, Singapore, Myanmar and Brunei.

of technology via foreign investment is restricted to low-end technology. Which of these reasons, among others, explain the findings above is an important area for future research.

Both large and high-tech exporters in Malaysia are more productive than their non-exporting counterparts as well as exporting SMEs and low-tech firms

The relationship between productivity and exporting has long been scrutinized by researchers. The consensus is that there is a strong positive relationship between productivity and exporting; however, factors driving this relationship differ. Some studies show that productive firms self-select themselves into exporting, while others demonstrate that exporting causes firms to become more productive due to, for example, greater competitive pressure and learning-by-exporting.

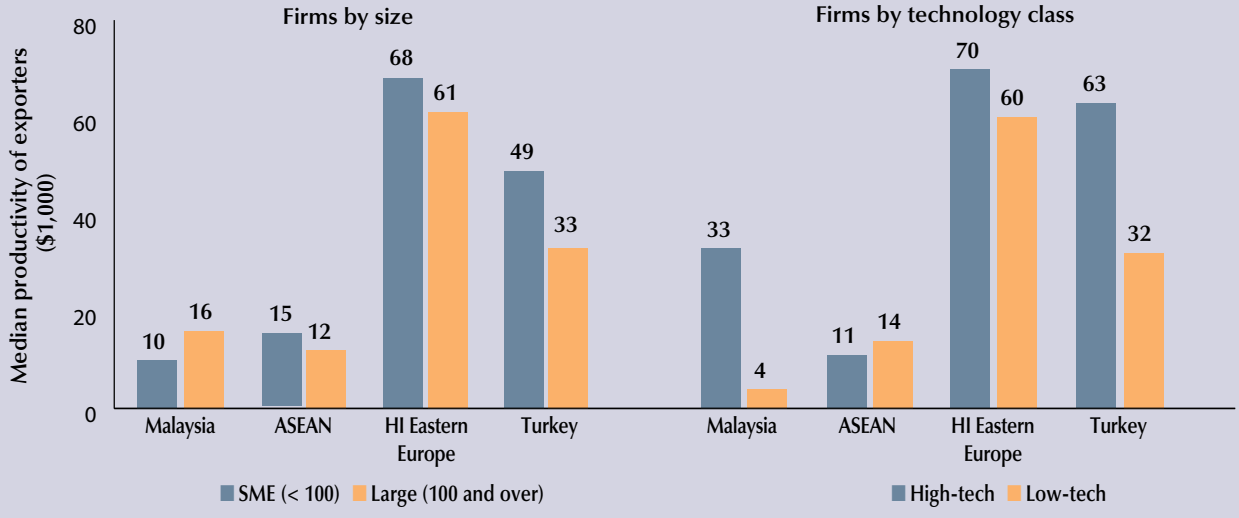
In the case of Malaysia, there is no significant difference in labor productivity between a typical exporting and non-exporting firm.[9] However, this overall result masks sharp differences by firm-size and industry. Large and high-tech Malaysian exporters are on average 2 and 1.5 times as productive as their non-exporting counterparts.[10] In contrast, SMEs and low-tech exporters in Malaysia are only about two-thirds and half as productive as their non-exporting counterparts. There are also big differences within the group of exporters. That is, in Malaysia, large and high-tech firms are around 1.6 and 8.7 times more productive than SMEs and low-tech firms, respectively —a gap that is more pronounced than in other countries (figure 3).[11] Vis-a-vis the comparator economies, both exporting and non-exporting SMEs and large firms in Malaysia have one of the lowest labor productivity rates, along with ASEAN.

Large and high-tech exporting firms in Malaysia are more likely to invest in R&D and introduce organizational and process innovation than other exporting and non-exporting firms

R&D, along with knowledge and human capital stock, is one of the most important determinants of innovation and growth.[12] Available evidence suggests that Malaysia does well in R&D activity. For example, it ranks 33rd out of 129 and 43rd out of 116 countries in terms of average R&D share of GDP and number of researchers during 2004–2014, respectively, placing second in ASEAN after Singapore.[13]

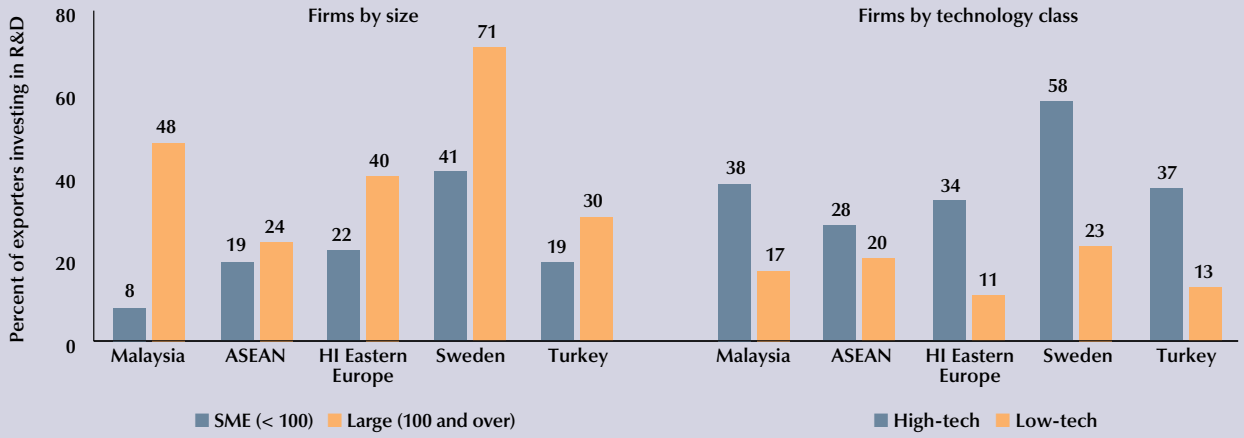
Consistent with the literature showing a positive link between exporting, R&D and innovation activity,[14] the ES data reveal that exporting firms in Malaysia and elsewhere are at least twice as likely to invest in R&D as non-exporting firms, across most size and industry categories.[15] Among exporters, large and high-tech firms outperform SMEs and low-tech firms in all countries (figure 4). Interestingly, Malaysia's large and high-tech exporters have the second highest share of firms investing in R&D, after Sweden,

Figure 3 **Large and high-tech exporters have the highest productivity among Malaysia's firms**



Source: Enterprise Surveys 2013–2015, World Bank Group. ASEAN excludes Malaysia, Singapore, Myanmar and Brunei. All numbers are rounded up to the nearest integer. Median productivities of Sweden's exporting firms are exceedingly higher than those of other economies (e.g. SMEs: 281; large firms: 406; high-tech: 262; low-tech: 503), therefore they are not reported in the figures.

Figure 4 **Malaysia's large and high-tech exporting firms have the second highest percentage of firms investing in R&D after Sweden**



Source: Enterprise Surveys 2013–2015, World Bank Group. ASEAN excludes Malaysia, Singapore, Myanmar and Brunei.

while its large and high-tech non-exporters have the third highest share among non-exporters.

The ES also provides information on whether a firm is involved in product, process or organizational innovation during the last three years. All three types of innovation tend to be more likely among exporters than non-exporters in Malaysia and comparator economies, across most size and industry categories.[16] Much like the results on R&D presented above, large and high-tech exporting firms of Malaysia have the second highest share of innovators after Sweden.[17] One exception concerns product innovation, where they lag behind other countries.[18]

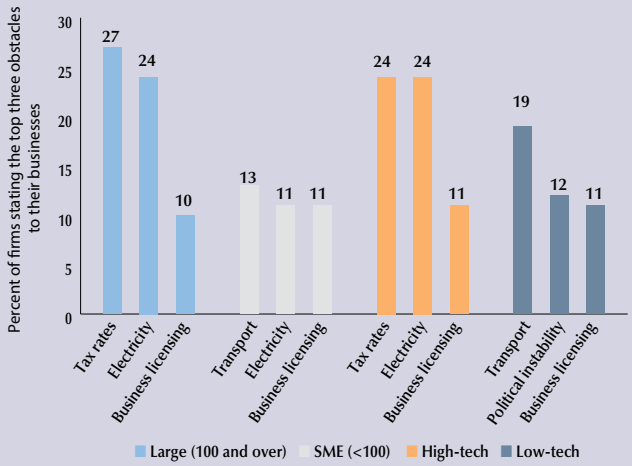
High tax rates and unreliable power supply are the two most commonly chosen top obstacle by exporting firms in Malaysia

The Enterprise Surveys ask firms to rank the biggest obstacle to their operations from a list of fifteen obstacles. For exporting firms, the most commonly chosen top obstacle was high tax rates (chosen by 19.2% of the firms), closely followed by inadequate power supply (18.7%) and obtaining business licenses and permits (11%). High tax rates and power unreliability are not as troubling to non-exporters; 10.9 percent of them see the former obstacle as their biggest concern and 1.9 percent select the latter. The ES also provides information on the absolute severity of the various obstacles to firms' operations. These reveal a similar picture in that high tax rates and inadequate power supply are a more severe obstacle for exporting than non-exporting Malaysian firms.

As the discussion above and the broader literature suggest, firm-size and industry play a critical role in exporting decisions and behavior. Hence, it is not surprising that the problems faced by exporters vary sharply depending on their firm-size and industry (figure 5). Notably, high tax rates—the most commonly chosen top obstacle by large exporters and high-tech exporters—does not figure among the top 3 most commonly chosen biggest obstacles for SME and low-tech exporters.

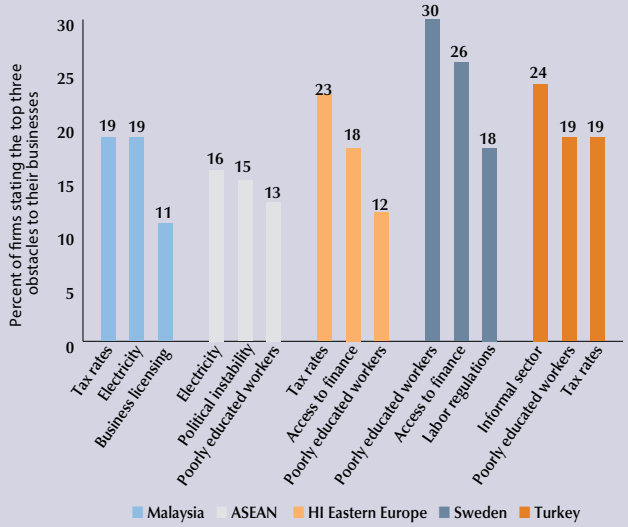
Examining further firms' perceptions about the top obstacle in Malaysia, inadequate power supply stands out for the sharp contrast between exporters and non-exporters. Exporting firms are much more likely than non-exporters to rank inadequate power supply as the top obstacle and this holds across firm-size and industry groupings. For instance, large exporters are about three times as likely to rank power

Figure 5 **The top obstacles for Malaysian exporters vary by firm size and industry**



Source: Enterprise Surveys 2013–2015, World Bank Group.

Figure 6 **Unlike in other countries, obtaining business licenses and permits is among the three most commonly chosen top obstacle for Malaysian exporters**



Source: Enterprise Surveys 2013–2015, World Bank Group. ASEAN excludes Malaysia, Singapore, Myanmar and Brunei.

unreliability as the top obstacle than large non-exporters (24% vs. 8%). This is surprising given that power outages typically affect all firms in a given area.

A potential explanation is that exporting firms in Malaysia may be engaged in industries where electricity is more critical, arguably industries such as non-metallic and plastic production and chemicals and chemical products, where Malaysian exporters are concentrated.[19] Another possibility is that relative to non-exporters, exporting firms may be disproportionately located in areas with worse quality of power supply. The ES data confirm these explanations; once differences in firms' location and industry are taken into account, the proportion of exporting vs. non-exporting firms perceiving electricity as the top obstacle is similar.[20]

Power unreliability is the biggest concern of ASEAN exporters, while business licensing is a major hurdle specific to Malaysia

The three most commonly chosen top obstacles by Malaysian exporters shows some overlap with exporters in other countries (figure 6). High tax rates are common to Malaysia as well as high-income Eastern Europe and Turkey, while power unreliability is a significant hurdle to firms in Malaysia and ASEAN. On the other hand, obtaining business licenses and permits is among the three most commonly chosen top obstacle for Malaysian exporters but not for exporters elsewhere. In fact, the ES data show that it takes more time for exporting firms to obtain an operating license or import license in Malaysia than in several middle-income economies like Indonesia, Thailand, and Turkey.[21]

Conclusion

Taking advantage of recent Enterprise Surveys data, this note aims to provide a first set of observations on the performance and regulatory constraints of Malaysia's exporting firms. The findings provide some interesting insights. For instance, surprisingly, manufacturing firms in Malaysia export a lower share of their sales than in other countries. This is because exporting firms are less likely to be large businesses, adversely affecting export volumes. In addition, Malaysian exporters consider an unreliable power supply as a much greater obstacle to operations, compared to non-exporter firms.

Large and high-tech exporters of Malaysia are more productive than other exporters and non-exporters of Malaysia, although they are less productive than their counterparts in most of the comparator economies. In addition, consistent with the existing research, large and high-tech exporters in Malaysia are more likely to invest in R&D and introduce process or organizational innovation than other firms in Malaysia and in comparator economies, except Sweden.

In light of the findings presented here and in other studies, promoting large and high-tech firms in the export sector may improve Malaysia's trade volumes, productivity and innovation. Several questions, however, remain to be explored. For instance, why are Malaysia's exporting SMEs and low-tech firms underperforming in terms of productivity and innovation; why is the contribution to total exports of foreign-owned firms' low in Malaysia; and why do unreliable electricity and business licensing stand out as major preoccupations for the country's exporters?

Notes

1. *World Development Indicators*, 2016.
2. *World Development Indicators*, 2016.
3. See for example, Westphal, 1990; De Loecker, 2007; Melitz, 2003.
4. ASEAN sample here includes Cambodia, Indonesia, Lao PDR, The Philippines, Thailand, and Vietnam, which have ES data. Survey was conducted in 2015-16. Malaysia is excluded to isolate its impact on ASEAN's figures.
5. High-income Eastern Europe (also referred to as HI Eastern Europe in the figures) includes Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, Slovenia. Data for these countries was collected in 2013.
6. See for example, Melitz, 2003.
7. Classification is based on NACE Rev. 2 3-digit level codes. Low-tech category here includes both low-tech and low mid-tech industries such as food, furniture, garments, leather, paper, textiles, tobacco, basic metals, fabricated metals, non-metallic mineral products, plastic and rubber, refined petroleum and other low and low-mid tech manufacturing. High-tech category includes both high mid-tech and high-tech industries, such as chemicals and chemical products,

electronics, machinery and equipment, transport, precision and other high mid-tech and high-tech manufacturing.

8. See for example, Bernard and Jensen, 2004; Alvarez and López, 2005.
9. Labor productivity is computed as real sales in USD per full-time employee. We use median values throughout. Median productivity of exporting and non-exporting firms of Malaysia is same at USD 12,000.
10. Results for non-exporting firms are not reported in the figures.
11. In the non-export sector, the median productivity of Malaysia's firms in thousands USD is: SME: 15; large: 8; high-tech: 22; low-tech: 9.
12. See for example, Romer, 1990; Aghion and Howitt, 1998; Ulku, 2007.
13. *World Development Indicators*, 2016. During the same time, Sweden and Turkey had 3.34% and 0.78% in R&D share of GDP, and 5,663 and 843 in number of researchers, respectively. Denmark, Finland, Israel, Japan, Korea and Sweden were in the top 10 in both indicators.
14. See for example, Shafi'i and Ismail, 2007.
15. The only two exceptions are that in Malaysia non-exporting SMEs and in Sweden non-exporting low-tech firms are slightly more likely to invest in R&D than their exporting counterparts.
16. The only exception to this in Malaysia is that non-exporting SMEs and low-tech firms are more likely to introduce process innovation than their exporting counterparts.
17. In both process and organizational innovation, Malaysia's exporting SMEs and low-tech firms are among the lowest performers, while its non-exporting SMEs and low-tech firms are among the highest performers in their respective groups in economies included in the study.
18. Among the exporting firms of Malaysia, 16% of large firms, 6% of SMEs and about 13% of high- and low-tech firms introduced product innovation during 2012-2014, while among the non-exporters, 10% of large firms, 4% of SMEs, 10% of high-tech and 2% of low-tech firms introduced a new product.
19. Alby et al., 2011, find that returns to investment in sectors that are very reliant on electricity, such as chemical industries, are disproportionately impacted by power outages. Alam, 2013, and Abotsi, 2016, find that, in India and Africa (respectively), an increase in the frequency of power outages disproportionately lowers the output of the electricity-intensive industries.
20. This holds separately for the sample of SMEs and large firms. It also holds for the full sample provided that differences in firm-size (SME vs. large) is taken into account. A simple logit regression was used for these results.
21. According to ES, it takes on average 11.1 days for exporters in Malaysia to obtain a business license. In contrast, it takes on average 7.8 days in Indonesia, 1.7 days in Thailand and 8.6 days in Turkey. Similarly, it takes 10.6 days to obtain an import permit for exporters in Malaysia compared to 7.6 days in Indonesia or 5.2 days in Thailand.

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