



Productivity in the Time of COVID-19: Evidence from East Asia and Pacific

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Firms in the East Asia and Pacific (EAP) region have been hit hard by the COVID-19 pandemic, with dramatic and widespread falls in sales and employment. Firm sales in some EAP countries were 38 to 58 percent lower in April or May 2020, compared to the same month in the previous year. Small and medium-sized enterprises (SMEs) have been particularly affected. The pandemic will have a lasting impact on productivity growth as firm indebtedness and increased uncertainty inhibit investment, and firm closures and unemployment lead to a loss of valuable intangible assets. Support for firms is needed but must be based as far as possible on objective criteria, related not only to past performance or current pain but to the potential for firms, including new firms, to thrive in the future. To avoid unduly prolonging assistance, governments should build exit strategies into the design of support measures and commit to phasing support out by linking it to observable macroeconomic indicators of recovery.

How Has the COVID-19 Shock Affected Firms?

Firms have been hit hard by the pandemic, with dramatic and widespread falls in sales and employment. Firm sales in East Asia and the Pacific (EAP) countries were on average 38 to 58 percent lower in April or May 2020, compared to the same month in the previous year.

The COVID-19 shock started as a sudden stop to local consumption and labor supply due to temporary lockdown measures and disruptions to supply chains. Lockdowns translated into temporary business closure and countries with more extensive reductions in mobility experienced larger falls in firm sales (Business Pulse Surveys). Few firms were able to implement new teleworking arrangements in response to the lockdown. Early in the pandemic, Chinese manufacturing firms were mainly affected by shortages of labor and raw materials, with knock-on disruption to global supply chains reliant on Chinese inputs (Dai et al. 2020).

As containment measures have begun to ease, businesses are reopening. As of June 2020, 46 percent of Vietnamese firms and 23 percent of Philippines firms had reopened after closing temporarily (Business Pulse Surveys). Most businesses are now open, with 97 percent of firms open in Vietnam, which has successfully contained the pandemic so far (figure 1).

Despite the easing of mobility restrictions, the crisis has delivered a major demand shock. While many firms have reopened, domestic and foreign demand remains depressed and uneven, with many firms operating at partial capacity. In Vietnam, firm sales in June 2020 had recovered to only 43 percent of the prior year, from 53 percent during the lockdown in April (Business Pulse Surveys). Depressed demand is often the most frequently reported concern in recent firm surveys (Business Pulse Surveys; Dai et al. 2020; Hassan et al. 2020). As the health crisis continues, consumers continue to postpone purchases of nonessentials, such as tourism and garments, particularly affecting firms in those sectors. The longer lower demand persists, the more likely that liquidity challenges will translate into widespread insolvencies.

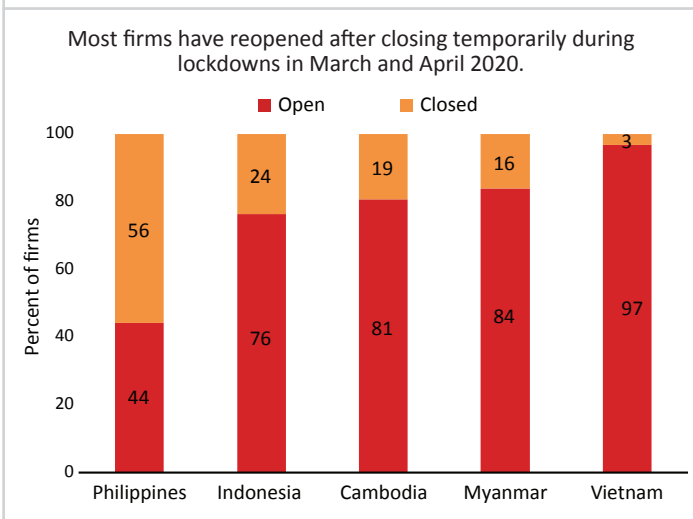
Sales and employment have fallen partly because some firms have gone out of business, but other firms have also closed temporarily, laying off workers or operating at reduced capacity. While firm bankruptcies are often difficult to measure, surveys of Chinese SMEs estimated an exit rate of nearly 18 percent of firms between February and May 2020, which account for approximately 14 percent of total employment (Dai et al. 2020; Huang et al. 2020). Even if firms continue operating, many firms are making permanent and temporary savings to their labor costs, by firing workers, granting leave, reducing number of hours worked, or cutting wages (figure 2).

SMEs are particularly affected because they are both more vulnerable to the crisis and less able to adapt than larger firms. In China, production recovered much more quickly in large firms than in smaller ones (Fitch 2020). SMEs are typically less able to weather the crisis than larger firms because they have more limited access to finance and are disproportionately reliant on a few key customers. The monthly sales of SMEs have fallen by 7 to 24 percentage points more than of larger firms in EAP countries (figure 3). However, demand for essentials remains strong and households across the EAP region are shifting to new areas of spending online, such as groceries and entertainment (Yendamuri, Keswakaroon, and Lim 2020). SMEs are typically less able to take advantage of these changes by adopting digital business models, such as e-commerce.

What Are the Implications for Firms and Future Productivity?

Aggregate productivity is determined by the productivity of firms that go out of business, the productivity of new start-ups, and changes in the productivity of continuing firms. The COVID-19 crisis will have a lasting impact on productivity growth through three channels: (1) productive firms going out of business and the loss of irreplaceable intangibles; (2) fewer new innovative start-ups; and (3) diminished productivity-enhancing investments within continuing firms.

Figure 1. Operational Status of Formal Firms in Selected EAP Countries as of May, June, or July 2020



Source: Business Pulse Surveys.

Note: Operational status at the time of the survey reflects formal sector firms and was conducted in May 2020 for Myanmar; June 2020 for Cambodia, Indonesia, Vietnam; and July 2020 for the Philippines. "Open" includes partially open; hence the share of open firms might overestimate the extent of operations. "Closed" is likely underestimated due to sample bias.

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Figure 2. Employment Adjustments by Firms in Selected EAP Countries as of June or July 2020

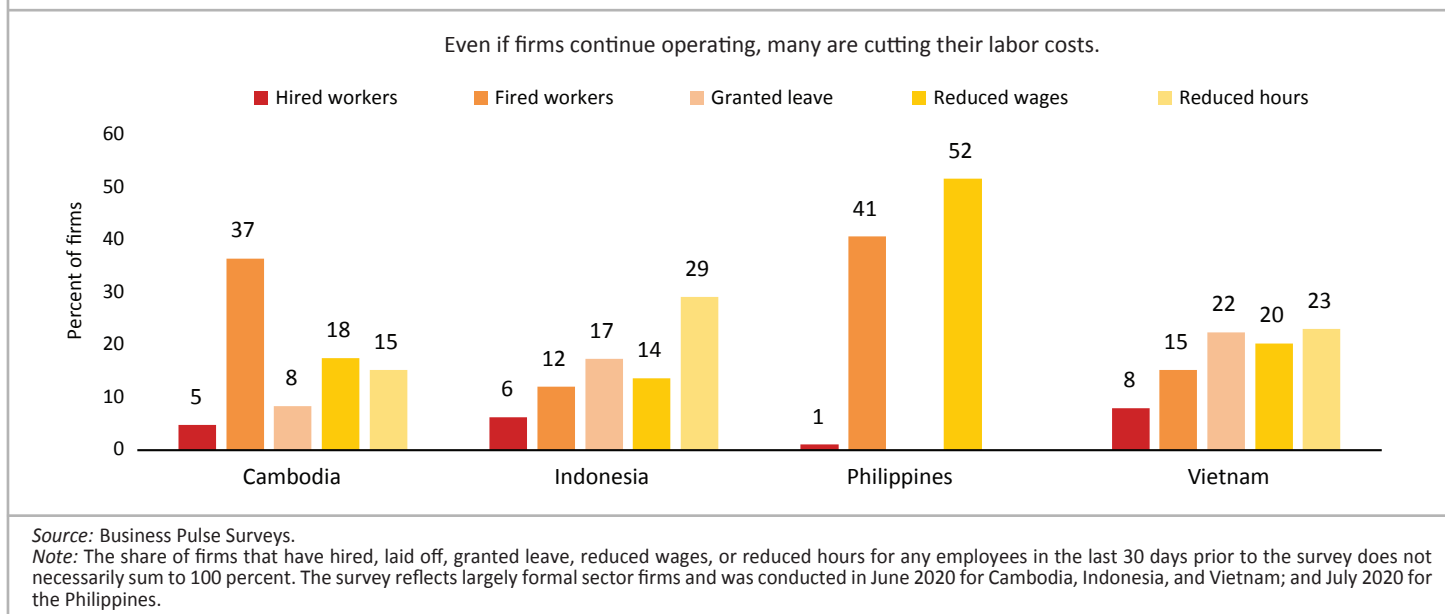
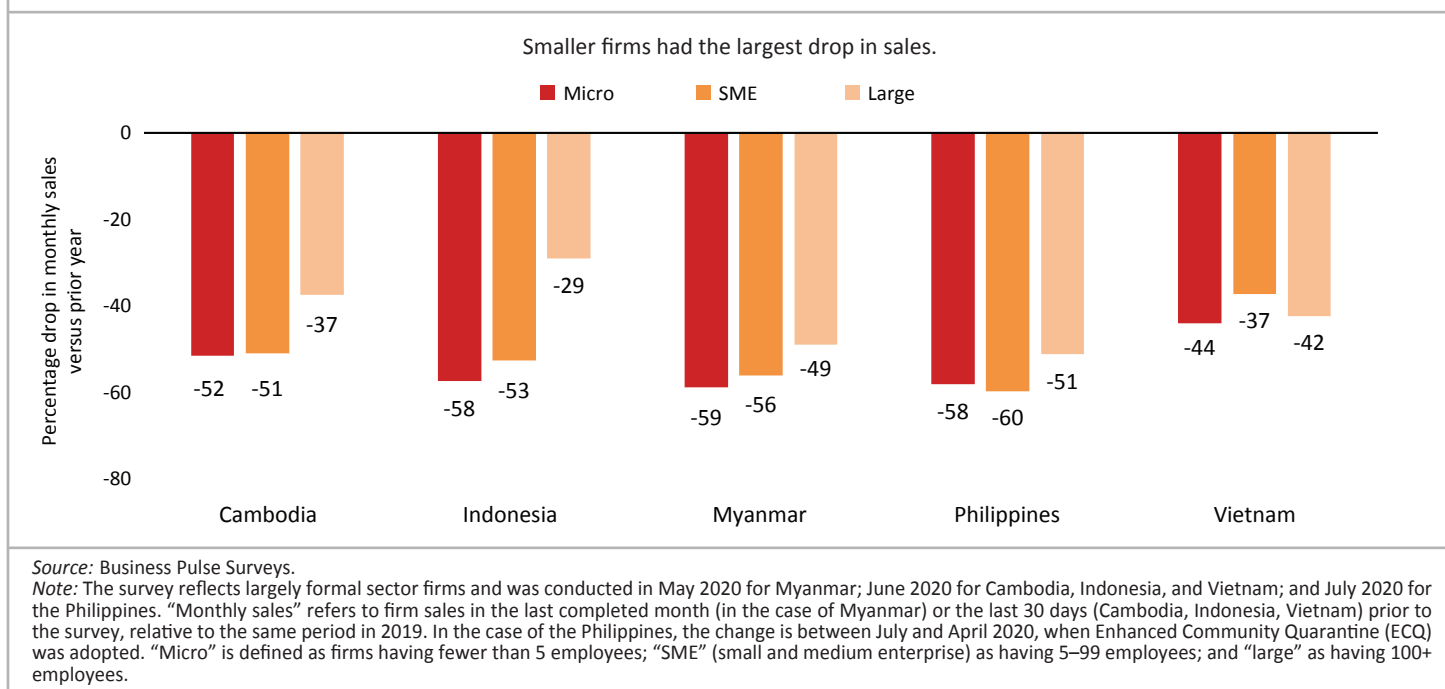


Figure 3. Drop in Monthly Sales Reported by Microenterprises, SMEs, and Large Firms in Selected EAP Countries as of May, June, or July 2020



First, without support, the crisis will lead to the exit of many good *and* bad firms. More productive firms may be better able to weather the ongoing crisis, through a broader customer base and/or better access to finance, and/or by adapting new business models. In such cases, the crisis may improve aggregate productivity by weeding out poor-performing firms and allowing room for better firms to grow. However, all firms are vulnerable to persistently low demand and inadequate access to credit. Evidence from past crises suggests that some strong firms may also be weeded out along with the weak firms (Foster, Grim, and Haltiwanger 2016; Hallward-Driemeier and Rijkers 2013). Larger and financially healthier firms appear to be more insulated from the crisis, but larger firms are not always more productive, particularly in services (Bajgar et al. 2019; Ding et al. 2020).

The exit of good firms may mean the loss of intangible assets that matter for productivity and that are difficult to rebuild. Disruptions to firms could lead to the permanent loss of important supply chain relationships or relationships within the firm that are difficult to rebuild,

slowing the recovery. Job losses could mean the destruction of firm-specific worker’s skills and know-how. Unemployment could deprive the firm (if it survives) of hard-to-replace skills and reduce the worker’s future earnings—if they are unable to use these firm-specific skills elsewhere. These so-called intangible assets comprise substantial investments that are an increasingly important part of modern business models and matter greatly for firm productivity (see, for example, Bloom and Van Reenen 2010; Corrado et al. 2018; Haskel and Westlake 2018).

Second, start-ups are likely to be particularly affected. A missing generation of start-ups may scar longer-term productivity growth. Fewer start-ups are entering during the crisis. New business registrations dropped 70 percent in Myanmar in April 2020 compared to March 2020, and by 5.1 percent in Vietnam in the first seven months of 2020, compared to the same period in 2019 (Myanmar Times 2020; National Business Registration Portal 2020). The crisis may also scar the growth of those start-ups that survive. In many countries, the cohort of new firms entering during the global financial crisis had persistently lower growth

rates than those entering before the crisis (Calvino, Criscuolo, and Menon 2015; Moreira 2017). Start-ups can play a key role in diffusing new technologies and business models (Criscuolo, Gal, and Menon 2017; Haltiwanger, Jarmin, and Miranda 2013). Therefore, while the absence of start-ups may not adversely affect aggregate productivity in the short term because these firms are small, their absence may matter much more for long-term growth.

Third, surviving firms may face prolonged uncertainty and be saddled with debt—reducing their future productivity-enhancing investments. These investments often incur sunk costs that only pay off over the longer term, including investment in intangibles such as data and artificial intelligence (AI), worker training, and developing new products. Uncertainty and financial constraints can deter these investments because they are long term and irreversible (Aghion et al. 2010; Barrero et al. 2017). During past crises, firms were less likely to undertake disruptive, radical innovation and disproportionately cut back on intangible investment (Duval, Hong, and Timmer 2020; Granja and Moreira 2019). The pandemic has led to enormous increases in firm uncertainty, dwarfing those recorded during the global financial crisis (Baker et al. 2020; Bloom et al. 2020; Hassan et al. 2020). Firms have responded by significantly cutting expenditures on innovation, training, and general management improvements, which is likely to curb future productivity growth considerably (Baker et al. 2020).

One potential bright spot is that the COVID-19 crisis has accelerated investment in digital technologies that may translate into faster productivity growth. Crises can enable the diffusion of new business models and digital technologies: for instance, e-commerce in China grew in the wake of restrictions put in place due to 2003 SARS outbreak. In EAP, the COVID-19 pandemic has led to many firms accelerating their use of digital platforms (figure 4). Moreover, the crisis may be catalyzing the use of digital financial services, such as through cash transfers or contactless payment systems. Across 74 countries, daily downloads of fintech apps have increased 24 percent since their COVID-19 lockdown, with a marked 65 percent increase in Asia (Fu and Mishra 2020). However, increased use of digital technologies may also widen disparities between firms and locations able to adopt new technologies and those that cannot. Insofar as digital technologies lead both to productivity growth of adopting firms and a reallocation of activity toward them, this can lead to higher aggregate productivity.

What Has the Policy Response Been So Far?

Governments have introduced a wide range of measures to limit firm bankruptcies and employment losses, helping firms directly as well as indirectly via the financial sector. Direct assistance has come in the form of tax relief, wage or rent subsidies, and soft loans or credit guarantees. Indirect assistance has involved injecting liquidity into the banking system or relaxing banking sector regulations. Some policies, such as government debt financing or issuing credit guarantees, fall in between. The initial response has in part relied on existing schemes, as exemplified by the expansion of financing program for micro, small and medium enterprises by the Small Business Corporation in the Philippines. The repurposing of existing policy interventions can be easier and quicker to scale up.

In contrast, business climate reform, which is likely to matter for the recovery, represents less than 10 percent of all post-COVID-19 policy actions in EAP countries (World Bank 2021, as of August 31, 2020). As the next section will discuss, reducing red tape presents an opportunity to encourage the entry and growth of new innovative firms.

Evidence from past crises suggests that wage subsidies and additional capital can help smaller firms survive and recover. Wage subsidies in Mexico after the global financial crisis speeded up employment recovery, especially for smaller firms (Bruhn 2020). Cash grants in Sri Lanka after the 2004 tsunami helped microenterprises survive the crisis and speeded their recovery (De Mel, McKenzie, and Woodruff 2013).

In response to the COVID-19 crisis, more than half of EAP countries have introduced some form of wage subsidy (World Bank 2021). Approximately one-quarter of the COVID-19 policies in EAP explicitly target SMEs, for instance through subsidies or new credit lines (World Bank 2021).

However, support has not reached many firms (figure 5). The share varies substantially by country, ranging from less than 10 percent in the case of Indonesia to around 20 percent in the Philippines and Vietnam. Lack of awareness is also a major barrier to firms taking up available COVID-19 support (Apedo-Amah et al. 2020). In Indonesia, most surveyed firms were unaware of public support.

Informal firms and microenterprises are difficult to reach through government policy because they often operate outside formal financial and tax systems. For these firms, policy is directed better to support informal workers, through social protection, rather than support the firms per se. Mason et al. (2020) discuss these social protection measures. This Brief focuses on the formal sector.

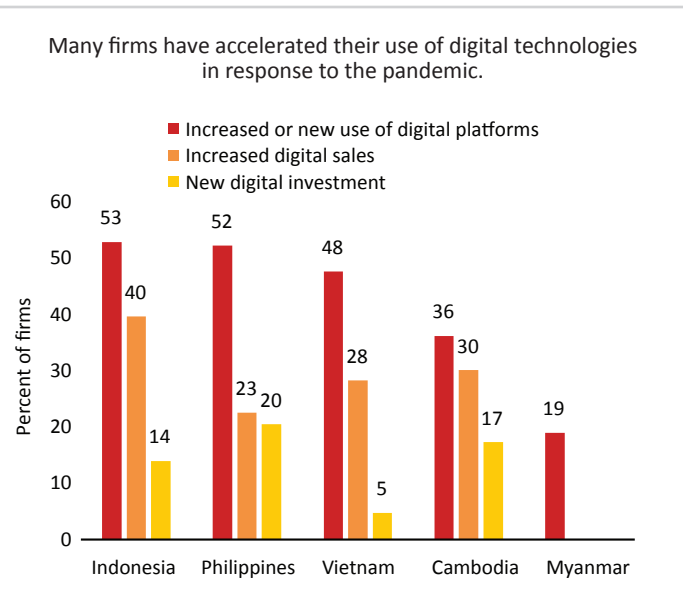
How Can Policy Best Strike a Balance between Immediate Relief, Rapid Recovery, and Longer-Term Productivity Growth?

Why Targeted Support May Be Needed in the Short Term

Crises are bad selectors, driving out both productive and unproductive firms as slumps in demand are compounded by the increased risk aversion and informational inadequacies in capital markets. Therefore, policy support is necessary to help good firms survive. Support is also socially desirable if the benefits to society from the firms' survival outweigh the costs—which include the direct costs of raising resources to support firms (through taxes or government debt) and the indirect costs of supporting less productive firms (along with good ones) in the effort to provide broad and immediate relief—thus leaving fewer resources for productive uses and ultimately slowing recovery.

Implementing support for firms during the COVID-19 crisis entails trade-offs. In principle, optimal support would balance the benefit of preserving potentially valuable firm-specific assets that would be lost if

Figure 4. Use of Digital Platforms and Investment in Digital Solutions by Formal Firms in Selected EAP Countries as of May, June, or July 2020



Source: Business Pulse Surveys.

Note: Data on increased digital sales and new digital investment is not available for Myanmar. The share of firms that increased digital sales is estimated for those reporting positive digital sales only. The survey reflects formal sector firms and was conducted in May 2020 for Myanmar; June 2020 for Cambodia, Indonesia, and Vietnam; and July 2020 for the Philippines.

the firm exits against the drag of supporting less productive firms. In practice, government support faces one key trade-off: *immediate but indiscriminate* implementation versus *slower but targeted* implementation. Firms highly reliant on cash flows may not long survive a shock of the magnitude and depth generated by the pandemic. Prompt government action is needed to avoid igniting downward spirals. But prompt action is likely to be indiscriminate, at least initially, because designing new, targeted policies takes time. The downside is that broad support may keep zombie and less productive firms afloat along with more productive firms. When more capital is sunk in zombie firms, the resources available for more productive firms to scale up are more limited (Andrews, McGowan, and Millot 2017).

As the COVID-19 pandemic persists, broad support may become less desirable. While indiscriminate support aimed at keeping many firms afloat can be desirable in the immediate arrival of the crisis, it may be impractical and inefficient to do so for a longer duration. First, reaching a broad number of firms is typically more costly than targeted implementation, and such costs mount the longer the crisis persists. Second, the longer zombie and less productive firms are preserved, the greater the drag on reallocating resources to more productive uses, impeding recovery.

Therefore, policy should strive for a more efficient allocation of financial support today. Support is rarely indiscriminate. Even when it is in principle available for all firms, only some firms may be adequately informed, identified, or politically connected to take advantage of it. In EAP countries, a minority of firms have had access to COVID-19 support, with most either unaware or finding the application too difficult (figure 5). The characteristics of these firms that take advantage of policy are often opaque. Therefore, the challenge is to define objective and transparent criteria, to both avoid supporting unproductive firms and mitigate concerns about picking winners.

Ideally, support criteria would be based not only on past performance or current pain but on a firm possessing assets that will be valuable in the future but would be completely lost if the firm exits. Many intangible assets are firm specific and irretrievable, unlike tangible assets such as land or machinery that could be repurposed in other firms. Intangibles, such as firm-to-firm and firm-to-worker relationships, have been becoming much more important to productive firms' business models. Therefore, preserving these assets is likely to be important for the recovery.

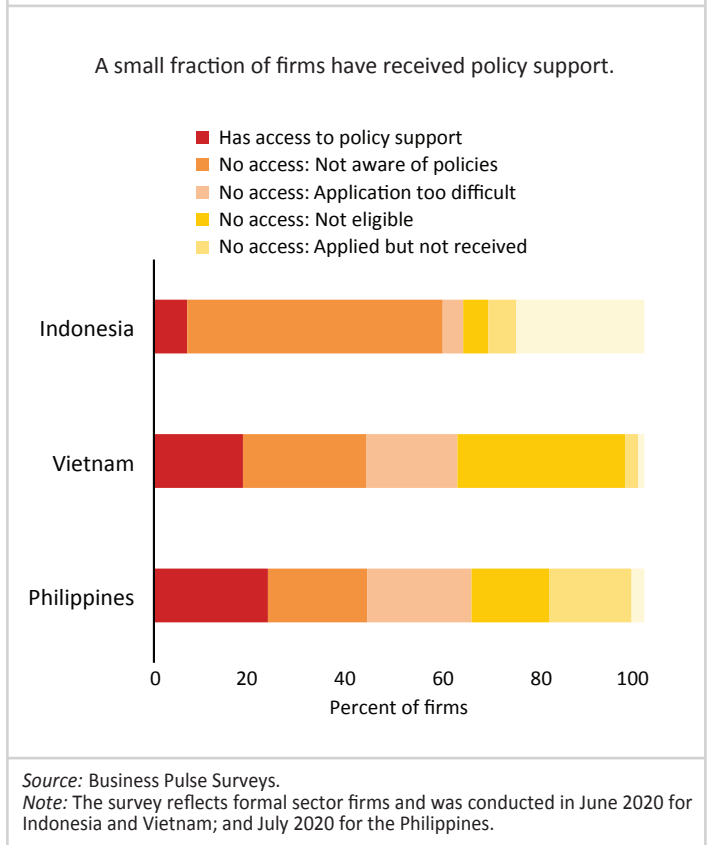
Challenges of Implementing Targeted Support

Even if targeted policy support is necessary and desirable, it is difficult to design, implement, and credibly phase out.

Identifying high-potential firms is not straightforward. For instance, support criteria may target firms with irreversible intangible assets. However, measuring intangible assets is often difficult. Data may be available for some innovation investments like Research & Development (R&D), but data are much scarcer on investments in branding, firm-specific management skills, or information technology (IT). In some cases, past performance, as revealed by previous years' profits, tax revenues, or trade flows, or current performance, as reflected in stock prices, may also provide clues on firm potential. For example, controlling for market risk, there is as much as a 25 percent gap in cumulative return between more and less resilient firms in US asset markets (Pagano, Wagner, and Zechner 2020).

Rather than targeting firms directly, the choice of policy instruments can lead to the self-selection of firms with desirable characteristics. Social security deferrals in China, for example, have been found to disproportionately benefit firms with a high share of skilled workers who are likely to be associated with firm-specific mutual investments (Chen et al. 2020). In contrast, workers in firms with few specific assets are better supported through social protection measures. This includes

Figure 5. Formal Firms Receiving Policy Support in Selected EAP Countries as of June or July 2020



microenterprises and informal firms, which account for most firms in EAP countries and are difficult to reach through the financial and tax systems.

Instead, support can target productive activities, rather than productive firms per se. For example, policy can be directly tailored to encourage new investment in intangibles and promote long-term productivity growth. The recovery depends both on the preservation of existing high-potential firms with intangible assets and future investment in new intangibles. For example, policy can specifically encourage investments in R&D or encourage skills training through tax incentives.

There are trade-offs in the choice of institutions to implement targeted support—either directly via the government or indirectly through financial institutions. On the one hand, banks are likely to have access to additional sources of information about their client firms that are not available to the government, which may allow for better targeting. On the other hand, banks' incentives to lend (to less-risky, larger, and older clients) may differ somewhat from the government's desire to support productive firms (that may include more risky firms with more radical business models or start-ups).

Governments must credibly commit upfront to terminating assistance when it is no longer needed to avoid the risk of capture by politically connected firms. This concern is relevant, however the policy support is designed and implemented. Policies once enacted are often difficult to retract and beneficiaries have an incentive to lobby for continued support. For example, in Brazil, credit market interventions in response to the global financial crisis continued to expand even after the economy recovered (Bonomo, Brito and Martins 2015). To avoid this risk, exit strategies should be designed and committed to at the point of inception. One option is to link legally the continuation of support to certain objective macroeconomic indicators of recovery, such as the unemployment rate or industrial production, or other high-frequency indicators that are already collected.

The Importance of Policy Reform for Longer-term Growth

While firm support can provide immediate relief, broad policy reforms to improve the business environment are crucial for longer-term growth.

Broad policy reforms to the business environment, while they can take time, support the entry and expansion of innovative businesses—the productive firms of tomorrow. Broad reforms have the advantage that they allow firms to self-select into the policies, and avoid the difficulties of designing policy for a targeted group of firms. Although the support of existing productive firms today is important, the recovery also depends upon new innovative firms—and the entry and growth of start-ups is particularly sensitive to the business environment (Calvino, Criscuolo, and Menon 2016). Broad reforms helpful to long-term growth include the following:

- *Strengthening venture capital and early-stage finance market development*, through tax policy, public funding, or regulatory reform can all help innovative start-ups.
- *Reducing red tape and streamlining regulatory systems* can facilitate firm entry and reduce the bureaucratic advantages of incumbents.
- *Improving insolvency resolution* can promote the exit of zombie firms, freeing resources for productive firms to scale up (Andrews et al. 2017). The introduction of specialized bankruptcy courts in selected Chinese cities has led to faster resolutions of bankruptcy cases, decreased the share of labor in zombie-intensive industries, and increased the average product of capital (Li and Ponticelli 2020).
- *Accelerating infrastructure investments*, such as improving access to digital infrastructure, can reduce the barriers to broader adoption of digital business models, such as e-commerce and remote working.
- *Liberalizing services and reducing barriers to competition* are largely untapped avenues to promote more efficient resource allocation.

- *Transparent policy implementation and simplification of procedures to access support* can help increase policy awareness and allow policy to reach a broader set of firms.

Business environment reforms are typically triggered by a crisis because they are much harder to implement in normal times. Thus, the COVID-19 crisis represents an opportunity to get the policies right for broad-based recovery and productivity growth.

Conclusion

The COVID-19 pandemic has hit firms hard, with many firms facing prolonged exposure to low levels of demand and increased uncertainty. The longer the crisis persists, the greater the potential risk to recovery and inclusive growth. Record levels of uncertainty have led many firms to postpone investments. SMEs appear to be particularly hard hit and are less able to adapt by going digital. Firm closures and unemployment will lead to a loss of valuable firm-specific intangible assets.

EAP countries have responded rapidly with wide-ranging support to firms. As the COVID-19 crisis persists, broad support may be less desirable. However, targeted support must be based as far as possible on objective criteria related to the potential to thrive in the future. Lessons from past crises highlight the difficulties of phasing out support packages. To avoid this risk, governments can commit to phasing support out by linking it to observable macroeconomic indicators of recovery.

However, support to firms should be viewed as an integrated part of broader policies. Business environment reforms started today can help support the entry and expansion of the productive firms of tomorrow. Building capacity for rapid COVID-19 testing and tracing will limit the need for costly firm lockdowns in the future. Effectively controlling the health pandemic may lead to a quicker return of consumer confidence and demand (Goolsbee and Syverson 2020).

References

- Aghion, P., G. M. Angeletos, A. Banerjee, and K. Manova. 2010. "Volatility and Growth: Credit Constraints and the Composition of Investment." *Journal of Monetary Economics* 57 (3): 246–65.
- Andrews, D., M. A. McGowan, and V. Millot. 2017. "Confronting the Zombies: Policies for Productivity Revival." OECD Economic Policy Paper 21, OECD Publishing, Paris.
- Apedo-Amah, M. C., B. Avdiu, X. Cirera, M. Cruz, E. Davies, A. Grover, L. Iacovone, U. Kilinc, D. Medvedev, F. Okechukwu Maduko, S. Poupakis, J. Torres, and T. T. Tran. 2020. "Businesses through the COVID-19 Shock: Firm-level Evidence from 49 Countries." World Bank Policy Research Paper 9434, World Bank, Washington, DC.
- Bajgar, M., G. Berlingieri, S. Calligaris, C. Criscuolo, and J. Timmis. 2019. "Industry Concentration in Europe and North America." OECD Productivity Working Paper 18, OECD Publishing, Paris.
- Baker, S. R., N. Bloom, S. J. Davis, and S. J. Terry. 2020. "COVID-Induced Economic Uncertainty." NBER Working Paper 26983, National Bureau of Economic Research, Cambridge, MA.
- Barrero, J. M., N. Bloom, and S. Davis. 2017. "Short and Long Run Uncertainty." NBER Working Paper 23676, National Bureau of Economic Research, Cambridge, MA.
- Bonomo, M., R. D. Brito, and B. Martins. 2015. "The after crisis government-driven credit expansion in Brazil: A firm level analysis." *Journal of International Money and Finance*: 55: 111–134.
- Bloom, N., P. Bunn, S. Chen, P. Minzen, and P. Smietanka. 2020. "The Economic Impact of Coronavirus on UK Businesses: Early Evidence from the Decision Maker Panel." VOXEU CEPR Policy Portal, March 27.
- Bloom, N., and J. Van Reenen. 2010. "Why Do Management Practices Differ across Firms and Countries?" *Journal of Economic Perspectives* 24 (1, Winter): 203–24.
- Bruhn, M. 2020. "Can Wage Subsidies Boost Employment in the Wake of an Economic Crisis? Evidence from Mexico." *Journal of Development Studies* 56 (8): 1558–77.
- Calvino, F., C. Criscuolo, and C. Menon. 2015. "Cross-Country Evidence on Start-up Dynamics." OECD Science, Technology and Industry Working Paper 2015/06, OECD Publishing, Paris.
- . 2016. "No Country for Young Firms?: Start-up Dynamics and National Policies." OECD Science, Technology and Industry Policy Paper 29, OECD Publishing, Paris.
- Chen, J., Z. Cheng, K. Gong, and J. Li. 2020. "Riding Out the COVID-19 Storm: How Government Policies Affect SMEs in China." <http://dx.doi.org/10.2139/ssrn.3660232>.
- Corrado, C., J. Haskel, C. Jona-Lasinio, and M. Iommi. 2018. "Intangible Investment in the EU and US before and since the Great Recession and Its Contribution to Productivity Growth." *Journal of Infrastructure, Policy and Development* 2 (1). <https://doi.org/10.24294/jipd.v2i1.205>
- Criscuolo, C., P. N. Gal, and C. Menon. 2017. "Do Micro Start-ups Fuel Job Creation? Cross-country Evidence from the DynEmp Express Database." *Small Business Economics* 48 (2): 393–412.
- Dai, R., H. Feng, J. Hu, Q. Jin, H. Li, R. Ranran Wang, Ruixin Wang, L. Xu, and X. Zhang. 2020. "The Impact of Covid-19 on Small and Medium-sized Enterprises: Evidence from Two-Wave Phone Surveys in China." Working Paper 549, Center for Global Development, Washington, DC.
- De Mel, S., D. McKenzie, and C. Woodruff. 2013. "The Demand for, and Consequences of, Formalization among Informal Firms in Sri Lanka." *American Economic Journal: Applied Economics* 5 (2): 122–50.
- Ding, W., R. Levine, C. Lin, and W. Xie. 2020. "Corporate Immunity to the COVID-19 Pandemic." Working Paper 27055, National Bureau of Economic Research, Cambridge, MA.
- Duval, R., G. H. Hong, and Y. Timmer. 2020. "Financial Frictions and the Great Productivity Slowdown." *The Review of Financial Studies* 33 (2): 475–503.
- Fitch. 2020. "China Perspectives: An Uneven Economic Recovery from Coronavirus" (accessed September 14, 2020), <https://www.fitchratings.com/research/sovereigns/china-perspectives-an-uneven-economic-recovery-from-coronavirus-20-05-2020>.
- Foster, L., G. Grim, and J. Haltiwanger. 2016. "Reallocation in the Great Recession: Cleansing or Not?" *Journal of Labor Economics* 34 (S1, Part 2). <https://doi.org/10.1086/682397>.
- Fu, J., and M. Mishra. 2020. "The Global Impact of COVID-19 on Fintech Adoption: Trust and Technological Adoption During Crises." Swiss Finance Institute Working Paper 20-38, Swiss Finance Institute, Zurich.
- Goolsbee, A., and C. Syverson. 2020. "Fear, Lockdown, and Diversion: Comparing Drivers of Pandemic Economic Decline 2020." Working Paper 27432, National Bureau of Economic Research, Cambridge, MA.
- Granja, J., and S. Moreira. 2019. "Product Innovation and Credit Market Disruptions." <http://dx.doi.org/10.2139/ssrn.3477726>.
- Hallward-Driemeier, M., and B. Rijkers. 2013. "Do Crises Catalyze Creative Destruction? Firm-level Evidence from Indonesia." *Review of Economics and Statistics* 95 (1): 1788–1810.
- Haltiwanger, J., R. S. Jarmin, and J. Miranda. 2013. "Who Creates Jobs? Small versus Large versus Young." *Review of Economics and Statistics* 95 (2): 347–61.
- Haskel, J., and S. Westlake. 2018. *Capitalism without Capital: The Rise of the Intangible Economy*. Princeton, NJ: Princeton University Press.
- Hassan, T. A., S. Hollander, L. van Lent, and A. Tahoun. 2020. "Firm-level Exposure to Epidemic Diseases: Covid-19, SARS, and H1N1." Working Paper 26971, National Bureau of Economic Research, Cambridge, MA.
- Huang, Y., C. Lin, P. Wang, and Z. Xu. 2020. "Saving China from the Coronavirus and Economic Meltdown: Experiences and Lessons." VoxEU CEPR Policy Portal, March 23.
- Li, B., and J. Ponticelli. 2020. "Going Bankrupt in China." NBER Working Paper 27501, National Bureau of Economic Research, Cambridge, MA.
- Mason, A. D., M. A. Lugo, U. Gentilini, L. Kim, M. Almenfi, and I. Uochi. 2020. "COVID-19, Poverty, and Social Protection in East Asia and the Pacific." background paper to the October 2020 EAP Economic Update, Office of the EAP Chief Economist, World Bank, Washington, DC
- Moreira, S. 2017. "Firm Dynamics, Persistent Effects of Entry Conditions, and Business Cycles." Working Paper CES-17-29, U.S. Census Bureau, Washington, DC.
- Myanmar Times. 2020. "COVID-19: About 70 Percent of Online Company Registrations Fall during this Period." May 4. <https://myanmar.mmtimes.com/news/138858.html>.
- National Business Registration Portal. 2020. "Enterprise Registration Status in July and First 7 Months of 2020" (accessed September 2, 2020), <https://dangkykinhdoanh.gov.vn/vn/tin-tuc/597/5162/tinh-hinh-dang-ky-doanh-nghiep-thang-7-va-7-thang-daunam-2020.aspx> [in Vietnamese].
- Pagano, M., C. Wagner, and J. Zechner. 2020. "Disaster Resilience and Asset Prices." arXiv preprint arXiv:2005.08929.
- World Bank. 2021. EAP COVID-19 Policy Tracker (available upon request)
- Yendamuri, P., D. Keswarkaroon, and G. Lim. 2020. "How Covid-19 Is Changing Southeast Asia's Consumers." June 29, Bain & Company (accessed September 14, 2020), <https://www.bain.com/insights/how-covid-19-is-changing-southeast-asias-consumers/>