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PHILIPPINES:
Assessing the Effectiveness of MSME and Entrepreneurship Support

Finance, Competitiveness and Innovation Global Practice

WORLD BANK GROUP

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List of Abbreviations

AI	Artificial intelligence
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
ASTI	Advanced Science and Technology Institute
BDTP	Bureau of Domestic Trade Promotion
BIST	Business Innovation through Science and Technology for Industry Program
BMBE	Barangay Micro Business Enterprise
BOI	Board of Investments
BPO	Business-process outsourcing
BSMED	Bureau of Small and Medium Enterprise Development
BSP	Bangko Sentral ng Pilipinas
CARS	Comprehensive Automotive Resurgence Strategy
CRADLE	Collaborative R&D to leverage Philippine economy
DATBED	DOST Academe Technology-Based Enterprise Development Assistance Program
DCP	Design Center of the Philippines
DEED	Digital Entrepreneurship Ecosystem Diagnostic
DICT	Department of Information and Communications Technology
DOST	Department of Science and Technology
DTI	Department of Trade and Industry
EDT	Enterprise Development Track
EMB	Export Marketing Bureau
EMB	Enterprise Module
FDI	Foreign Direct Investment
FIC	Food Innovation Center
FNRI	Food and Nutrition Research Institute
FPRDI	Forest Products Research and Development Institute
GDP	Gross Domestic Product
GED	Green Economic Development
GEI	Global Entrepreneurship Index
GEM	Global Entrepreneurship Monitor
GoP	Government of the Philippines
IBED	Invention-Based Enterprise Development
iBID	Industry-Based Development Program
ICE	Industry Cluster Enhancement
ICT	Information and communications technology
IPR	Intellectual Property Rights
IPRAR	Intellectual Property Rights Assistance Program
ISTE	Institutional Support for Trade and Exhibitions of DOST Technologies and services
IT	Information technology
ITDI	Industrial Technology Development Institute
KMME	Project Kapatid - Mentor Me
M&E	Monitoring and Evaluation

MFI	Microfinance Institutions
MIRDC	Metals Industry Research and Development Center
MRP	Manufacturing Resurgence Program
MSMED	MSME Development Plan
MSMEs	micro, small, and medium enterprises
NAST	National Academy of Science and Technology
NGC	Negosyo Center
NRCP	National Research Council of the Philippines
OTOP	One Town One Product Next Gen
P3	Pondo sa Pagbabago at Pag-asenso
PCIEERD	Philippine Council for Industry, Energy, and Emerging Technology Research and Development
PDP	Philippine Development Plan
PER	Policy Effectiveness Review
PLDT	Philippine Long-Distance Telephone
PMR	Product market regulation
PROs	Publ research organizations
PSA	Philippines Statistics Authority
PSHS	Philippine Science High School
PTRI	Philippine Textile Research Institute
PTTC	Philippine Trade Training Center
RIPPLES	Regional Interactive Platform for Philippine Exporters
ROG	Regional Operations Group
SB Corp.	Small Business Guarantee & Finance Corp
SEDP	Startup Ecosystem Development Program
SEI	Science Education Institute
SETUP	Small Enterprise Technology Upgrading Program
SMEs	small, and medium enterprises
SNRG	Startup Nation Research Grant
SSF	Shared Service Facilities Project
STEM	Science, Technology, Engineering and Math
STI	Science, Technology and Innovation
STII	Science and Technology Information Institute
TAPI	Technology Application and Promotion Institute
TBI	Technology Business Incubator
TECHNICOM	Technology Innovation for Commercialization
TFP	Total factor productivity
TIPG	Trade and Investments Promotion Group
TSGI	Tholons Services Globalization Index
TVET	Technical and Vocational Education and Training
VCPE	Venture Capital and Private Equity
VFP	Venture Financing Program
WDI	World Development Indicators
WEF	World Economic Forum

EXECUTIVE SUMMARY

1. Micro, small and medium-sized enterprises (MSMEs) represent a key pillar of the Government of Philippine's (GoP) competitiveness and inclusive growth strategy. In pursuit of its ambition to become a prosperous middle-income and knowledge-based economy, the *MSME Development (MSMED) Plan 2017-2022* (GOP, 2017) lays out a vision for developing more globally competitive MSMEs that are regionally integrated, productive and innovative. Promotion of entrepreneurship and enterprise development is identified as an important channel for MSMEs' productivity and innovation. In line with its objectives, the Government has put in place policies and MSME program initiatives to strengthen productivity and entrepreneurship. With renewed support for MSMEs, it is an opportune time to learn lessons from the implementation and performance of existing policies and programs. This report responds to this objective by undertaking a review analysis of the existing MSME and entrepreneurship policy framework and the associated policy instruments programs to help inform a more effective and results-focused approach.

2. As the bedrock of the private sector and innovation in the Philippines, MSMEs are important contributor to economic development outcomes albeit the potential for significant improvement remains. Comprising over 99 percent of all enterprises in the country, the MSME sector represents the private sector, and generates nearly two-thirds of the country's total employment. The quality of jobs, nonetheless, remain a challenge as the bulk of the jobs are generated in the informal sector which tends to offer low paying[1] and poor-quality jobs.[2] Most MSMEs are small, not engaged in exports and have limited access to foreign capital – all which impact innovation and productivity performance. Despite promising entrepreneurial outlook - indicated by high rate of entry into entrepreneurial activity - the rate of failure rate is the highest in the ASEAN leading to very low established business rate.[3] There is thus an opportunity for a more competitive and dynamic private sector that can create better quality employment.

3. Enhancing performance of MSMEs in the Philippines is fundamentally about improving productivity. MSMEs are constrained to generate well-paying jobs due to low productivity growth. Increases in labor productivity typically lead to real wage increases and contributes to poverty reduction. The productivity of MSMEs in Philippine lags significantly behind large firms and neighboring countries. Understanding firm level constraints to improving productivity is a pre-requisite to designing and implementing appropriate policy interventions. These constraints can be a combination of market failures and institutional failures that the private sector face as well as ineffective public policies.

4. Philippine, over the years, has put in place MSME policies to support productivity and entrepreneurship. Similar to many countries, the GoP has established a plethora of policies and initiatives - across multiple agencies to support MSMEs. Significant public resources are invested to

[1]The 2016 Occupational Wages Survey estimated that less than one quarter of wage workers earn middle-class wages (over 17,000 Philippine pesos or $325 per month), with some variation across sectors.

[2] This is reflected in the high underemployment in the Philippines - which remains at 18.3 percent - and has been stagnant at this relatively high level for over a decade despite the recent accelerated economic growth.

[3] See Philippines GEM Report, 2015-16. Established businesses refer enterprises that have existed for more than 3.5 years, and effectively moved to a more mature stage of firm life cycle.

design and deliver policy interventions across firm life cycle, as the early stage entrepreneurs may face very different needs than firms at a later stage of maturity. This in turn affects the specific policy instruments to support enterprises.

5. **A key and recurring concern for policymakers is to ensure that the MSME policy initiatives are responding to the changing MSMEs' needs as well as remain aligned to GoP's strategic priorities.** The report, in addressing this concern, focused on the following set of questions. Is the overall MSME policy framework anchored in government priorities, as articulated in the overall development strategies? What are the demand side constraints and market failures that contribute to low productivity in MSMEs as well as constrain firm entry in the Philippines? Are there any weaknesses or gaps in the ecosystem for entrepreneurship? Are the current set of policy instruments aligned to the needs of MSMEs? Are there any challenges in the design and implementation of policies?

6. **In undertaking the analysis, the report adopts an integrated demand and supply approach.** On the demand side, the analytical framework first examines the drivers behind firm productivity to shed light on the factors that constrain MSMEs and new entrants in the Philippines. To assess the supply of policies and how they align with the needs of the MSMEs, the report deploys the Policy effectiveness review (PER) methodology developed by the World Bank. After presenting the overarching policy framework for MSMEs and entrepreneurship and the priorities set by the GoP, the PER focuses on the MSME programs currently in place under the preview of the Department of Trade and Industry (DTI), and the Department of Science and Technology (DOST). The first component of the PER undertakes a policy mix analysis to assess if the current policy framework for entrepreneurship and MSMEs is in line with government priorities as well as the needs of the MSMEs. The focus is on the alignment between programs and outcomes. Thereafter, the functional review undertakes a detailed analysis of the design and implementation of selected programs under DTI and DOST. Based on the above analysis, key findings are presented along with a menu of policy options for strengthening the effectiveness of MSMEs and entrepreneurship policies.

SUMMARY FINDINGS

Demand analysis

14. The demand side analysis focuses on two channels of productivity growth i.e. upgrading of existing MSMEs and entry of new firms. In doing so, it analyzes the external environment and internal firm level constraints that MSMEs face. The external factors that are outside the control of individual firms pertain to government policies that affect the operating environment of the firms (i.e. resolving market failures, removing distortions, and opening to trade) as well as other market conditions that affect complementary factors (i.e. access to finance, skills and infrastructure etc.). Internal firm level factors relate to entrepreneurial and managerial capabilities and technology adoption/innovation which are considered central for raising productivity.

15. There are multiple constraints that hinder productivity of MSMEs and entrepreneurship in the Philippines. Building on recent work on productivity in the Philippines we find that the external constraints that influence productivity and entrepreneurship include high costs of doing business as well as establishing a new business; regulatory barriers that dampen market conditions; high trade costs which reduces opportunities for MSMEs to access larger markets environment, along with other regulatory distortions in labor regulations and taxation. There are also missing or weak

complementarities in the area of finance and skills. Lastly, internal firm factors –that include weak internal capabilities, dearth of right mix of human capital and skills discourage innovation and technology adoption prospects for growth of productivity.

16. Remedial measures call for a combination of policy reforms and strengthening of programs for private sector to improve the operating environment of the firms (i.e. by resolving market failures, removing distortions) and within-firm performance (i.e. by building skills and managerial capabilities, technology adoption), as well as entry of new firms.

17. Improving competition to allow MSMEs to enter the market will be key to improving quality of jobs. New MSMEs are critical in creating new jobs as most net job creation comes from new firms. However, firm birth rates are low in the Philippines as entrepreneurs are discouraged by complex regulations, including those that protect incumbents. In this context, the implementation of the recently enacted Ease of Doing Business Act could improve competition by streamlining and automating all government permit processes and extending their validity beyond one year. This would reduce the cost of doing business, such as non-tariff measures, which will make it cheaper to trade. Increasing competition will also require the Philippine Competition Commission to complete enforcement rulings on companies engaged in anti-competitive behavior to increase market competition. Also, investing in human capital will encourage productivity.

18. Human capital is the major constraint faced in the digital economy, forcing many digital entrepreneurs to import talent. The government needs to improve curriculum, forge ties with industry to improve the relevance, quality, and attractiveness of STEM and TVET, and carefully monitor progress in its bold reform plans. The government can improve access to finance, especially at the growth stage, by making the country regulatory environment friendlier to investment and encouraging venture capital firms to reside and specialize in the country. The government can solve problems particular to digital entrepreneurship by providing incentives for digital payments and promoting transparency and open data through a right to information law. Some of these issues should be addressed immediately; others may take many years to get right. Ultimately, more space needs to be made for the private sector to thrive if digital entrepreneurship is going to meet its promise of driving Philippine's growth to high-income status.

Supply side analysis

19. The success of government in addressing productivity constraints depend on how policies and program level interventions are designed and implemented. The PER analysis suggests that there is room for improvement in the policy mix to strengthen their coherence with the objective of MSME productivity growth. The MSME support programs are the vehicle to deliver on the aspirations articulated in the latest MSME Development Plan. The analysis provides some recommendations to improve the quality of the innovation and SME policy mix and improve its efficiency and effectiveness.

20. MSMED Plan 2017-2022 lays out 4 clear priorities for the MSMEs entry and formalization; export and innovation, firm upgrading and technology adoption. The analysis confirmed the presence of programs that respond to the key priorities stated in the most current MSME Development Plan. However, the relative allocation of funding to specific goals, target beneficiaries and instruments do not fully match the key challenges with full equivalence. We found that while the MSME Development Plan placed

increased importance of market access and innovation financing, resources allocated in achieving these goals seem insufficient. Furthermore, the targeting of collaborative groups of firms and other organizations was practically non-existent, representing less than 1 percent of the value share of the portfolio. All these outcomes were relatively underrepresented in the policy portfolio.

21. The overall level of expenditure seems insufficient to meet the ambitious strategic goals and impact, but before increasing expenditure, GoP must change the focus towards addressing productivity and market failures, rather than on the size of beneficiaries. It is important to recognize that the enterprise development track (EDT), under the MSMED Plan 2017-2022, present useful frameworks to organize the myriad of DTI interventions supporting SMEs along their business cycle. While in theory the EDT promises to serve as a useful device to monitor the evolution of SMEs under support and along its sequential development stages, it is more likely to serve as a construct to balance the targeting efforts of beneficiaries from several programs and differentiate the supporting interventions. For example, the specification of the characteristics of beneficiaries at the different levels has contributed to the definition of clear eligibility criteria for participants. A simple plot of programs along the different stages suggest that the DTI policy portfolio for 2017 contain interventions that are relatively balanced along the EDT spectrum. Another conceptual construct that has assisted Filipino policy practitioners to balance interventions is the DTI's 7Ms Way of Uplifting MSMEs. The framework provides a useful list of mutually exclusive elements that are likely to enable MSME development growth.

22. But focusing on some of these stages of firm growth, and more specifically on the size of firms, is too A narrow focus, and requires a renewed effort to focus on addressing market failures along clear objectives – e.g. entry and formalization; export and innovation, firm upgrading and technology adoption. This approach proved to be relatively underrepresented in the portfolio but feature prominently in the strategy and in our conclusions of technical demands for innovation policy support. GoP should reduce incoherencies in resource allocation e.g. business innovation, export promotion, and fully expand the use of early-stage instruments, programs that promote access to finance for innovation and collaborative instruments.

23. Furthermore, GoP should investigate expanding policy instruments that can further increase the innovation rates among SMEs. The use of business advisory and technology extension are consistent with the need to address the lack of capabilities in SMEs to conduct innovation, which is one of the key priorities in the current MSME Development Plan. However, to promote knowledge spillovers, and addressing coordination failures between knowledge providers and firms, GoP could explore the use of vouchers for innovation and collaborative grants, which could complement the current focus on SME financing to address specific risk issues related to investing in innovation.

24. The policy mix provides a limited set of programs that address improved market access despite the importance placed on this goal in the MSME Development Plan. Considering the international trade partnerships such as the ASEAN Common Market and the APEC partnership, the plan also makes references to SME specific ASEAN and APEC related strategies . Notably, the Kapatid: Angat Lahat program, which has been profiled in this mapping, stands as one of Philippine's most prominent initiatives to link SMEs with larger firms as suppliers, enabling market-oriented quality upgrading and innovation. The Go Lokal, OTOP and Sikat Pinoy programs featured in our mapping are meant to assist SMEs in the development of high-quality products and marketing services to promote their products. However, we found that the funding to promote market access for firms was low, representing between 5 and 7% of expenditures in 2017. The WBG enterprise survey indicated that firms remain in relative

isolation from foreign markets, and the percent of Filipino firms exporting directly (at least 10% of sales) stood at just 7.1%, a rate much lower than that of its regional and structural peers (see annex). Furthermore, whereas 24% of large firms exported in 2015, only 9% of 4% of medium and small firms did in the same year.

25. SMEs seeking to innovate may require other forms of financing which is not meaningfully addressed by the current policies. Given information asymmetries between innovators and financiers, lack of SME capacity to conduct innovation activity, and inability of lenders to bear risk of uncertain outcomes from innovative activities, other forms of finance may be a better match for SMEs who seek to innovate. Matching grants for innovation have been extensively used for inducing innovation investments among SMEs (Cirera, X.; J. Frias; J. Hill and Y. Li; forthcoming) when capabilities are low and they come with technical assistance or when potential externalities are high. Credit guarantees can help addressing risk issues in financial markets. Also, instruments such as venture capital availability and local equity financing were found to be weaker in the Philippines' ecosystem relative to its regional peers, particularly Malaysia and China IN 2017 (WEF, WDI and GCI, 2018). As of 2017, a few tech startups have attracted modest regional investment from deals such as those involving PawnHero, and coins.ph (CB Insights, 2017).

26. There is a large bias in innovation towards S&T, suggesting that a rebalancing of the policy mix is needed towards business innovation. Funds for scholarships and targeted to universities consume a significant portion of the resources in the policy mix. The features of MSME Development Plan places priority on increasing business capacity of SMEs, particularly through its Enhanced Management and Labor Capacities and its Improved Access to Technology and Innovation components. However, most of the resources remain skewed towards scholarships, channeled through universities to benefit individuals. There is also a tendency (see next chapter) to frame technology transfer in terms of facilitating transfer from won PROs and not necessarily from cheaper and more efficient technology in the market.

27. While a significant portion of beneficiaries were young firms, the amount of funding allocated to entrepreneurship seems limited. This mixed result should be further scrutinized considering the importance placed on new business formation in the MSME Development Plan. According to GEDI, Philippines' start-up skills are stronger than its peers, and GEM in 2015 rated Filipino entrepreneurial traits as above average for world standards. However, new business formation has been stagnant over time, and is way lower than the rate in Malaysia (top performer), according to the GEM - Global Entrepreneurship Monitor. The WDI of the World Bank, revealed that in 2018, the Filipino ecosystem suffered low rate of firm births (WDI, 2018). Furthermore, the reduced number of new business density during the period extending from 2006 to 2016 was the lowest among comparative economies, such as Vietnam and Indonesia (World Bank Doing Business Entrepreneurship Database). Our analysis of the policy mix to support SMEs identified and profiled several programs that support startups, including Go Negosyo (i.e. its start-up fund), TBI, TECHNICOM and SET-UP. TBI for example, works for establishing supporting infrastructure in HigheEd institutes and State Colleges that can assists entrepreneurs to get off the ground. However, our analysis also revealed that by value of objectives, about 4.9% of the value of the portfolio was devoted to entrepreneurship in 2017. Increasing the quantity and quality of entrepreneurs would require investing more aggressively in programs that support entrepreneurship culture and also ventures in the early stages of their life-cycle.

28. At the ecosystem level, Philippines revealed a weak performance in university-industry R&D collaboration, also part of the ST bias in STI. According to the world economic forum, the level of University-Industry Collaboration ranked low, which could be limiting the speed at which technologies diffuse in the local economy. Consequently, Philippine firms showed less propensity to adopt existing technologies than firms in peer countries, as in 2015, only 11.2% percent of firms used technology licensed from foreign companies, much lower than comparable peers (Enterprise Survey, World Bank`). Our analysis included TBI which by its own nature, supports startups in academic institutions. Moreover, we profiled TECHNICOM, a program that accelerate the commercialization of locally developed innovations. These are great examples of prominent programs working in this space. However, they are often based on the premise that the technology to be transferred is the one developed by their own PROs, and not the most cost efficient in the market. Also, and while technology transfer and extension were represented in the portfolio, the relative share of the portfolio devoted to targeted collaboration, in the form of supporting consortia of firms and academia, stood at less than 1% of the total value. Moreover, the value for the use of collaborative grants between firms and academia seemed insignificant.

29. The policy mix needs to include policies that make a greater use of market-creating instruments, e.g. credit guarantees for innovation or supplier development programs – to maximize additionality. If the case for government is justified to redress a failure, e.g. in promoting firm upgrading, employing market-oriented incentives is likely to lead to resource efficiency. If user fees can cover the variable costs of training or extension policies, and these are feasible, then these should apply. Interventions that use loan and grant schemes should take into consideration existing financing schemes available to firms and avoid crowding out the private sector by introducing unfair competition to potential lenders. The proposed intervention should include deliberate strategies to catalyze underdeveloped markets, adding dynamism to the local economy and steering fair competition, when possible.

30. There is a need for improving knowledge management and information sharing across departments to improving policy making. The GoP should improve access to program data, particularly financial data related to allocation of financial resources. The experience of collecting the relevant information for this study proved to be challenging, particularly for financial data related to budget allocation and disbursements. The reasons given to us were that data could not be produced either because the information was not available under the proper classification and not disaggregated at the required level, or because some of the officers who were meant to provide the information under our agreement with DoST and DTI proved to be relatively disengaged. Our experience conducting this analysis in other countries suggests that this level of difficulty is exceptional, and that it represents a gap that should be bridged. Having readily available information of policy programs is an important way to help GoP make informed policy decisions.

31. The functional review finds that there is significant room for improving the quality of design, implementation of governance processes to make public support to MSMEs more impactful. Design practices present the widest room for improvement and most of the problems are systemic and, hence, require a government-wide solution. In addition to better beneficiary selection (first point of the policy mix), there are three additional areas that deserve further attention going forward to improve the quality of MSME policymaking in the Philippines: (a) focus on achieving additionality rather than just meeting beneficiary targets, (b) tap the sub-national implementation expertise when designing new programs, and (c) increase coordination between agencies.

32. Addressing some of these issues is critical to enhance the returns to public support and achieve incremental growth and employment. A first step to adapt these practices is to learn from best performing programs. This can be done easily with internal workshops. The second step is to implement and invest in systemic processes, such as templates, procedures and information systems. This requires some investment from the agencies, and it should be done jointly to avoid further fragmentation of processes within government.

33. There are lessons from other governments which have worked with the World Bank to improve the effectiveness of their MSME programs. While the first two part of the PER were used in the Philippines, there are opportunities to carry out impact evaluations and assessing the efficiency of government expenditures (see Annex 3). Below are some examples of specific actions that similar countries have taken in order to improve the quality of policy making.

a. Design

- Create a common template that all SME supporting agencies use to introduce new programs (i.e. instruments), that enable originators to make a strong case for budget allocation, with a clear justification for the program that includes a diagnostic, a clear identification of market failure and consideration of alternative options to address the problem.
- Improve targeting and selection of program participants (e.g. Mexico, Sri Lanka), developing selection criteria that help managers to identify entrepreneurs that are likely to grow their business. One solution is to have assessments of business plans that are shared across agencies and that can provide critical information during the application process to screen out those participants without good ideas, which can be referred to programs that support basic entrepreneurship skills.

b. Implementation

- Integrate an evaluation office in the agencies to support the implementation of good practices in M&E (e.g. Mexico) - creation of a logical framework, use of harmonized indicators for M&E, collecting data, considering alternative instruments, and training.
- Introduce mid-term reviews with panels of participants (e.g. Colombia) from different agencies and establish formal processes of learning from implementation. These tasks should be supported by the evaluation office.
- Strengthen information systems and build data management infrastructure:
    - Develop a selection manual, that describes who should evaluate proposals, who should be part of the panel, how to evaluate proposals and define the appealing mechanisms
    - Develop mandatory program manuals
    - Design an integrated IT system for project application, monitoring and follow up; ideally for all agencies using same system. This will allow real time monitoring and integrating of processes, as well as making sure information of applicants is shared.

Following is the synopsis of the proposed recommendations in tabular form.

SUMMARY OF RECOMMENDATIONS

Area	Proposed action
Rebalancing the focus of the policy mix	• Increase support on to innovation programs, particularly in areas of firm-level innovation, most importantly non-R&D innovation internationalization of firms, and marketing, and entrepreneurship. • Consideration should be given to increase support to existing programs, like in the case of RIPPLES for promoting exports, as opposed to creating new programs in these areas. This would prevent proliferation of excessive programs, and the potential fragmentation of support to address a specific market failure. Integrated SME development strategies are rare, while fragmented and overlapping programs are common. Therefore, GoP should identify and address burdens on SMEs preemptively before new regulations are issued. • However, before deciding to increase financial support to any existing program, the GoP should verify that there is a demonstrated understanding of the market failure that justify the intervention that support firms, and that the government agency tasked to deliver the program has the competency to redress them successfully (Maloney and Nayyar, 2018).
Eliminating potential redundancy in the policy mix	• Policymakers need to further investigate the possible rationalization or programs that present a priori similar scope in terms of target group, objectives and mechanism for support. Our analysis has identified 3 tentative cases. These need to be looked carefully, as our analysis may have overseen nuanced features of these programs outside of the screening criteria that we used based on overlap of scope of target beneficiary, objective and instruments, for example, regional presence and outreach in the local community. • If these candidates do not prove the case for rationalization, managers of each program should at least consider introducing systematic collaboration mechanisms among these programs, to learn from knowledge obtained from implementation, and prevent duplicity of beneficiaries (participants that apply and benefit from more than one program simultaneously) • Consider elimination of 9 programs from DoST and DTI that suggested insufficient scale (at the threshold of PHP 4 million in 2017), given the potential burden these impose of administration personnel and supervision. However, final determination should be done considering the demands that the administration imposes on the program supervision – i.e. as some small programs are less resource intensive by their nature.
Recalibrating the strategic approach of specific program features	• Rethink the approach to SME interventions away from size to focus on addressing market failures, increasing productivity and stimulating growth of firms. Policies targeting market failures, rather than those focused on size, have a positive impact on firm productivity and growth. • Prioritize the use of program features that catalyze markets, (market enhancing) and leverage financial resources from beneficiaries (i.e. crowd in the private sector), over interventionist features that may create dependence of beneficiaries, and carry additional burden for administration and supervision. When applicable, the use of these programs can be less distortive and result in efficiency. Use of indirect instruments and demand enhancing mechanisms, such as vouchers for innovation supplier linkagesand credit guarantees for innovation are good examples. • Introduce instruments that promote collaboration, particularly of these bring potential for long term behavior additionality. Collaboration support, including grants, address a coordination failure that leads to a lack of collaboration and thus less innovation

PER - List of actions for improving design

Program Started	Avoid *ad hoc* decisions to bring new programs. All new programs should be agreed with other agencies as part of an existing program and an alignment with other instruments. Design transfer workshops with regions need to be implemented for all new programs
Program Justification	Develop a harmonized template to justify new programs based on a quantitative analysis of the problem and the identification of an existing market failure that justify the program. This should be the basis for discussing the merits of new programs. Bring when possible international experience
Portfolio Relationship	Demonstrate in the template not only the merit and the lack of duplication with other programs, but also the alignment and complementarities. That should be written and discussed with other government agencies.
Program Objectives	Set in the template clear and measurable objectives. Develop realistic targets to be used in M&E and develop them with the regions. Each region with realistic target of same indicators.
Logical Framework	Made it compulsory to have a logical framework. Train staff of developing logical frameworks
Inputs	Develop costings of all inputs
Activities	Activities should be clear and complete, with costings per $ and per beneficiary
Products	Already measured and reported, make sure this continues to be implemented
Main beneficiaries	Force programs to develop a more nuanced view of who are the potential beneficiaries and whether the targeting is bringing the beneficiaries expected.
Audiences	Go beyond your beneficiaries when designing instruments. Consultations with private sector and academia need to be mandatory for the design of new programs
Alternative Instrument	Alternative instrument considerations should be integral part of the justification. Both DTI and DOST should consider creating a learning and evaluation unit that can support this and other elements of monitoring and evaluation.
Expected Outputs and Impact	Ensure that these are clearly identified during the design stage
Selection criteria	Ensure that reflect the targeting needed and that is implemented consistently across all regions.
Monitoring and Evaluation	This needs to be mandatory. Develop a general framework with harmonized indicators and make sure that this is followed throughout in the reporting. Train staff accordingly on how to use it. Develop a list of impact evaluations ex ante for a sample of programs, based on size and importance of the programs

PER: List of actions for improving implementation	
Learning evidence during implementation	Introduce mid-term reviews of programs and formal processes for learning at the end of the year, all with formal documentation

Eligibility and selection during the program	Develop a general manual for selection on MSME programs, with clear guidance and suggestions of good practices. Create a database of exports to evaluate proposals. An appealing mechanism needs to be implemented, common for all programs and used in practice
Time frame program application	Consider providing application workshops – dissemination and support on how to fill applications – for all programs
Program database and information	Develop and implement a new information system database. This is quite urgent
Program closure	Implement mid-term reviews. Continue collection ex post information from beneficiaries
Budget and financial resources	Produce costings by activities and develop and monitor key efficiency indicators
Roles and Autonomy	Force programs to develop a more nuanced view of who are the potential beneficiaries and whether the targeting is bringing the beneficiaries expected.
Staff, training and incentives	More training is needed within institutions. Develop a calendar of specific training beyond normal management processes. Start with M&E and logical frameworks but continue with more content based. Organize periodic webinars with regions
Incentives	Incentives need to be linked to the evaluation of individual performance associated with the program
Process monitoring	Consider whether the current frequency of reporting is too onerous, and it is required
M&E	M&E frameworks implemented an updated – mandatory. Develop a list of impact evaluations for sample of programs. Consider the creation or expansion of the evaluation unit.

PER: List of actions for improving coordination	
Programs Relationship	Create internal dissemination events and sharing of good practices for those programs with good processes. Organize periodic video-conferences with regions and once a year staff retreat.
Institutions Relationship	Create thematic working groups – that include all instruments across agencies – focusing on innovation, early stage, productivity, exports.

1. Introduction

1. **The Government of the Philippines (GoP) has prioritized the development of the micro, small, and medium enterprises (MSMEs) as a key pillar for realizing its competitiveness and inclusive growth strategy.**[i] The *MSME Development Plan 2017-2022* lays out a vision for "developing more globally competitive MSMEs that are regionally integrated, productive and innovative". Promoting entrepreneurship, including start-ups, is emphasized as an important channel for innovation and competitiveness of the MSME sector. [ii] As the Government envisions an expansion of support for MSMEs and entrepreneurship, it is an opportune time to take stock and learn lessons as to what has worked and what needs improvement. This report responds to this objective by undertaking an analysis of the existing MSME and entrepreneurship policy framework and support programs to help inform a more effective and results-focused approach.

2. **MSMEs are the bedrock of private sector and entrepreneurship in the Philippines.** The government's focus on MSME sector stem from its important role in the economy. Comprising over 99 percent of all enterprises in the country, the MSME sector represents the private sector, and generates nearly two-thirds of the country's total employment.[iii] Over 17 percent of the working population in the Philippines is involved in early-stage entrepreneurial activity with a potential to innovate and generate jobs.[iv] The rise of digital technologies and platform-based start-ups are encouraging existing MSMEs to become more competitive as well as create entirely new and innovative forms of businesses as seen by the recent spurt of start-ups in the Philippines. Of the active 450 startups in the Philippines, almost half have been being launched between 2016-2017.

3. **Despite their critical importance, MSMEs operate below potential vis a vis regional comparators and the GoP's ambitions**. Most MSMEs are small,[v] not engaged in exports and have limited access to foreign capital – all which impact innovation and productivity performance. Despite promising entrepreneurial outlook, business establishment and scalability remain a challenge, and the rate of failure rate is the highest in the ASEAN leading to very low established business rate.[vi] The bulk of the jobs in the MSMEs are low paying and poor-quality. There is thus an opportunity to improve the competitive and dynamism of the MSMEs that, among other things, can create better quality employment.

4. **Enhancing performance outcomes of MSMEs in the Philippines is primarily about improving productivity.** The productivity of MSMEs in Philippine lags significantly behind large firms and neighboring countries. MSMEs are constrained to generate well-paying jobs due to low productivity growth. Increases in labor productivity typically lead to real wage increases. Understanding firm level constraints to improving productivity is a pre-requisite to identifying remedial measures and implementing them. MSMEs face a combination of market failures and internal firm capabilities constraints as well as and ineffective public policies, which may lead to additional distortions in certain cases.

5. **The renewed focus on MSMEs builds on Government's earlier national development and MSME plans and Program level policy interventions to foster enterprise productivity and**

entrepreneurship. The country invests significant public resources to support policy interventions and direct support programs to address market failures faced by MSMEs. Constraints facing MSMEs vary along the firm life cycle as the early-stage entrepreneurs may face different needs than firms at a later stage of maturity. This in turn affects the specific instruments to support MSMEs. In order for these public investments to be effective, Philippines needs complementarities linked to the business environment, training of the workforces, financing and other important complementary elements.

6. **Examining the MSME policy framework and how effective it has been in supporting MSMEs can provide useful insights in strengthening and informing the path forward.** In undertaking the analysis, the report focuses on the following lines of enquiry. Is the MSME policy framework aligned to the economic priorities as articulated in the overall development plans? What are the demand side constraints and market failures that contribute to low productivity of MSMEs in the Philippines? Are there any weaknesses or gaps in the ecosystem for entrepreneurship? Are the policies and programs instruments responding to market failures and needs of MSMEs including new entrants and start-ups? What are the areas for strengthening the design and implementation of MSMEs and entrepreneurship policies? The report concludes with proposed policy measures to strengthen the MSME and entrepreneurship policy and program support mechanisms.

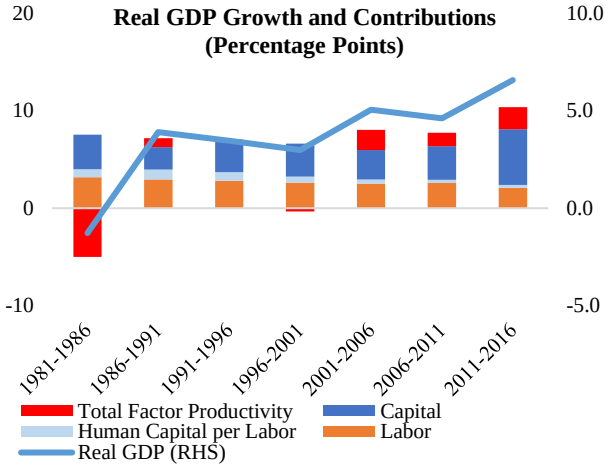
7. **The report is structured around six sections**. Section 2 provides a brief context focusing on the profile of the MSME sector and its contribution to the overall Philippine economy. In line with GOP strategic goals, the role of entrepreneurship and emerging startup ecosystem is discussed. Section 3 lays out the analytical framework adopted in the report for assessing the effectiveness of the MSME policies and programs deployed in the Philippines for supporting productivity and entrepreneurship. This section undertakes the demand side analysis by shedding light on the main bottlenecks to MSME productivity growth. Using the firm life cycle lens, it identifies the underlying market failures and key constraints that established MSMEs and early stage entrepreneurs trying to set up a business face. Section 4 focuses on the supply of policies and sets the stage by reviewing the overarching policy framework for supporting MSMEs and entrepreneurship in the Philippines. It assesses progress made vis a vis the targets set by the earlier MSME Plan, and sheds light on governance issues to help identify gaps going forward. This section then introduces the two-part Policy effectiveness review (PER) methodology - comprising of two components - that is deployed to undertake detailed program level analysis. Section 5 undertakes the policy mix component while the section 6 undertakes the functional review of selected MSME programs. A summary conclusion of the findings and proposed recommendations for strengthening the effectiveness of MSMEs and entrepreneurship policies is presented in the executive summary.

2. Context

8. **Philippines has experienced strong and sustained economic growth turnaround during this decade leading to reduction in unemployment.** Favorable domestic and external conditions, combined with structural reforms, helped boost economic growth to an average of 6.4 percent over the 2010-2017 period.[vii] Economic growth has generated jobs. The vast majority of jobs, however, are not in the better-paying formal sector.[viii] Of the nearly 40 million jobs generated in the private sector in Philippines, only 20 percent of those are created by formal registered businesses.

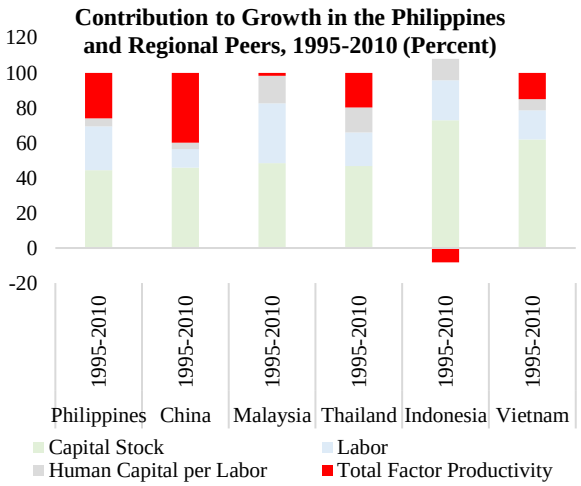
9. **A key driver for sustaining high economic growth in the long-term hinges on maintaining high productivity growth.** The contribution of total factor productivity (TFP) to economic growth has increased since 2000. During the economic recovery and acceleration of the 2000s and 2010s, TFP contributed one-third of growth on average (Figure 1). Moreover, the contribution of TFP to growth was higher in the Philippines vis a vis its regional peers between 1995 and 2010, excluding China (Figure 2). The growth in TFP reflects the implementation of a wide range of structural reforms since the 1990s which in turn resulted in strong economic growth.

Figure 1: TFP's contribution to growth has increased in the Philippines since 2010…



Source: Growth and Productivity Report (2018)

Figure 2…outperforming many regional peers.



Source: Growth and Productivity Report (2018)

10. **Although labor productivity growth has accelerated in the Philippines it remains low compared to that of peers underlining the potential gains from bridging the productivity gap.** Labor productivity growth has been aligned with the changes in the TFP growth. It rose substantially from an average annual rate of 1.6 percent in 1998-2004 to 3.6 percent per year in 2010-16. However, productivity growth was still lower in the Philippines than in regional peers. For instance, China and Vietnam's labor productivity growth reached 7.6 percent and 4.2 percent, respectively, in 2010-16. As a result, the labor productivity gap remains wide between the Philippines and many regional peers. The country's low labor productivity has been partly caused by historic low levels of capital accumulation, resulting in low capital per worker, which limits labor productivity growth despite higher TFP growth.

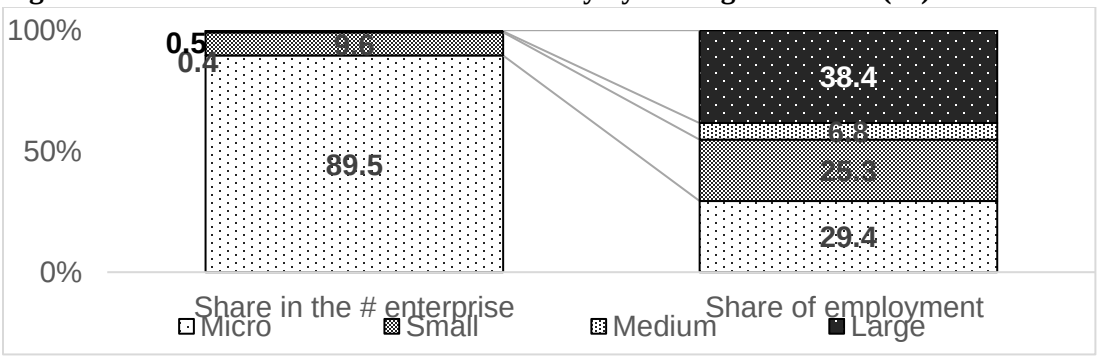
11. **Firms that export are more productive but the share of exporting firms is small across sectors.** Based on 2015 enterprise survey data, just 6.9 percent of domestic firms and 25.5 percent of foreign firms in the Philippines directly or indirectly export goods and services, far fewer than in peer countries. Up to 61 percent of domestic firms in Thailand are exporters, while 78.7 percent of foreign firms in Vietnam, 84 percent in Malaysia and 93 percent in Thailand, directly or indirectly export. Furthermore, domestic firms in the Philippines export only 3.5 percent of their output, compared to 26 percent in Malaysia and Thailand. Nonetheless, Philippine firms that export are on average more productive than firms that focus on the domestic market. This is likely because firms that export face more competition in global markets, which forces them to be more productive. Supporting globally competitive MSMEs is thus a priority of the GOP.

12. **The share of firms with foreign capital is small but they are more productive than those without.** Overall, firms with foreign ownership were in general more productive than firms with only domestic capital, highlighting the potential role FDI can play in boosting productivity growth. Less than 10 percent of all firms in the Philippines have some degree of foreign ownership. Across sectors, firms in manufacturing and services, such as in information communication technologies and professional services that have foreign ownership, receive on average more than 50 percent of their capital from foreign sources. Furthermore, subsectors that received FDI in the form of direct equity investment had either high productivity growth (manufacturing, financial, and insurance activities) or high productivity levels (real estate, financial, and insurance activities).

MSMEs is the private sector in the Philippines

13. **MSME development is a call for strengthening private sector.** Comprising over 99.5 percent of all enterprises in the Philippines, MSMEs development is effectively about private sector development (Fig. 3). The government's focus on MSMEs stem from its significant contribution to the total employment as well as the potential to enhance the quality of jobs. Most new firms enter markets as MSMEs and are typically the engine of net employment growth.

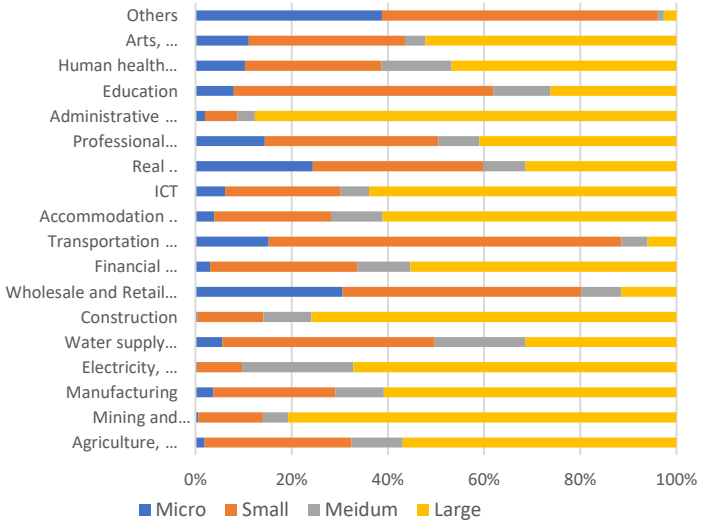
Figure 3: MSMEs' contribution to the economy by size segment share (%) in 2015



Source: Philippine Statistical Authority

14. **The distribution of MSMEs vary across sectors as does the contribution to employment** (Figure 4). The sectoral shift away from agriculture is reflected in a lower share of employment by MSMEs in the agricultural sector. While MSME contribution to total employment in the industry subsectors is relatively small, its contribution to total employment is greatest in the service sector, with transportation, and other service sectors at 94 percent and 97 percent respectively.

Figure 4: Contribution to total employment according to firm size, 2014



Source: Staff calculations based on PSA data.

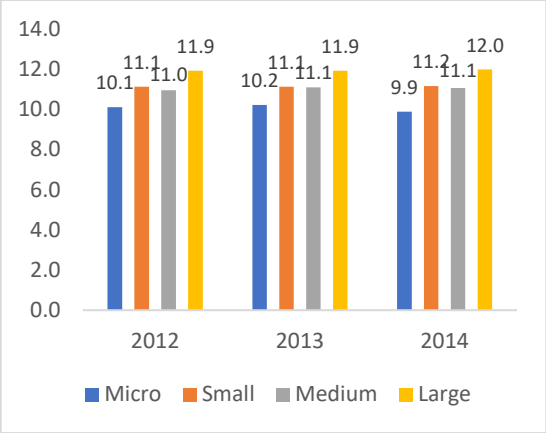
15. **Gains from structural transformation—workers moving from lower-productivity agriculture to higher productivity manufacturing and services—have not fully transpired in the Philippines.** The stylized structural transformation story, where increases in agricultural productivity facilitate the transition into more productive jobs, has not occurred in the Philippines to the extent required to significantly reduce poverty and create well-paying jobs. As a result, most Filipino workers that transition out of agriculture generally end up in low-end service jobs, unlike their counterparts in neighboring, high-performing East Asian countries with booming manufacturing sectors that provide large numbers of labor-intensive jobs.

Productivity is key for improving MSMEs performance[ix]

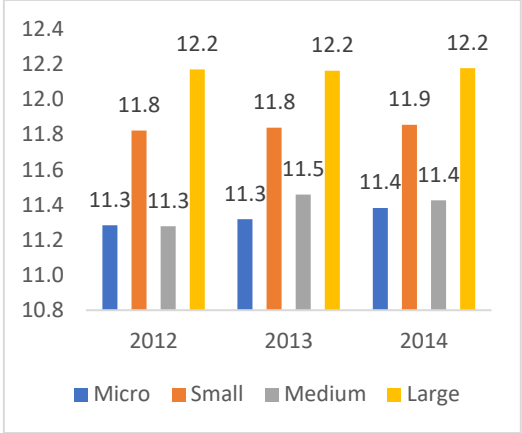
16. **MSMEs development is effectively about improving the productivity of the private sector.** Low productivity growth affects the ability of existing MSMEs to generate good-quality jobs. Small firms lag behind large firms, especially in higher productivity sectors such as manufacturing and services. In manufacturing, large firms are 21 percent more productive than micro firms. The gaps between large firms and small and medium enterprises in manufacturing are 7.4 and 8.3 percent (Figure 5). A smaller difference in productivity can also be seen in the services sector, where productivity of large firms are 7 percent, 2.7 percent, and 6.6 percent higher than micro, small, and medium enterprises, respectively (Figure 6).

Figure 5: Productivity by Firm Size in Manufacturing (Log of VA per worker)

Figure 6: Productivity by Firm Size in Services (Log of VA per worker)



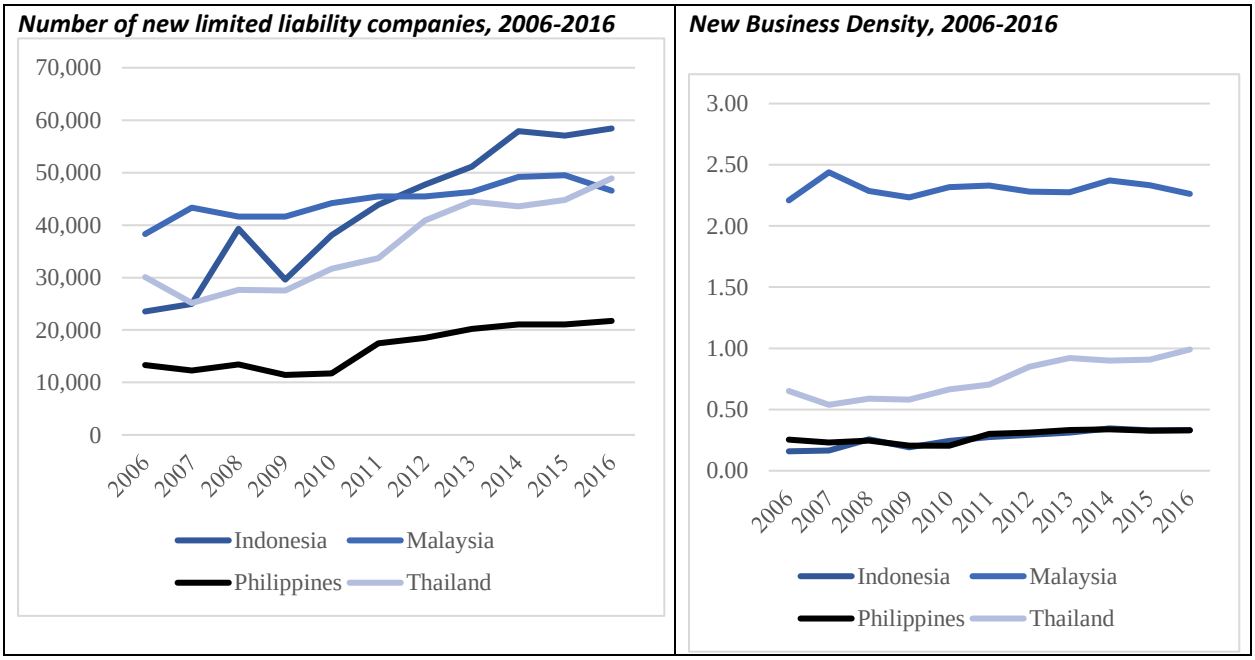
Source: Staff calculations based on PSA data.



Source: Staff calculations based on PSA data.

17. **New firm entry, a potential driver of productivity growth and innovation, is restricted in the Philippines.** New firms are typically responsible for most nations' net job growth as well as a source of innovation through the introduction of new products and services. Furthermore, they can inject competitive pressure on existing enterprises and thereby boost productivity. However, firm birth rates are low in the Philippines. In 2016 only 300 new firms were registered per 1 million in the working-age population, compared to Thailand with 1,000 and Malaysia with 2,300 (Figure 7).[x] This lagging business density is an indication of the complexity of regulatory procedures including regulatory protection of incumbents, as part of the overall weaknesses in the entrepreneurship ecosystem in the Philippines.[xi]

Figure 7: New Firm Entry and Density - Philippines vis a vis its peers

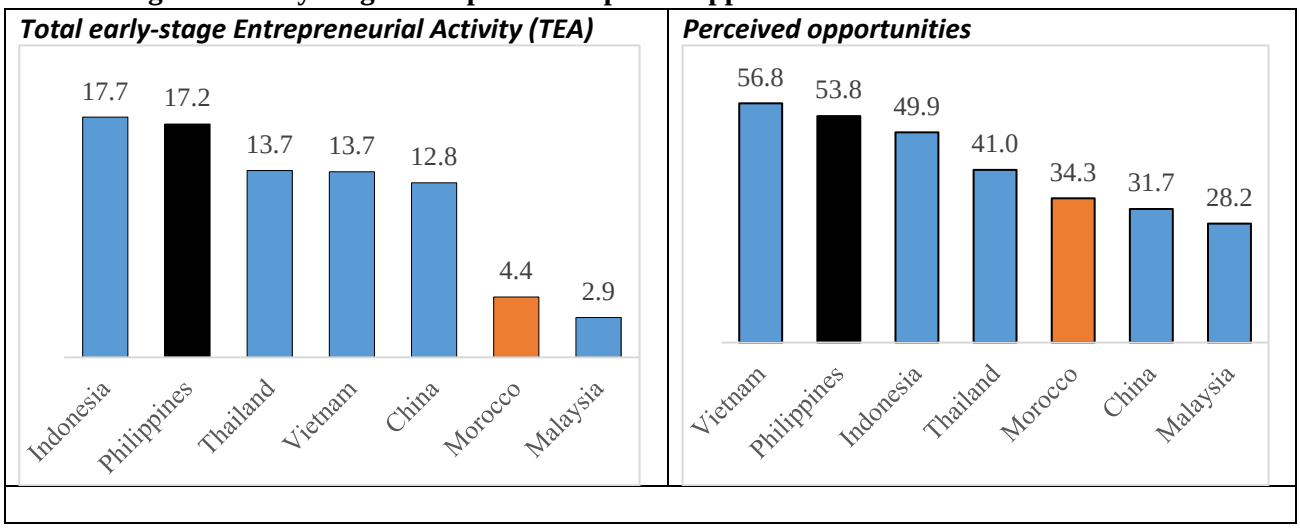


Source: World Bank Doing Business Entrepreneurship Database.
Note: New business entry density is defined as the number of newly registered corporations per 1,000 working-age people (aged 15–64). Corporations are private, formal sector companies with limited liability.

Entrepreneurship and emerging startup ecosystem

18. Entrepreneurship represents an important channel for creating new jobs in the Philippines. According to the *Global Entrepreneurship Monitor* (GEM),[xii] over 17 percent of total working population is involved in early-stage entrepreneurial activity in the Philippines compared to 13 percent in Thailand and Vietnam and less than 3 percent in Malaysia (Figure 8). Despite promising entrepreneurial outlook - indicated by high rate of entry into entrepreneurial activity - the rate of failure rate is the highest in the ASEAN leading to very low established business rate.[xiii]

Figure 8. Early Stage Entrepreneurship – Philippines vis a vis its Peers



Source: Global Entrepreneurship Monitor (GEM) 2015

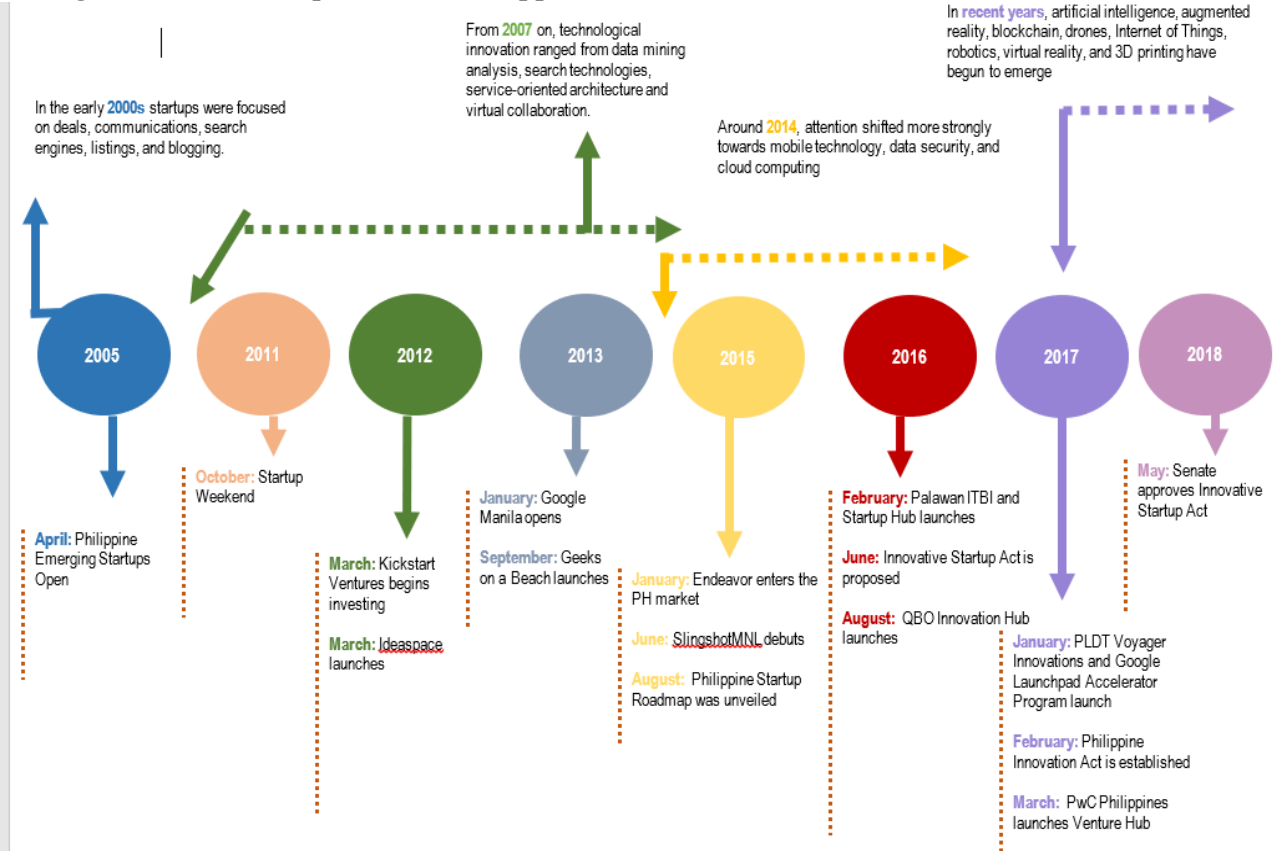
Note: (1) Percentage of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business, (2) Percentage of 18-64 population who see good opportunities to start a firm in the area where they live.

19. There is scope for strengthening the nascent startup ecosystem in the Philippines. Firms using new technologies and business models will become increasingly important, in the backdrop of the global shifts and technological advances (Hallward-Driemeier and Nayyar, 2017). Recognizing the opportunities and challenges, the GoP has prioritized strengthening the ecosystem – through policy and regulatory environment as well as introducing new mechanisms to support technopreneurs, and start-ups in its strategic plans.

20. The startup ecosystem is evolving with public and private support institutions on the rise. The startup ecosystem jump-started in the Philippines around 2012 with the entry of private-sector led incubators, and funds[xiv] to support startups (Annex 1). Established by the two primary telecommunications industry players - Philippine Long-Distance Telephone (PDLT) and Globe – the incubators were set up with the dual purpose of supporting startups and to strategically support innovations that aligned with telecom interests and operations. Prior to 2012, startup support in the Philippines was largely led by three incubators: Ayala Foundation Incubator, University of the Philippines Enterprise Center, and Ayala Tech Incubator.[xv] As figure 9 shows the Philippines Software Industry Association, global networks (such as Endeavor and Ideatech), multinationals (such as Google and Facebook) to homegrown institutions such as the Young Entrepreneurs Society (YES) Philippines,[xvi] and the QBO Innovation Hub which is a private-public partnership.[xvii]According to estimates by *Mouvement des Entreprises de France* by 2014, 15 venture capitalists (VCs) were active in the Philippines. Networking events with the primary focus of supporting entrepreneurs have also

been rolled out. Several competitions and hackathons, including the Philippine Startup Challenge are taking place.

Figure 9: Public and private sector support mechanisms have increased over time



Sources: Authors' elaboration based on information provided in the QBO/PWC "Off to a great start: 2017 Philippine Startup Survey", VMWare Cloud Index, and data collection.

21. **Despite the recent growth of startups, the potential remains untapped.** It is estimated that there are currently about 400-450 active startups in the Philippines with a total valuation of US$120 million (Startup Genome, 2018).[xviii] Policymakers expect these startups to reach a total transaction value of $10.5 billion by 2022. According to a 2017 startup survey in the Philippines,[xix] over half (54 percent) of founders launched their startups between 2016 and 2017, with the majority (87 percent) indicating to have either worked as employees in other firms (prior to becoming entrepreneurs) and to have started other businesses before operating current startups (66 percent).

22. **The profile of startups emerging from the Philippines range from IT and software firms, food delivery, logistics, real estate, education to the current increasing focus on more high-tech innovation sectors such as financial technology (fintech), enterprise applications, artificial intelligence (AI), and machine learning.** There are about 100 fintech startups based in Manila that focus on mobile payments and alternative financing.[xx] Most of these startups are in the pre-seed or seed stages and only a handful have made their exits.[xxi] One notable "unicorn" is the *Revolution Precrafted,* a real-estate startup focused on designer home development which has recently raised Series B round of investments. Early stage funding per startup is US$68,000 compared to global average of US252,000.[xxii]

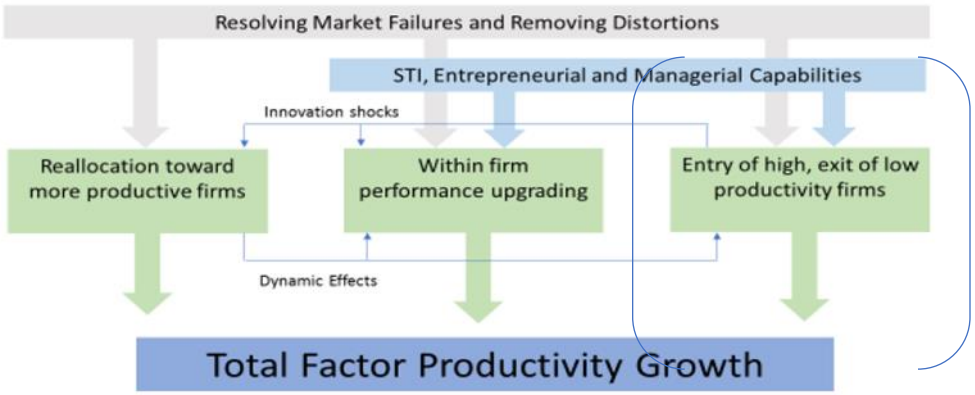
23. **Most startups are located in Manila but there is an increasing concentration of startup firms in Cebu.** The Startup Ecosystem Rankings 2019 identify Manila and Cebu as the top startup ecosystems in the Philippines. In 2019, the global ranking of both cities is at 84 and 293, respectively, significantly improving from their 2017 rankings. Thus, identifying the constraints faced by startups in both cities can provide good insights on the possible gaps in the Philippine entrepreneurship/startup ecosystem as a whole.

24. **Understanding the firm-level constraints and weaknesses in the entrepreneurship ecosystem that hold back the productivity of MSMEs is a pe-requisite to identifying the appropriate policy responses.** Building on its recent achievements, Philippine has an opportunity to create a more dynamic entrepreneurship environment and improve the productivity of the MSMEs. This requires on one hand identifying the right market failures and constraints that MSMEs face and then responding with the appropriate policies that address these constraints. The next section presents the overarching approach adopted in the report for undertaking the demand and supply side analysis.

3. The Analytical Framework

25. In undertaking the analysis, the report adopts an integrated demand and supply side approach. On the demand side, the analytical framework first examines the drivers behind firm productivity (Fig. 10). Focusing on two channels of productivity growth - i.e. upgrading of existing MSMEs and entry of new firms or early stage entrepreneurs - the report sheds light on key productivity constraints. The supply side analysis focuses on the set of policies and program interventions that are deployed to address the demand constraints and needs of the MSMEs. In undertaking this analysis, the report deploys the Policy Effectiveness Review (PER) methodology developed by the World Bank. After presenting the overarching policy framework for MSMEs and entrepreneurship and the priorities set by the GoP, the PER focuses on the MSME programs currently under implementation by the Department of Trade and Industry (DTI), and the Department of Science and Technology (DOST). The first component of the PER undertakes a policy mix analysis to assess if the current policy framework for entrepreneurship and MSMEs is in line with government priorities as well as the needs of the MSMEs. The focus is on the alignment between programs and outcomes. Thereafter, the functional review undertakes a detailed analysis of the design and implementation of selected programs under the two departments. Based on the above analysis, key findings are presented along with a menu of policy options for strengthening the effectiveness of MSMEs policies. In doing so, it highlights lessons learnt from other countries.

Figure 10: Drivers of Productivity Growth



Source: Cusolito, A.P., and W.F. Maloney. 2018.

Drivers of firm productivity growth

26. Framework for understanding the drivers behind firm productivity. Understanding what constrains productivity of enterprises is critical for improving performance. As figure10 indicates above, productivity growth can be decomposed in three main components: the reallocation of resources from low-productivity firms to high-productivity firms (the "between" component); increases in productivity through upgrading within existing firms (the "within" component); and entry of high-productivity and exit of low-productivity firms (the "selection" component).[xxiii] All three channels of productivity are influenced by external factors that pertain to government policies and market conditions, and are deemed outside the control of individual firms.[xxiv] For upgrading of existing firms and entry of new firms - in addition to the external factors - internal factors related to entrepreneurial

and managerial capabilities and technology adoption/innovation are considered central. In other words, while improving the operating environment of the firms (resolving market failures, removing distortions, and opening to trade) is necessary, it may not be sufficient unless internal firm level human capital weaknesses under the control of individual firms are not addressed.

27. Factors constraining productivity in the Philippines.[xxv] Recent empirical work that has analyzed productivity and growth in the Philippines has identified the following key constraints that enterprises face include cumbersome business environment, informality, poor access to markets, weak access to finance, particularly early stage financing, access to technology and skills, and deficient infrastructure (WB, 2017). Building on this work, this section follows the framework outlined in Figure 10 to identify priority areas where public policy to support MSMEs should focus. In undertaking the prioritization, Philippines is benchmarked vis a vis its peers. The first section reviews the *external factors* pertaining to government policies that affect the *operating environment* of the firms (i.e. regulatory and competition framework, resolving market failures, removing distortions, and opening to trade) as well as other market conditions that affect *complementary factors* (i.e. access to finance, skills and infrastructure etc.). The second section focuses on *internal firm factors* relate to entrepreneurial and managerial capabilities and technology adoption/innovation which are considered central for raising productivity. In undertaking the analysis, differences across established MSMEs vis a vis new entrants/early-stage entrepreneurs will be highlighted where observed.

External factors: operating environment for MSMEs

28. The first set of variables on the demand side comprises the operating environment for MSMEs that affects the overall set of incentives to invest and accumulate. This includes the macro context, in particular the regulatory cost of doing business, the competitive structure as well trade regime. The second set reviews the market conditions that affect the complementary factors needed to invest and accumulate. Lastly, firm capabilities, technology adoption and entrepreneurial and managerial capabilities and technology adoption/innovation are internal to the firm constraints.

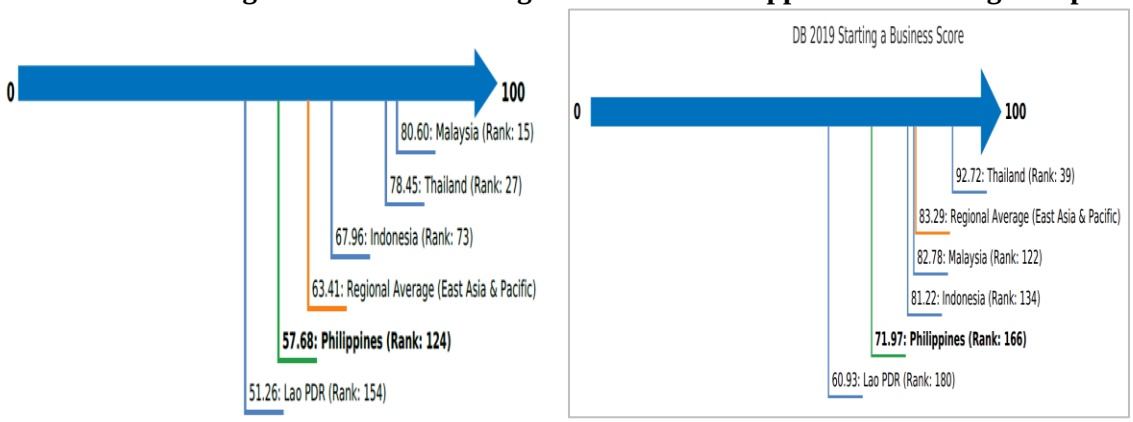
29. Cost of doing business is high in the Philippines and acts as deterrent to private sector growth and dynamism. The overall cost of doing business, underpinned by the regulatory environment, remains high in the Philippines. According to the World Bank's 2019 *Doing Business Report*, Philippines ranks 124th out of 190 countries, below the regional average and much lower than its aspirational peers like Malaysia that ranks 15th (see Fig. 11).[4]

30. It is not easy to establish a business in the Philippines. Ease of starting businesses in the Philippines remains relatively burdensome, although there are government efforts to address these constraints. With respect to the ease of starting a business, Philippines ranks 166th out of 190 economies (Fig 11). The high entry costs discourage firms from entering markets, dampening the productivity-enhancing effect of "creative destruction". In 2018, it took 31 days and 13 procedures to start a business in the Philippines, way above the East Asian average. Also, up to 16 licenses, permits, and forms must be approved before a business can start its operations (compared to 4 procedures in Morocco and 9

[4] The ranking is based on the Distance to Frontier (DTF) metric were the score captures the gap between an economy's performance and a measure of best practice across the indicators for 10 Doing Business topics. The closer the score is to 100, the closer the regulatory practice is to global best. For further details on how the DTF and the ease of doing business rankings are calculated, see www.doingbusiness.org.

procedures apiece in China, Malaysia and Vietnam). In practice, securing these licenses may take even longer in some cases: it can take more than 4 months for incorporation alone, as registering a business is a multi-step, fragmented, and a roundabout process. There may also be unofficial procedures asked for by other departments, since there is no central or online destination for business registry in the country. Currently, GoP has established GoNegosyo centers to target some of these issues by providing a central place for business registration assistance, advisory services, information and advocacy, and monitoring and evaluation.

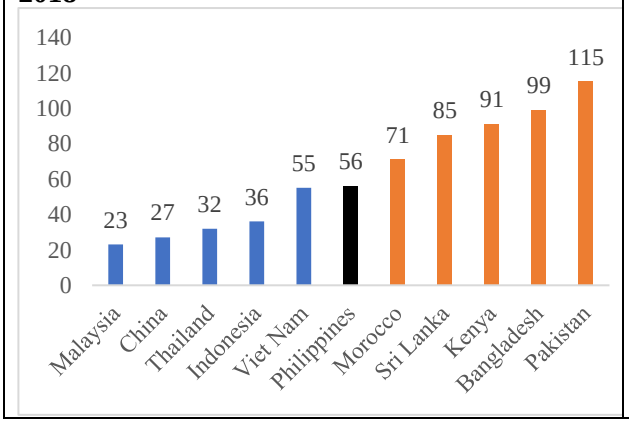
Figure 11: Ease of Doing Business and starting a Business in Philippines vis a vis regional peers



Source: Doing Business Report, WB 2019.

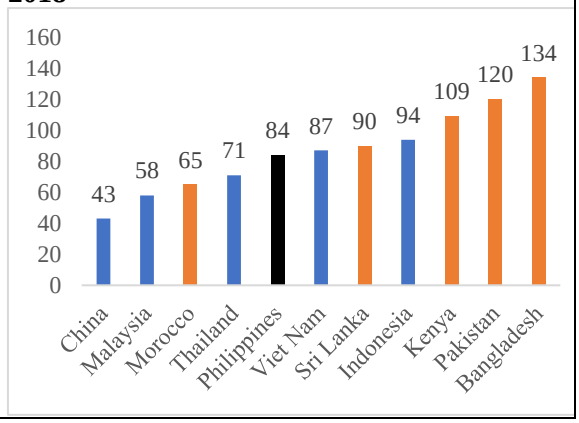
31. **Key global indicators rank the Philippines as a moderate performer compared to its peers.**[xxvi] The country is ranked 56th out of 137 economies in the *Global Competitiveness Index 2017-2018*, which is well below its regional peers like Malaysia (23rd), Thailand (32nd), and Indonesia (36th), albeit well above its structural peers like Morocco (71st) and Pakistan (115th), as indicated in Figure 12. With respect to entrepreneurship, as measured by the *Global Entrepreneurship Index* (GEI),[xxvii] the Philippines ranks below its regional peers like Malaysia and Thailand but higher than some of its structural peers (Figure 13).

Figure 12: Global competitiveness index, 2017-2018



Source: *Global Competitiveness Index 2017-2018*, WEF

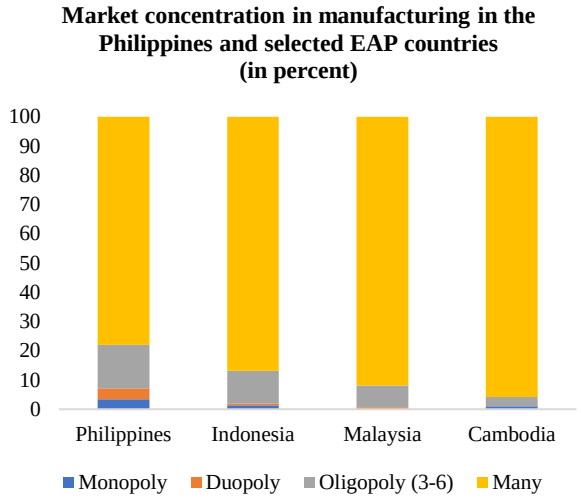
Figure 13: Global Entrepreneurship index, 2018



Source: *Global Entrepreneurship and Development Institute*

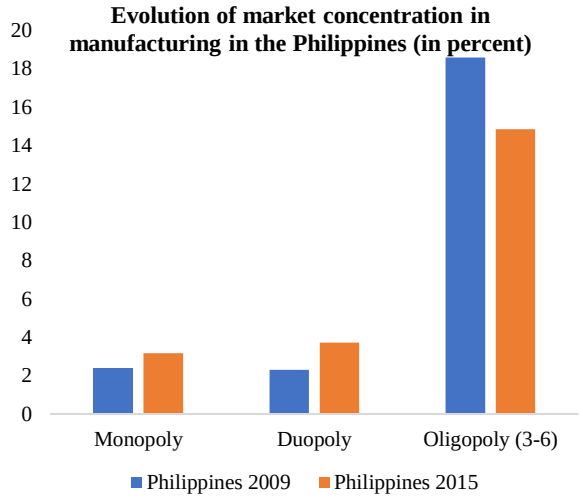
32. **Regulatory barriers dampen market competition:** Market regulations appear to be hindering competition in Philippines. As Fig. 14 and 15 indicate, market concentration in the Philippines remains higher than countries in the region and has increased in the recent years. Market regulations affect the degree of competition in an economy which in turn affects productivity by ensuring that efficient firms increase their market shares and providing incentives to innovate. Complicated licensing and permits system, complex regulations, and constitutional and legislative barriers to FDI raise the cost of doing business in the country, affecting the level of competition. Similarly, a degree of discretionary power given to government authorities such as the Philippine Competition Commission may create incentives for anticompetitive behavior.

Figure 14. Philippine markets are more concentrated than peers'…



Source: Fostering Competition in the Philippines, 2017
Note: Regional peers were selected among those countries with available information from the World Bank's Enterprise Survey.

Figure 15. …and they have become more concentrated in recent years.



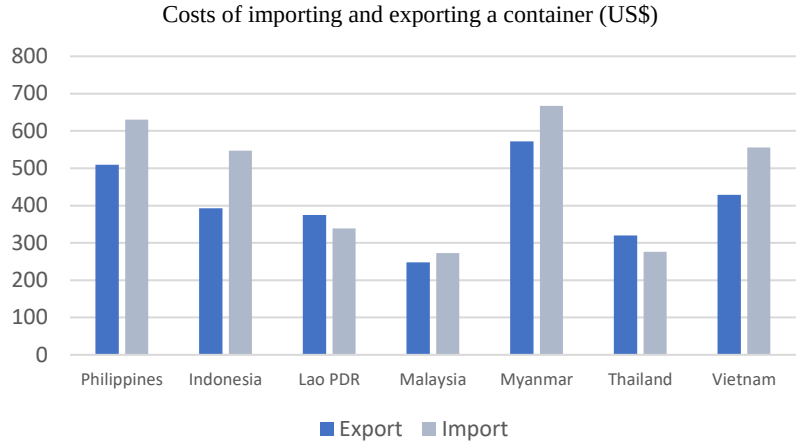
Source: Fostering Competition in the Philippines, 2017

33. **Lack of competition and investor protection mechanisms limit the growth of the private sector, access to capital, and by extension, access to knowledge in the Philippines.** Current restrictions in foreign ownership is a major barrier to capital access for startups, as well as knowledge transfer. Companies operating in specific industries (such as education, real estate, finance, and land) require 40% Filipino ownership or more, while the broadly-interpreted 'media' category requires 100% Filipino ownership.[xxviii] As a result of this restriction, Filipino-owned startups may be disincentivized to register their business in the country. Investors likewise may prefer to have their holdings abroad, not only in order to fully invest in or acquire a startup, but also because an environment with these types of restrictions is not one many investors want to do business in. Apart from foreign ownership restrictions, the regulatory system lacks incentives and protection for investors, especially those who invest in tech startups, making the risk of investing in Philippine startups high.[xxix] As it stands, the Philippines ranks low in the region in terms of investor protection, getting a score of 4.20 (out of 10), compared to 6.70 in Thailand, and 8.3 in Singapore.[xxx] The high score garnered by Singapore is due to incentives afforded to investors that make doing business in the country substantially more attractive, such as: tax holidays and concessions (e.g., exemptions from tax, or subsidies), accelerated depreciation

schemes, grants and favorable loan conditions. All of these are available to a broad spectrum of industries in Singapore.[xxxi]

34. **High trade costs further restrict competition and reduce domestic firms' opportunities to access larger markets.** Trade costs in the Philippines are among the highest in the Association of Southeast Asian Nations (ASEAN), according to the 2019 Doing Business report (Figure 16). Investors in the Philippines pay twice as much to export or import a shipping container as investors in Thailand. In addition, the Philippines ranks lowest among peer countries on the World Bank's Logistics Performance Index, and it scores especially low on connectivity to international markets.[xxxii]

Figure 16. Trade costs in the Philippines are some of the highest in the region



Source: Doing Business 2019.

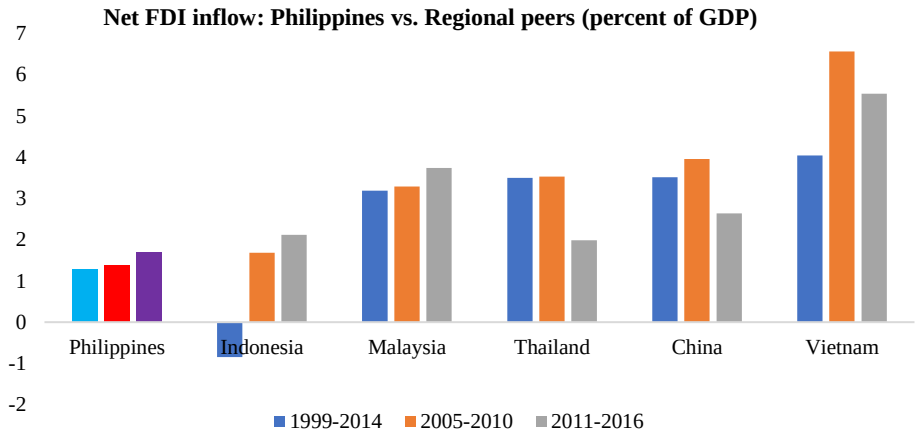
35. **The complex trade regulatory environment in the country is a major challenge in sourcing for SMEs.** SMEs derive at least thirty percent of their inputs from foreign sources. However, most SMEs encounter difficulties in obtaining import licenses to acquire foreign inputs. The delays are especially binding for industries producing non-metallic products, where almost 60 percent of the firms obtained a license after 6 months. In addition, 40 percent of firms in other manufacturing industries received a license after six months, with some reporting that the process can take an entire year.

36. **High trade costs restrict competition and technology transfer.** International trade contributes to productivity growth by increasing competition and facilitating technology adoption. However, trade openness in the Philippines has been declining in the past two decades despite an increasingly liberalized trade regime. A possible explanation is a higher trade cost in the Philippines relative to countries in the region. In addition, non-tariff measures (NTMs) such as technical regulations, product standards, and custom procedures may explain the decline in trade openness. According to the International Trade Center (2015), 93.5 percent of Philippine exporters and 98.2 percent of importers report procedural obstacle (POs) as the main barriers to trade.

37. **FDI flows impact knowledge spillover.** Productivity is positively related to FDI not only because it brings competition, capital flows but also knowledge spillover to domestic firms. This entails access to new technologies, modern practices, new processes, and management capabilities. While FDI inflows in the Philippines has increased through the years, it remains low relative to regional and structural

peers (Figure 17). The sectors that received the highest FDI flows - namely manufacturing, financial and insurance, and real estate - provide evidence of the positive relationship to spillover effect.

Figure 17: Net inflow of FDI increasing but still low relative to regional peers.



Source: WDI

38. **Paying taxes, an important component as part of operating businesses, is equally an arduous task.** National expert surveys as part of the Global Entrepreneurship Monitor (GEM) shows that the country ranks below its peers on the 'taxes and bureaucracy' component. According to the *Paying Taxes 2018 report*, it takes an average of 182 hours a year to comply with tax regulations and make 20 tax payments in the Philippines (including mandatory social and health insurance). In contrast, it takes 64 hours a year to make 5 tax payments in Singapore. While it became possible to pay taxes online since 2018, the impact of this online system for Filipino firms remains unclear. Beyond the burdensome logistics related to making tax payments, there is no tax scheme supporting startups specifically, although there is the Barangay Micro Business Enterprise (BMBE) law focused on micro-entrepreneurs more broadly. In contrast, Singapore offers incentives such as tax exemptions and expense deductions for focused on startups (Box 1).

Box 1. Contrasting Philippines' and Singapore's tax schemes

Philippines: All startups are required to file taxes upon their first year of incorporation and pay taxes on any income earned within the same time frame. This includes the 25% fixed corporate income tax, a business tax of 3% (which rises to 12% if a company's annual gross sales or revenues exceed P1,919500), and a withholding tax. The closest regulation aiming to help alleviate the tax burden for entrepreneurs is Republic Act No. 9178, or the Barangay Micro Business Enterprise (BMBE) Law, enacted in 2002 with the aim of scaling-up MSMEs, through the provision of several benefits, including tax exemption on all operating expenses, minimum wage exemptions, credit priority, and growth assistance. To receive these benefits, firms must apply at GoNegosyo centers and wait for approval from DTI, and must qualify as a BMBE, which is defined as "any business enterprise engaged in production, processing, or manufacturing of products, including agro-processing, as well as trading and services, with total assets of not more than P3 million". However, not all startups can meet the above-mentioned eligibility criteria.

Singapore: Since 2005, startups received tax benefits such as (i) tax exemption scheme for new start-up companies; (i) partial tax exemption for all companies; and (iii) deduction of expenses incurred before commencement of business. This included: full exemption on the first $100,000 of normal chargeable income; and a further 50% exemption on the next $200,000 of normal chargeable income for the first three years of assessment. This scheme will be changed from a full exemption to 75% exemption by 2020.[xxxiii]

Labor market

34. Labor regulations in the Philippines are one of the most stringent in the ASEAN region, limiting the creation of formal jobs. According to the Global Competitiveness Report 2017–2018, the Philippines ranks 84 out of 137 countries in terms of labor market efficiency and 77 on the ease of hiring and firing workers, more restrictive than in peers (Figure 18). The strict labor regulations contribute to informality by increasing the cost of formal compared to informal, discourages employers from hiring workers formally and leads them to increasingly use temporary employment contracts.

Figure 18. Labor regulations in the Philippines are more restrictive than in peers

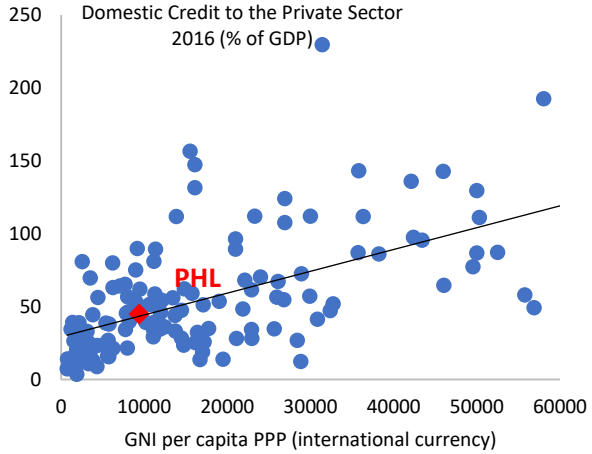
Source: Growth and Productivity Report (2018).

Other complementary factors

Access to Finance, including start-up finance

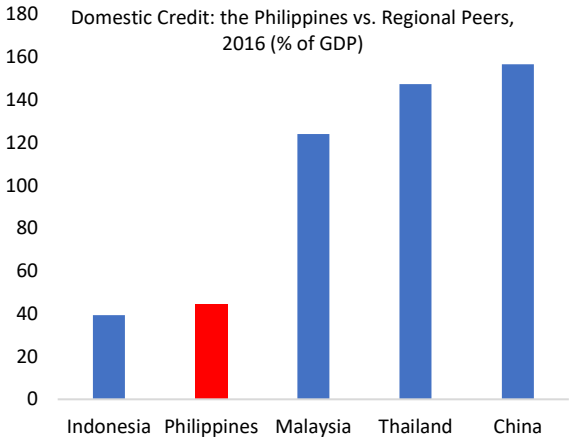
39. The level of domestic credit to the private sector is low compared to regional peers with firms relying heavily on internal funds. At 45 percent of GDP, credit to the private sector is at the level predicted by its income level (Figure 19), but substantially lower than the average of regional peers (114 percent of GDP) (Figure 20). Less than 7 percent of working capital of the country's firms is financed by banks, much lower than the 18 percent among firms in regional peers. Even for the country's large firms, only 11.6 percent of funds used for investment originates from banks. However, most Philippine firms that apply for a loan through the banking system are approved. Based on enterprise survey data from 2015, while a third of the SMEs in the sample have existing lines of credit, few have applied for new lines of credit. Aside for not finding a need for it, SMEs cite high interest rates, complex application procedure and high collateral as the main reasons for not applying to a new line of credit. Banks cite insufficient or unacceptable collateral and adverse credit/repayment record as the main reasons for rejection.[xxxiv] Rather than access, this heavy reliance on internal funds seems to be the result of either high costs in the formal banking system or firm preferences.

Figure 19. The level of domestic credit to the private sector is adequate relative to the country's income level…



Source: WB (2018). Growth and Productivity Report.

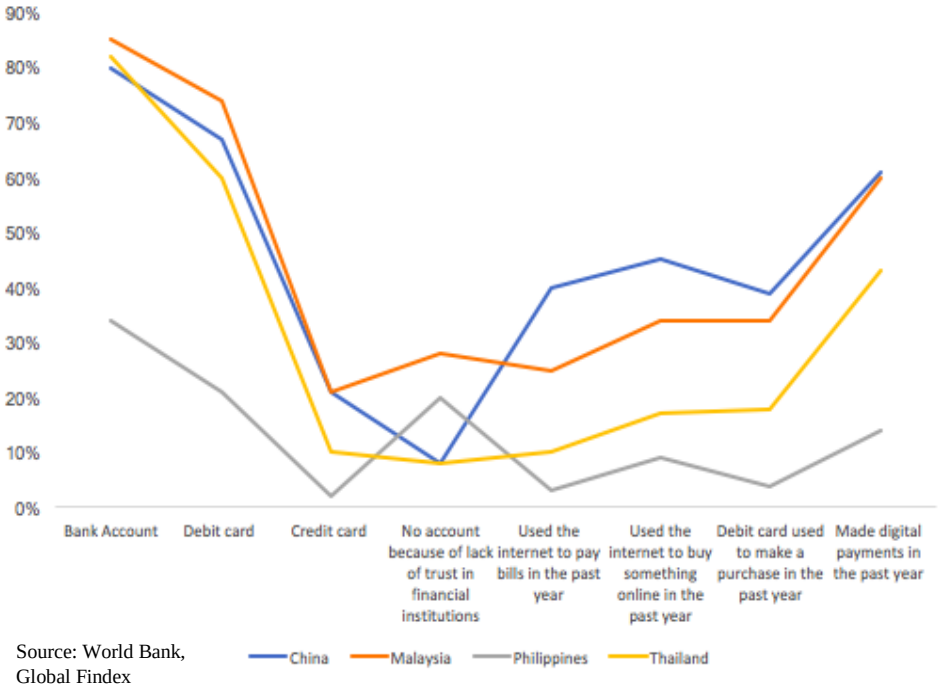
Figure 20. …but relatively low compared with regional peers



Source: WB (2018). Growth and Productivity Report.

40. There are low levels of digital financial activity in the economy (Figure 21). Financial digital adoption rates in 2017 are some of the lowest in the region, with a substantially unbanked population: only 2 percent of the population has credit card ownership and 21 percent debit card ownership.[xxxv]

Figure 21. Digital inclusion in the Philippines

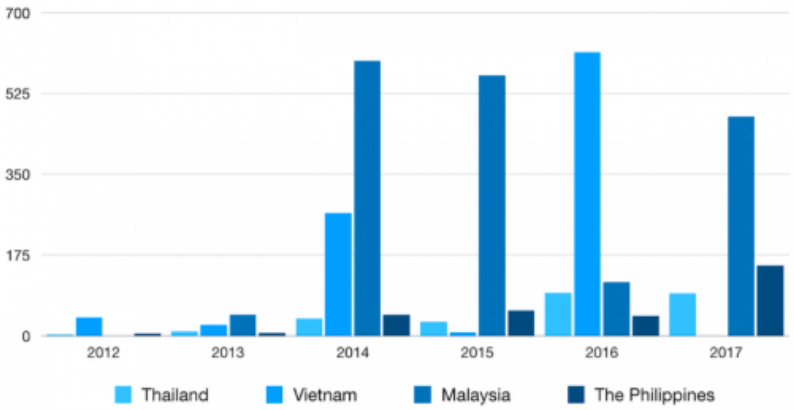


Source: World Bank, Global Findex

41. Access to finance constraint is especially acute among early stage entrepreneurs. A 2017 startup survey showed that access to finance is one of the biggest challenges facing startups in the Philippines,

with 88% of founders naming it as their top challenge to doing business. The disparity of early stage funding per startup is stark: US$68,000 in the Philippines compared to a global average of US$252,000.[xxxvi] Also, deal tracking from Golden Gate Ventures between 2012 and 2017 showed that the Philippines covered less than 5% of the total in the region, with roughly US$300 million in funding over the past five years (22).[xxxvii] Further, the last exit seen in the Philippines was in early 2016; yet there has been around 60 exits throughout the region since then.[xxxviii]

Figure 22: Venture capital deals in the Southeast Asian region, 2012-2017



Source: Golden Gate Ventures deal tracking

35. **Investors are beginning to gravitate towards Philippines as an important emerging market destination.** Looking forward, three-fifths of startup entrepreneurs are planning to enter global markets (61 percent) and raise new equity that can drive growth of their startups (63 percent).[xxxix] Philippines' strong economic potential and large population makes it an attractive market for Venture Capital and Private Equity (VCPE) investors (Table 23). According to the latest VCPE Country Attractiveness Index, [xl] Philippines ranks 42 out of 125 countries. Moreover, the country has gained three positions since 2014. Venture Capital and Private Equity (VCPE) index measures the attractiveness of countries for investors in the venture capital (VC) and private equity (PE) asset classes. It provides the most up-to-date aggregated information on the quality of the investment environment and an assessment of the ease of transaction-making in 125 countries. According to the 2018 VCPE Country Attractiveness Index, Philippines ranked in the middle when compared to regional and structural peers.

Table 23: VCPE Country Attractiveness Index*

Country	Rank	Score
Malaysia	13	83.1
China	18	80.7
Thailand	27	72.2
Indonesia	37	64.3
Philippines	**42**	**61.3**
Vietnam	43	60.7
Kenya	53	57.6
Sri Lanka	55	57.3
Pakistan	63	53.2
Morocco	64	52.9

Source: Groh A et al (2018) *Global Venture Capital and Private Equity. *Covers 125 countries.*

Skills

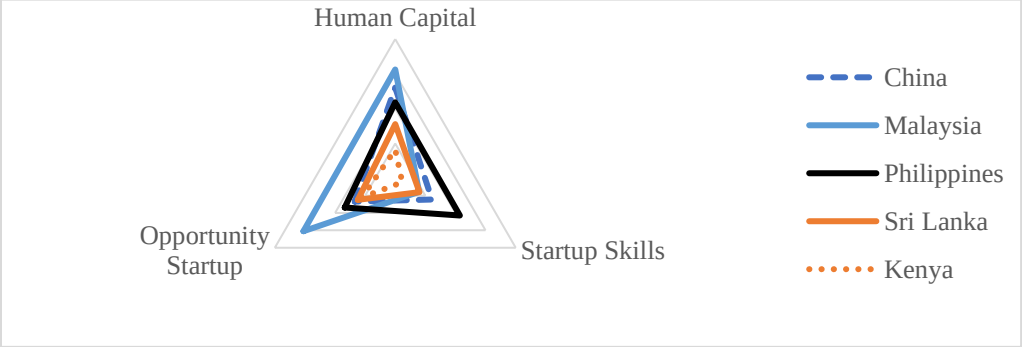
42. **Skill mismatch also pose a barrier in realizing productivity growth.** In addition to restrictive labor regulations and high labor costs, skills mismatch further exacerbates labor market issues in the Philippine. While firms in the Philippines are less likely to report workforce skills as an obstacle to doing business, there was an increase in the number of firms that reported inadequate workforce skills.[xli] About one-third of employers reported having unfilled vacancies due to a lack of applicants with the necessary skill set. Most of these missing skills are not forms of academic knowledge or technical acumen, but rather socio-emotional skills. Moreover, inadequate experience among applicants and a lack of applicants for the advertised position are among the most frequently cited reasons for unfilled vacancies. Workers with completed tertiary education spend an average of 5.5 weeks searching for a job, far longer than the average time spent by workers with lower education level. Unemployment rates also increase with education level. About 80 percent unemployed workers have a completed secondary education or higher. Another issue of concern is the outflow of skilled labor in the Philippines. There is evidence of a shortage of skilled jobs, which may provide a plausible explanation to a larger share of emigrants relative to country peers. Additionally, emphasis on skills that enable technologies for the workers are worthwhile to consider as this may pose a future problem.

43. **Repatriating Filipinos can be a source of knowledge transfer to improve the knowledge base and skills of the workforce.** Repatriating citizens are part of a diaspora community that often holds some of the top talent, and they contribute to startup and job creation in the local environment. Many governments in emerging economies are implementing programs and initiatives to re-engage their respective diaspora communities. For example, in 2008 the Chinese government enacted the Thousand Talents program to incentivize overseas Chinese "global experts" (scholars and innovators), particularly in STEM, to work in China through financial, travel, residency, and a range of other benefits. In India, diaspora members can apply for the Central Government's Overseas Citizenship of India (OCI) status, which entails visa-free access to India, residency, participation in business and certain educational and financial, but not political benefits. In the Philippines, Senate Bill 1324 or the Balik Scientist Act was introduced in early 2017, which sought to offer benefits, incentives and privileges to returning Filipino experts to share their expertise and knowledge. The Bill aims to spur scientific and technological advancements in the country, contribute to nation-building, and nurture inclusive growth.

44. **Collaboration between the government and the private sector to address market skills needs can be enhanced.** Currently, DICT has been working to implement programs in high schools and universities to increase the number of coders throughout the Philippines to 10,000 by 2023 (thereby decreasing the skills gap in the country). However, the means for improving education in technical areas needs to go beyond the government: while it is well-equipped to work on overhauling the entire education system to infuse a focus on digital skills throughout primary and secondary school curricula, it should not be working alone. This is another case where the private sector can play a role, not only through one-off hackathons and bootcamps, or training programs targeting older employees looking to up-skill, but through more partnerships with schools and universities. In Malaysia for example, Google partnered with local universities through its Ignite Program, which works with universities to provide thousands of students digital marketing training and giving them the opportunity to work directly with employers.

36. **The Philippines has strong human capital that can support entrepreneurship.** According to the 2018 *Global Entrepreneurship Index*, the Philippines ranks relatively well against its peers in terms of having well-trained entrepreneurs who are motivated by opportunity instead of necessity (
37.
38. **Figure** 24). The population also is deemed to have the necessary skills to start a business, outpacing China and Malaysia for example. This strong performance can be attributed to entrepreneurial education at the primary, college, and vocational levels. In fact, entrepreneurial education is mandated by law in higher education, and is also offered as both bachelor's and master's degrees. There is also a strong prevalence of incubator programs offering trainings, business plan development, and opportunity identification for youths. Another factor boosting the entrepreneurship ecosystem is the role repatriating Filipinos played in establishing start-ups (a growth spurt between 2013 and 2016) and contributing to knowledge transfer in the ecosystem[xlii].

Figure 24: Human capital capabilities in Philippines vis-à-vis peers

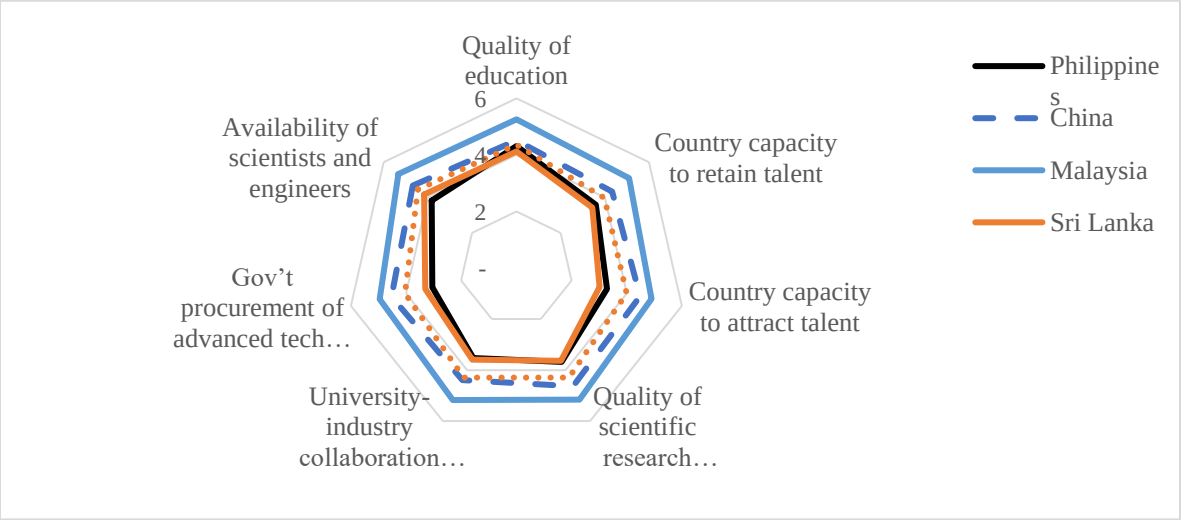


Source: GEDI, 2018 Global Entrepreneurship Index.[xliii]

39. **Entrepreneurship is supported by learning-by-doing and education**. According to the 2017 Philippine startup survey,[xliv] majority (87 percent) of startups indicated to have either worked as employees in other firms (prior to becoming entrepreneurs) and to have started other businesses before operating current startups (66 percent). Education is an important factor since 90 percent of founders interviewed have at least bachelor's degrees, although only 27 percent of founders have IT or computer science academic background.

40. **Yet, the supply of scientific and technological knowledge, a niche area for innovation, is somehow lacking.** Based on World Economic Forum's Global Competitiveness Index, the country posted the weakest performance in university-industry R&D collaboration, country capacity to attract and retain talent, research institution quality, scientists and engineers' availability, and government technological procurement capability vis-à-vis peers such as China and Malaysia. In magnitude terms, there are currently 165 per million Filipino R&D personnel. Yet this is significantly lower than the recommended 380 per million by the United Nations Educational, Scientific and Cultural Organization for scientific discoveries and technological developments.[xlv]

Figure 25: Knowledge ecosystem conditions



Source: WEF, GCI

45. **Further, ICT skillsets in the Philippines lag high-tech innovation driven economies (e.g., Singapore).** According to the International Telecommunications Union's Global ICT Index, which measures ICT access, ICT use, and ICT skills, the Philippines ranks 101th out of 175 economies in the overall index, and 86th in the skills sub index. ICT skills are measured by the mean years of schooling, secondary gross enrollment ratio, and tertiary gross enrollment ratio. The Philippines scored lower than Singapore on all fronts: 9.3 years, 88.4 percent, and 35.8 percent compared to 11.6 years, 97.2 percent, and 69.8 percent respectively[xlvi]. Moreover, qualitative interviews with ICT firms (start-ups) and venture capitalists point to the mismatch between technical skills taught in classrooms and market needs: firms need to invest in extensive trainings for new hires (including graduates which have ICT-related degrees)[xlvii] or hire data scientists from abroad to implement the work[xlviii]. The lack of a pipeline of good talent points to challenges in reaping job creation potential in high-technology sectors as well as creation of a base of innovation-based entrepreneurs in the country.

Infrastructure

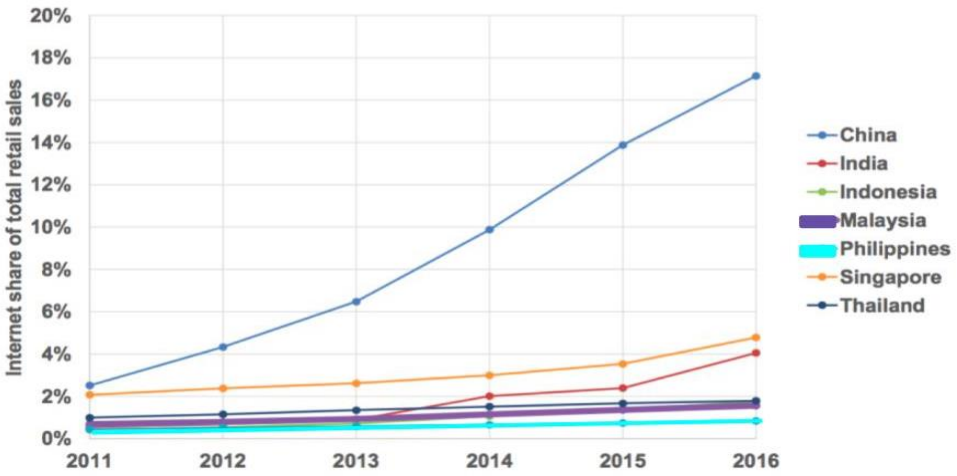
46. **The Philippine economy suffers from large infrastructure gaps and high utility costs**. The poor state of most infrastructure markets is reflected in the Philippines' ranking in its quality of infrastructure—ranking 92 out of 140 countries in the 2017–18 World Economic Forum (WEF) Global Competitiveness Report. Both households and firms suffer from the large infrastructure gaps. For instance, only 15 percent of households have access to fixed broadband due to its high cost and low quality. The network of piped sanitation is also limited, resulting in only 4.5 percent of households having connected toilets. Filipino firms face some of the highest utility and trade costs in the region due to limited infrastructure and weak market competition in infrastructure markets. For instance, at nearly $0.15 per kilowatt hour, Philippines has the highest cost of electricity in the region. The high input costs generated by these infrastructure markets discourage private sector investment and subsequent job creation.

47. **Infrastructure connectivity is average when compared to peers, and there are substantial government efforts to boost connectivity.** The Philippines ranks 5th among Southeast Asian peers in terms of access to physical infrastructure.[xlix] For ICT connectivity in particular, useful for digital and technology-based startups, Speedtest's Global Index for October 2017 shows that the country ranks 7th

with a download speed of 13.5 mbps, faring better than Cambodia, Laos, and Myanmar at 11.46 mbps, 9.31 mbps, and 7.40 mbps, respectively. In comparison, Singapore has a substantially higher speed of 148.62 mbps.[l] Government efforts to boost infrastructure nonetheless are underway—Its $180 billion national infrastructure plan, "Build, Build, Build", is currently undertaking 75 flagship projects on infrastructure related to airports, railways, roads and bridges, seaport, as well as fiber optic cables and wireless technologies to improve internet speeds.[li] Further, DICT also plans to provide bandwidth access across the Philippines (both urban and rural locations) through the *Free Wi-Fi Internet Access in Public Places* program. Seeking to provide at least 48,000 Wi-Fi hotspots across the country (equivalent to 99 percent connectivity rate), there are roughly 283 free public hotspots to-date.

48. **Further improvements in infrastructure connectivity, particularly on digital infrastructure[lii], will come not only from addressing hard infrastructure bottlenecks but also soft infrastructure, such as lack of customer readiness.** While the country ranks 13th out of 34 countries (faring better than Malaysia and Hong Kong) in MasterCard's Worldwide Mobile Payments Readiness Index, with Singapore taking the number one spot,[liii] one of the major factors curbing the Philippines' higher placement on the list is its comparatively weak level of customer readiness.[liv] In fact, current e-commerce penetration level in the Philippines is the lowest in the region (Figure 26). Overall, Philippine businesses trail in using the internet to connect to consumers. The Philippines ranks 51 (out of 139 countries) in the Internet use for business-to consumer transactions ranking index of WEF's 2016 Global Information Technology report. This ranking is compared to Thailand (39), China (32), Indonesia (28), and Malaysia (26).

Figure 26: Adoption of E-commerce in the Philippines



Source: Euromonitor.

49. **Intermediary organizations (both public and private) supporting the entrepreneurship ecosystem exists: while there are some interconnections between organizations at each phase of startup development, ecosystem activities remain largely fragmented.** In terms of interconnections, early stage founders seeking a solid program on the basics of startup development may attend Founders Institute, whereas startups that have pre-established business models may attend Spring Valley or QBO Innovation Hub. Once a startup is ready to scale up, it may approach Endeavor or other similar ventures. Yet, these support organizations remain relatively few. Also, while there are some partnership activities among ecosystem actors, many of these actors implement activities in silo (Figure 28). In general,

fragmentation of ecosystem activities exists on two levels: (i) cohesion between actors working towards providing support for entrepreneurs; and (ii) between the key national government departments tasked with supporting entrepreneurship (i.e., DTI, DICT, and DOST). To-date for example, there is no clear leader (e.g., public or private sector) facilitating the growth of the entrepreneurship ecosystem and connecting the existing stakeholders, although the government has established the Philippine Startup Business Council as the primary "mover-liaison" between and among the stakeholders of the startup community.[lv] This fragmentation has led to uneven support for startups, lack of information flow on startup support initiatives (there remains confusion about the roles and responsibilities of government agencies tasked with supporting startups), among others.

Internal firm constraints

50. Internal firm factors relate to entrepreneurial and managerial capabilities and technology adoption/innovation which are considered central for raising productivity. Weak firm capacity to innovate limits productivity growth. Productivity growth is influenced by the capabilities and incentives of firms to innovate. Entrepreneurship and innovation at firm level requires enhancing firm capabilities for innovation and technology learning that in turn affects productivity growth. Technological learning at the firm level implies an increased ability for firms to absorb these effectively and thus the need to invest in a firms' absorptive capacity.

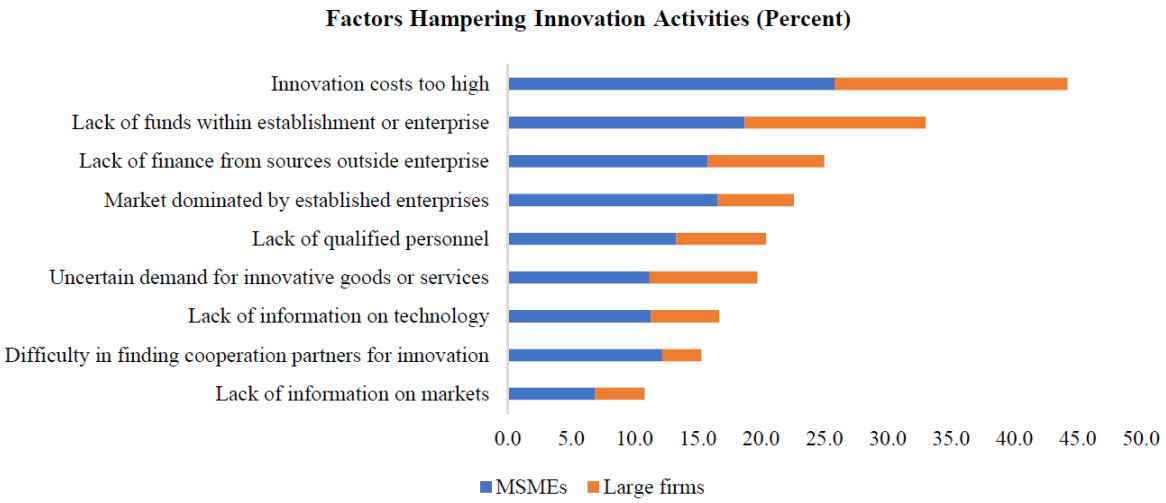
51. According to the Global Innovation Index Report - that ranks innovation capabilities across world economies – Philippines is pegged 73rd out of 127 countries, behind Singapore (7th), China (22nd) and Malaysia (37th), Vietnam 47th but above Indonesia (87th). Philippine firms are less likely to adopt existing technologies than firms in peer countries. For instance, only 9 percent of firms in the Philippines have internationally recognized quality certifications and only 11.2 percent of firms use technology licensed from foreign companies, lower than in most peers.

52. **The Philippine national innovation system needs improvement.**[lvi] **For** firms to reach the technological frontier, policies and institutions need to focus on building the capabilities of the private sector and removing the constraints to developing a mature National Innovation System. Many parts of the NIS are underdeveloped and the linkages between elements of the innovation ecosystem are not working effectively in the Philippines. In addition to the supply and demand for knowledge, solving the innovation problem depends on the set of incentives and policies that can facilitate the investments and transfer of knowledge. For instance, the high level of market dominance and the presence of inefficient business regulations in the Philippines are not conducive for innovation. The country ranks low in terms of availability and quality of research capital and availability of scientists and engineers. Philippines spending on R&D is merely 0.1 percent of GDP, compared with an average of 0.9 percent of GDP among regional peers, and an average of 0.4 percent of GDP among structural peers.

53. Corporations can make the most disruptive impact on startups, by encouraging innovation, investing and/or acquisition. Early data from the Harvard Business Review show that contrary to popular perception, venture capital does not necessarily play a major role in directly funding basic innovation; rather, it is through other entities such as corporations. Looking at the startup acquisitions made by Chinese e-commerce giant (Alibaba) in 2016 in various sectors ranging from media, entertainment, electronics, mobile, and transport space , the dual value added of working with startups can be observed: on the one hand, there is a self-serving expansion of Alibaba's empire of offerings and services; on the other hand, start-ups gain a new partner (including fresh capital, knowledge and experience) to help

entrepreneurs blaze through the growth cycles. Similar to that of Alibaba, Philippine telecoms company Globe funds Kickstart Ventures, a key local investor for growth-stage firms in the digital space. Through this investment, Globe is able to keep track of trends in the market and have direct access to high-potential start-ups. For example, Kickstart Ventures hosts a 'deal day' on behalf of their network with Globe, Ayala, Singtel, and a range of other C-level executives from major companies which are all keen to find start-ups who can address some of their problems or provide new solutions.

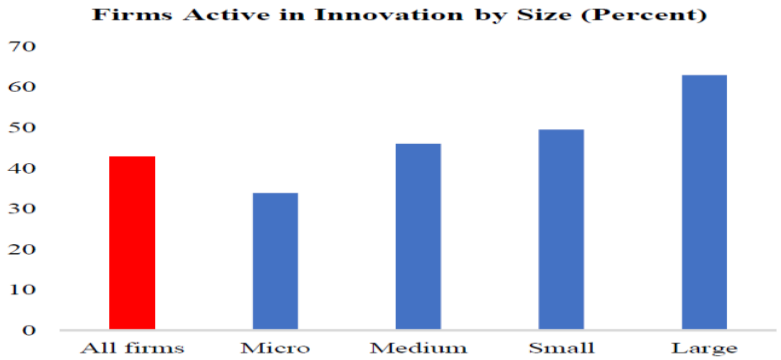
Figure 27: Constraints to Innovation activities – MSMEs vs. large firms



Source: 2015 Survey of Innovation Activities, Philippine Institute for Development Studies.

54. **High cost of innovation, insufficient resources, market dominance, and lack of skills are the most prominent factors that prevent firms from innovating in the Philippines** (Figure 27). Firms within Philippines point to the high cost of innovation as the primary factor that prevent them from engaging in innovation activities in the country, followed by lack of funds from within firms and external sources. Moreover, market dominance and lack of qualified personnel are also important factors that discourage innovation, especially among micro, small, and medium enterprises (MSMEs). As expected MSMEs are less likely to innovate than large firms (Figure 28).

Fig: 28 Innovation constraints: MSMEs vs. large firms



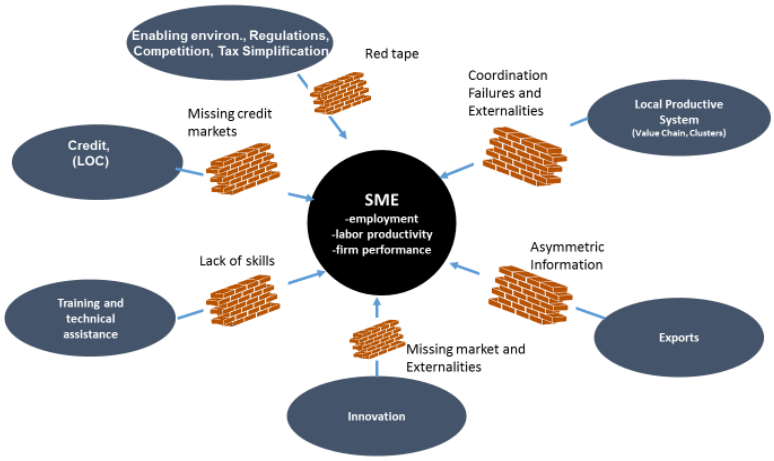
Source: 2015 Survey of Innovation Activities, Philippine Institute for Development Studies.

41. **Summary of demand analysis.** The above analysis reveals that MSMEs in the Philippines face constraints in multiple dimensions that affect productivity and growth. The constraints include external factors – ranging from high costs of doing business as well as establishing a new business; regular barrier dampen market conditions; high trade costs which reduce opportunities for MSMEs to access larger markets environment among other regulatory distortions in labor regulations and taxation. There are also missing or weak complementarities in the area of finance and skills as well as infrastructure. Lastly, internal factors – covering weak internal capabilities, human capital and skills and technology dampen prospects of productivity growth. Remedial measures call for a combination of policy reforms and strengthening of programs for private sector to improve the operating environment of the firms (i.e. by resolving market failures, removing distortions) and within-firm performance (i.e. by building skills and managerial capabilities, technology adoption), as well as entry of new firms.

4. MSME and Entrepreneurship Policy Framework

42. The previous section reveals that enterprises across firm cycle in the Philippines face multiple constraints that affect productivity, entrepreneurship, and growth. Many countries invest significant public resources in a variety of MSME support programs as part of their development strategies and plans and accordingly establish dedicated public-sector institutions to coordinate and implement these programs. MSME interventions are justified on the basis of market failures (e.g. incomplete markets) as well as institutional and coordination constraints (Figure 29). Direct and indirect interventions – ranging from financial and non-financial policies and programs – are deployed across multiple agencies to address the external and internal constraints faced by enterprises. Direct interventions may include subsidized credit lines, trainings, consulting services etc. Indirect intervention may include changes in the institutional environment – regulatory and tax simplification policies - and competition reforms. MSMEs programs, nonetheless, have a mixed record. Identifying the market failures and binding constraints for enterprise growth in a country context is critical to the mix of policies and programs that are selected. However even when the correct constraints are identified, some instruments may perform better than others based on the specific modalities of each support instrument.

Figure 29: **Typology of market and institutional failures and interventions**



Source: Adapted from Carvo T. and C. Piza (2016)

43. This section briefly reviews the GoP's strategic plans and priorities for supporting the growth of MSMEs as an integral part of the country' development vision. The assessment can be undertaken at two levels: the strategic and high level that reviews government priorities and goals/targets as set in the key national documents and laws to support MSMEs; and at the program and policy level (i.e. instrument level). The section briefly assesses the recently concluded MSMED Plan, and lays out the priorities set in the new MSMED Plan. It also set stage for the program level analysis that will be undertaken in section 5 and 6, using the PER methodology.

MSME Plans and Policies

44. The GOP's National Development Plans and strategies articulate the prioritization of the MSMEs and entrepreneurship. Since 1991 several MSME plans, policies and programs have been instituted to support MSMEs in the Philippines (Annex 3). As the implementation of the new MSME Development (MSMED) Plan 2017-2022 gains momentum with an expansion of MSMEs support programs, it is appropriate to take stock and learn lessons from implementation of past plans and on-going program to strengthen the MSME and entrepreneurship support mechanisms in the Philippines. The existing MSME programs are anchored in a range of strategic national plans, including the recently concluded MSMED Plan from 2011-2016. Annex 3 lists the key national plans as well as the laws that underpin some of the programs.

45. The recently completed *MSME Development Plan 2011-2016* aimed "to promote, support, strengthen, and encourage the growth and development of MSMEs in all productive sectors of the economy". The twin outcomes sought under the concluded MSME Plan was to generate 2 incremental million jobs in the MSME sector, and to increase contribution of MSME sector to 40 percent in 2016 from 26 percent in 2006. Focus areas of support included improvement in business environment, access to finance, access to markets, and productivity and efficiency of MSMEs. The Plan was implemented through MSMED programs of various participating government ministries/agencies with governance and secretariat support from the national and provincial MSMED councils, the regional offices of the Department of Trade and Industry (DTI), and the Bureau of Micro, Small and Medium Development (BMSMED).

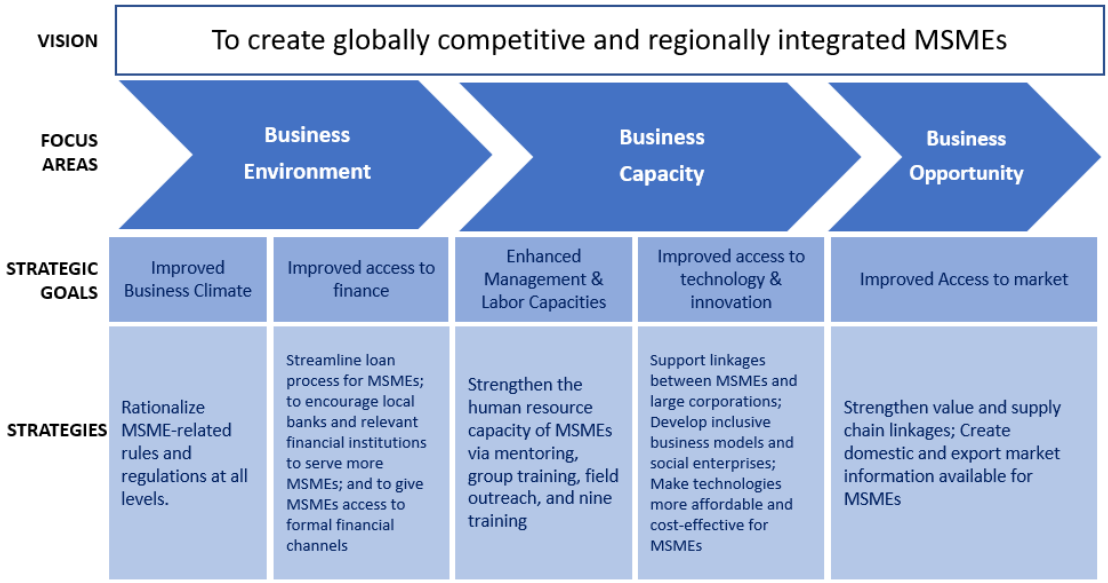
46. Looking ahead, it is instructive to draw lessons from the recently concluded MSME Development Plan 2011-2016.[lvii] In undertaking the assessment, the focus is three-fold: (i) reviewing the alignment of articulated policies and priorities vis a vis the productivity constraints faced by MSMEs, as discussed earlier; (ii) what is the pace of progress made vis a vis the priorities and targets set, including governance and implementation issues; and (iii) highlight gaps, if any, based on the review as well as lessons learned for strengthening the MSME framework and policies, going forward.

47. While the twin outcomes of the Plan were considered pertinent for the country, the MSMED Plan is challenged on reporting results because of basic problems in measurability and timeliness of data availability. The macro employment data indicates that employment growth has been impressive, attribution of the outcome to the four focus areas of support is difficult to ascertain without analytics that shed light on the key market failures and MSME constraints. Moreover, quality of jobs is a key issue. With regard to the objective of increased contribution of MSMEs, it is hard to determine progress in the absence of data and logical framework. Progress is reported vis a vis the focus areas of business environment, access to finance and productivity and efficiency. Access to markets is reported to have declined. Without independent studies these claims are challenging to verify particularly as the M & E progress data was not available due to lack of financial and human resources. In addition, governance and implementation challenges have been highlighted. The effectiveness of MSMED councils was affected by lack of progress data and funds, and the weak governance links between the national and provincial levels. These findings provide important insights and lessons learnt as the GoP implements the new MSMED Plan.

48. The priorities outlined in the new MSMED Plan 2017-2022 are broadly aligned to the constraints faced by MSMEs. The three focus areas for the Plan include: (i) Business Environment with emphasis

on improving the business regulatory requirements and procedures as well as maximizing access to finance; (ii) Business Capacity with the aim of strengthening human capital development and improving innovation and technological competitiveness of MSMEs to transform and create new business models and enterprises; and (iii) Business Opportunities with the aim of broadening access to markets. The priority focus areas are broadly aligned to the constraints faced by MSMEs in the country (fig. 30). For instance, reforms in the operating environment (external factors) and capacity of firms (internal factors) that constrain MSMEs in the Philippines. How successfully these constraints are addressed depends on how specific policies and program level interventions are designed and implemented. This will be the focus of the PER.

Figure 30. PHILIPPINE's MSMED Plan Development 2017-2022 Framework



Source: Government of Philippines (May 2018), *MSMED Plan Development 2017-2022*

Emphasizing Entrepreneurship and start-ups

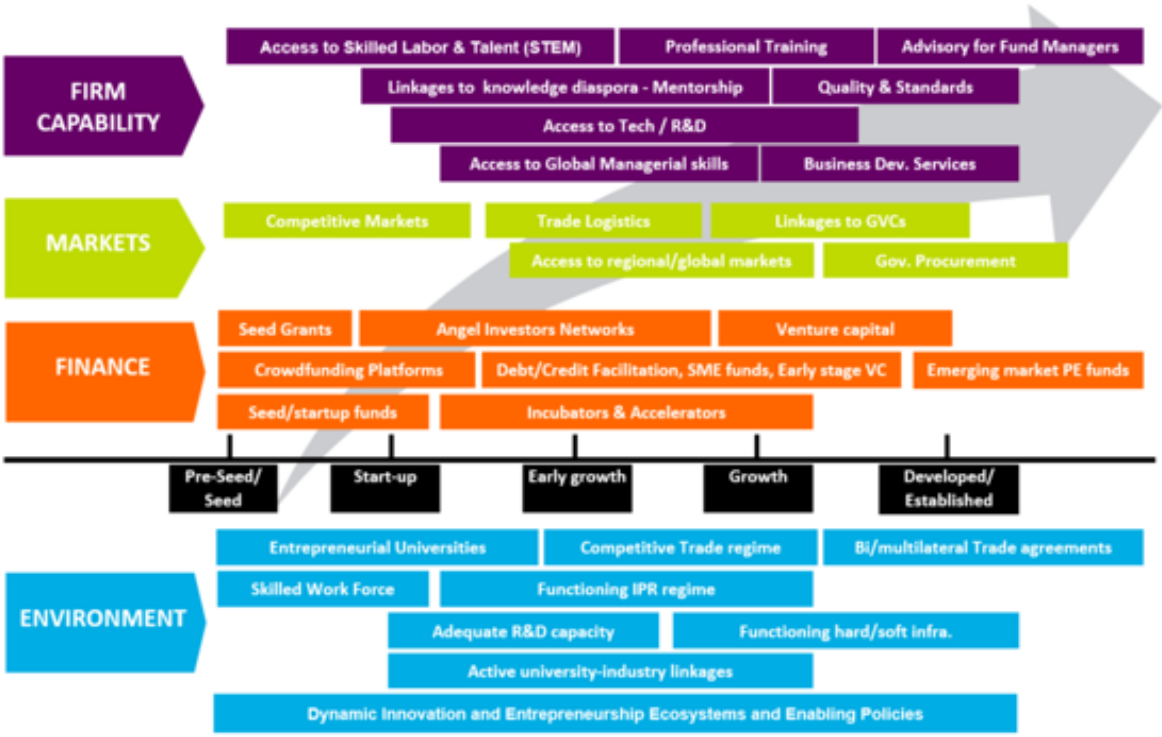
49. Promoting entrepreneurship[lviii] is a key pillar of the Government's *MSME Development Plan 2017-22* that underlines the need to "create new business models and enterprises" through improved business environment, business capacity and opportunities.[lix] Empirical evidence from across countries indicate that start-ups and younger firms grow faster and contribute more to net job creation and aggregate productivity growth.[lx] Because innovation, by definition, is putting new products, services, or processes into use, enterprises are the main innovators. New firms are also a source of competitive pressure on incumbents, thus contributing to higher productivity. With emerging technologies,[lxi] combined with existing digital and information technologies, the GoP recognizes that start-ups can potentially contribute to realizing its MSME goals.[lxii] By supporting startups, the Philippines aims to enhance its productivity and also carve out a role for itself in the increasingly new innovation-driven and emerging tech-centric global economy.

50. The Government is keen on supporting the emerging startup ecosystem in the Philippines. To help underpin the private sector dynamism, the GoP has increased its efforts to support startups through

various policies and programs. Following on the 2015 *Philippine Startup Roadmap*, the GoP has recently approved the *Innovative Startup Act* (2018). As the national agency responsible for making a globally competitive and innovative industry and services sector, the Department of Trade and Industry (DTI) promotes the development and scaling up of the local start-ups through its *Startup Ecosystem Development Program 2016-2021*, (SEDP).

51. **Entrepreneurship encompasses multiple dimensions and contributes to diverse economic outcomes.** Defining and distilling the heterogeneous concept of entrepreneurship is essential for policy-making as it has significant implications on performance outcomes and impact. Supporting "innovative" *vis-a-vis* "necessity" entrepreneurs, for example, may call for distinctly different policy responses.[lxiii] Enterprise life-cycle is another dimension to consider (fig. 31). Constraints facing firms vary along the entrepreneurship path. Early stage entrepreneurship (i.e. start-ups including pre-seed, seed stage)[lxiv] may face very different constraints/needs than firms at a later stage of maturity (growth, developed and established firms).[lxv] Similarly, the specific instruments to support enterprises will largely depend on the life cycle stage of the firm.[lxvi] Indeed, many entrepreneurial policies are flawed precisely because they fail to distinguish between these heterogeneous sets of entrepreneurs and stages of firm life cycle.

Figure 31: Firm life cycle – Ecosystem to support Entry and Growth of Productive Enterprises



Source: *SME Action Plan*, World Bank 2016

52. **Early stages of firm life cycle are considered the riskiest and underscore the rationale for public policy.** Market failures and constraints vary along the stages of the entrepreneurship and innovation process (8).[lxvii] Early stage entrepreneurs often need to prove early adoption traction to reflect and/or

have a minimum viable product before private investor interest can be elicited to finance the startup. As agents of innovation, start-ups may under-invest in innovative activities as they may not capture all the private returns to innovation.[lxviii] There may be constraints in the operating environment – ranging from distortive market conditions, competitive, regulatory and trade policies – that can hamper growth prospects, particularly for startups. In addition to the external constraints, entrepreneurs may face internal productivity constraints (Figure 10).[lxix] For instance, managerial and entrepreneurial capabilities which are considered important factors for growth may be lacking (World Bank 2017). Together these constraints and market failures underpin the role of public policy in supporting entrepreneurship. Governments may provide programs/services – from business development training to financing - that target start-ups.

53. **Experience from across the world suggests that entrepreneurship evolves organically within ecosystems through the actions of many stakeholders, including but not limited to the government.** The entrepreneurial ecosystem is the business environment in which entrepreneurs undertake their business activities, and the set of connections that support this. It includes "a set of interconnected entrepreneurial *actors*, entrepreneurial *organizations* (i.e. firms, venture capitalists, business angels, and banks), *institutions* (i.e. universities, public sector agencies, financial bodies) and entrepreneurial *processes* which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment".[lxx] In addition to government programs/services and policies, there are private sector business incubators and seed accelerators, education/training institutions as well as venture capital financing that support entrepreneurs and start-ups. It is thus important that the government's efforts in catalyzing and enhancing the development of the entrepreneurship ecosystem is done in partnership with other players.[lxxi]

54. **Cognizant of the challenges faced entrepreneurs, the Philippine government has implemented various policies and programs over the past decades to foster entrepreneurial growth**. Multiple agencies that are tasked in supporting this agenda - from DTI, DOST and DICT. Key government documents are the PDP and the MSME Development Plans 2011-2016/2017-2022. The PDP outlines objectives to spur economic growth through provision of strategies to develop globally competitive industry and services sectors as well as encouraging the culture of entrepreneurship.

55. **Other government documents go deeper to recognize the roles of particular types of entrepreneurs: start-ups in the digital economy**. For example, the Philippine Export Development Plan 2015-2017 calls for government priority in boosting digital economy exports (especially goods and services produced by MSMEs) given their high growth and scalability potential via the internet. The plan lists the enhancement of innovative capacity of the export sector by creating "an innovation ecosystem for startups and other businesses" as one key strategy. The Philippine Roadmap for Digital Startups 2015 outlines some action points to develop internet-related innovation in the Philippines in order to boost economic growth. These action points are relevant to internet startups, including protecting IPR, spurring internet infrastructure, improving R&D and education and enhancing internet-related legislations and policies. This roadmap sets a target of achieving by 2020 at least 500 Philippine startups with a cumulative valuation of $2 billion, resulting in 8,500 high-skilled jobs created, 1,250 startup founders, 15,166,684 users acquired and 719,737 paying customers.

56. **Relevant laws for startups include the Go Negosyo Act 2015 and Innovative Startup Act 2018.** The Go Negosyo Act 2015 seeks to promote MSME development by establishing Negosyo Centers around the country and creating Start-up Funds for MSMEs. Negosyo Centers are one-stop shops for

business registration and business development assistance for MSMEs. Start-up Funds for MSMEs is to be sourced from MSME Development Fund and BMBE Fund, with the goal of providing funding for MSMEs in priority sectors cited in MSMED Plan. The Innovative Startup Act 2018[lxxii] provides "innovative startups" with financial/non-financial support benefits (such as easier business registration procedures, grants, fee exemptions from using government equipment and facilities, visa application subsidy, tax exemptions). All of this support will be housed under the Innovative Startup Development Program.

Supporting the growth of the Entrepreneurship Ecosystem

57. In order to better support MSMEs and startups particularly, the PDP highlights the need to expand economic opportunities for MSMEs in the industry and services sectors, all with the aim of eventually graduating to a knowledge economy. However, to make this jump, the PDP needed to shift the focus and investment towards improving the policy and regulatory environment, and introducing new mechanisms to support not only MSMEs, but startups, "techno-preneurs," and more innovative entrepreneurs who promote science, technology and innovation-based businesses.

58. As a follow up to the PDP's desired enhancement of the innovative capacity of the export sector, creating "an innovation ecosystem for startups and other businesses" became a key part of the strategy. From this the Philippine Roadmap for Digital Startups 2015 was born. The Roadmap outlines five action points to develop internet-related innovation and boost economic growth:

Action Agenda #1: Increase culture and collaboration
Action Agenda #2: Address legal and regulatory barriers
Action Agenda #3: Support through government services, capital and resources
Action Agenda #4: Create a national innovation council
Action Agenda #5: Establish a Philippine innovation economic zone

59. These action points include protecting IPR, spurring internet infrastructure, improving R&D and education and enhancing internet-related legislations and policies, with a target of achieving at least 500 Philippine startups with a cumulative valuation of $2 billion, resulting in 8,500 high-skilled jobs created, 1,250 startup founders, 15,166,684 users acquired and 719,737 paying customers by 2020. These are ambitious goals but at its core demonstrates a clear recognition of the importance and value of startup support.

60. In the final landmark step towards government-mandated support of the entrepreneurship ecosystem was the Startup Ecosystem Development Program (SEDP) 2016-2021. Recognizing the role of early stage entrepreneurs, the SEDP proposed measures to create "high growth and high impact" startups to contribute to growth and job creation. Among its action points was to create a national startup business council and establish a Philippine startup economic zone.

Policy Effectiveness Review

61. **The supply side analysis focuses on the set of policies and program interventions that are deployed to address the demand constraints and needs of the MSMEs.** In undertaking this analysis, the report deploys the Policy Effectiveness Review (PER) methodology developed by the World Bank (see Annex 3). After presenting the overarching policy framework for MSMEs and entrepreneurship and the priorities set by the GoP, the PER focuses on the MSME programs currently under implementation by the Department of Trade and Industry (DTI), and the Department of Science and Technology (DOST).

62. **Policy Mix component:** The first component of the PER undertakes a policy mix analysis to assess if the current policy framework for entrepreneurship and MSMEs is in line with government priorities as well as the needs of the MSMEs. The focus is on the alignment between programs and outcomes. This is the focus of section 5.

63. **Functional review component:** The functional review undertakes a detailed analysis of the design and implementation of selected programs under the two departments. This is the focus of section 6. Based on the above analysis, key findings are presented along with a menu of policy options for strengthening the effectiveness of MSMEs policies are captured in the executive summary.

5. The assessment of the Quality of the Policy Mix

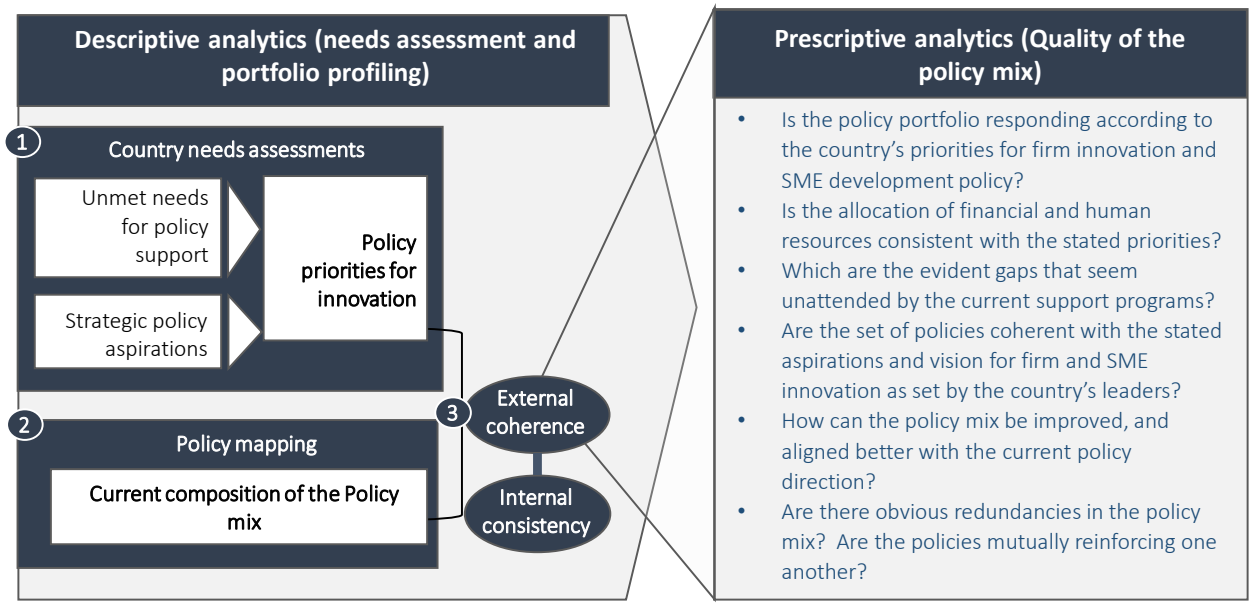
64. This section summarizes the findings from the analysis of the quality of the policy mix for firm-level innovation and SME development in the Philippines. This analysis is part of a larger task that seeks to review key MSME support programs, with a focus on analyzing the policy mix, and assessing key supporting systems and procedures to design and implement these programs.

Approach

65. The framework for analyzing the quality of the policy mix compares the policy priorities for SME development and innovation with the set of policy instruments. At its core, the analysis goes from descriptive to prescriptive analytics by evaluating the coherence between priorities and the portfolio, and by assessing the internal consistency of the policy mix. Since the policy portfolio tends to grow organically, it is common to find some degree of fragmentation, overlapping policies and legacy programs which is ready for rationalization.

66. The overview of the analytical framework in the figure below (Figure 32) depicts the general approach and presents the three components: 1) Country needs assessments, 2) Composition of the policy mix, and the 3) Coherence and consistency analysis. We present the key questions that the analysis will seek to find answers to.

Figure 32: general analytical framework used for the Policy Mix Assessment



Source: WBG, 2018.

67. The framework also allows us to assess internal consistency of instrument in terms of resource allocation. This would include the degree of overlap across directorates and division of labor across responsible units responsible for the policy mix, presence and magnitude of co-financing mechanisms, when these apply, the concentration of instruments with similar characteristics, the likelihood that the magnitude of budget allocation will achieve significant impact, and the likelihood that the timespan of implementation will yield results. The external coherence analysis allows us to evaluate the coherence between the demand for innovation (country's needs) and the composition of the portfolio of instruments.

68. **The main goals under the policy mapping exercise are to collect the data for mapping the portfolio of innovation and SME supporting programs, and to provide the basis for running descriptive analytics and for profiling the portfolio that provides support to firms for innovation.** At the end of the process our key counterparts – DTI and DOST, should have a descriptive profile of the instrument portfolio and policy mix. It is worth clarifying that the mapping brings under its scope programs and instruments that fall under the category of *market interventions* and *public goods*, and which are regular recipients of government funding. We have deliberately excluded government *legal and regulatory instruments* that support SMEs, but which do not allocate public funding. For example, the policies of Magna Carta for SMEs, and the Barangay MBEs Act of 2002, which are meant to improve the operating environment of SMEs have been excluded from our analysis. We recognize that removing binding constraints to an enabling environment by expediting delivery of services, streamlining businesses processes, are removing business restrictions and distortions, represent critical areas of support. However, we understand that the mapping of these have been completed through other analyses.

69. **The policy matrix contains a core set of parameters for conducting comparisons and a set of plug-ins to zoom into STI, innovation and SME policies**. The component provides the basis for coherence and consistency analysis. It is worth noting that the inclusion of "instrument" as the unit of analysis: an addition to the PER guidance note (Correa, 2014), which focuses on aggregate budgetary units. Under this approach the framework opens the opportunity to look at design, implementation and governance arrangements, provides an alternative to the lack of expenditure, and represents information, which is supplementary when spending data is not available. However, the framework using the instrument can be more resource intensive than focusing on aggregate budget data as unit of analysis.

The data and scope

70. **The information provided in this report has been collected through secondary sources** The data includes reports of the budget appropriations from the Filipino government, specialized documents from the DTI and DOST, country and donor publications available to the world bank, among others. The dataset of instruments has been shared with government counterparts for validation and verification. The scope of our work included instruments that support innovation and SMEs, from Department of Science and Technology (DoST) and Department of Trade and Industry (DTI), but excluded block funding to Public Research Institutions (PRIs). Budgets represent transfers to beneficiaries and resources in lending programs represent finance available for firm-level innovation and SMEs.

71. **Initially a list of 137 programs that promote innovation were earmarked for further scrutiny**. Subsequently, the pool of 137 was reduced to 70 programs for 3 main reasons. First, the initial list contained initiatives that could be better described as components of umbrella programs. For example, a few of the DTI projects represented activities of bigger programs such as Negosyo Center and SMERA and the team decided to consolidate. Second, the team excluded initiatives that have recently ceased to operate. The decision to not include programs that are not active obeyed to the difficulties in gathering data from program managers. Third, the team could not have full access for budgets and expenditures over time. We received several explanations from our focal points in each DoST and DTI for not being able to provide this information, including limitations on how agencies allocate funding, and the lack of detailed accounting systems that would allow for accurately relating funding with

activities. Agencies seem to hold discretion to release funds from the overall budget of the department to the program on a demand basis.

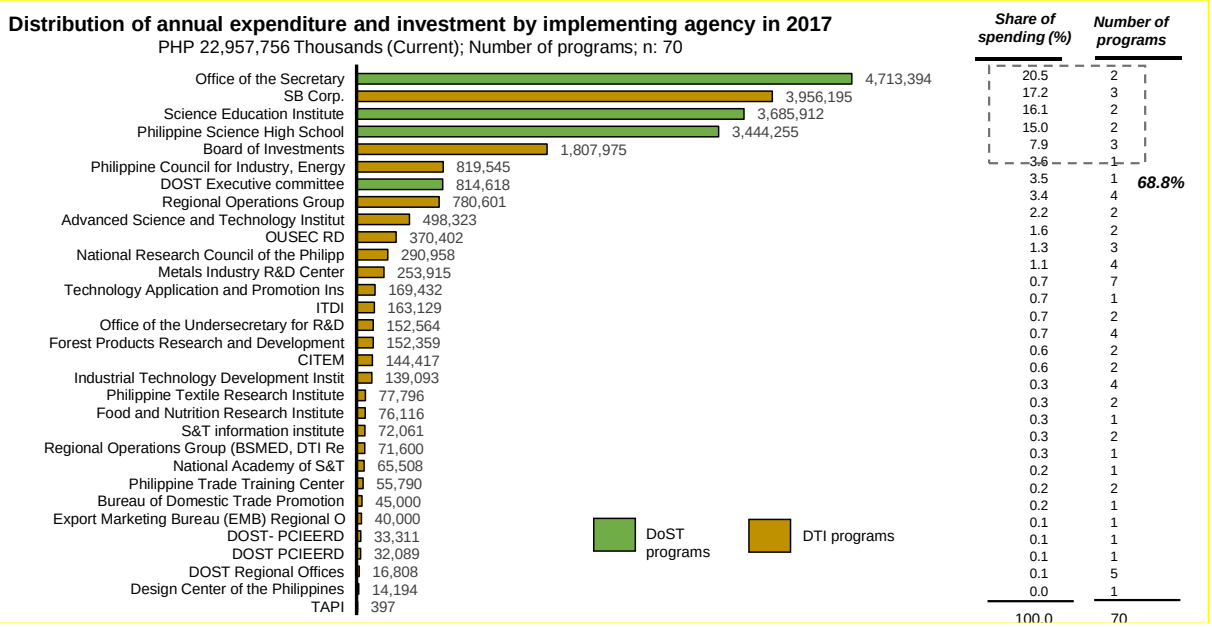
72. **Data limitations led to conducting analysis using a cross section for 2017 budget for the available programs. This is the year where most of the data was consistently available**. We concluded that the gaps in financial data relate to lack of traceability of funding and lack of collaboration (i.e. unresponsive program managers). Thus, the following sections describe the portfolio analysis related to the 70 programs with financial data available for a cross section of 2017. The findings are organized along the following 3 sections:

    - Descriptive profile and concentration of the policy mix
    - Scale and redundancies
    - Coherence of the policy mix

Descriptive profile and concentration of the policy mix

73. **Several agencies are engaged in delivering the SME supporting programs** (Figure 33). However, breaking the pattern of expenditures in 2017, revealed that the office of the secretary for Science and Technology with 21% of expenditures, SB Corp, 17.2%, the Science and Education Institute with 16.1%, and Philippines Science Highschool with 15%, accounted for 68.8% of the total value of resource allocation in 2017 (SB Corp manages the programs for access to finance but we only included the expenditure data for comparison purposes, excluding the capital allocation for lending). These 4 agencies manage substantially more resources than all the rest, through 9 programs. It is worth noting, the Regional Operations Group (ROG) managed 6 SME programs in 2017, which included prominent instruments such Negosyo Centers, Kapatid Mentor Me and OTOP. The DoST executive committee by contrast raised to prominence by its role in managing the largest program under DOST: SET-UP. It is worth mentioning that the practical responsibility for implementation of SME policy programs rests with the regional and provincial departments of these agencies, particularly in the case of DTI.

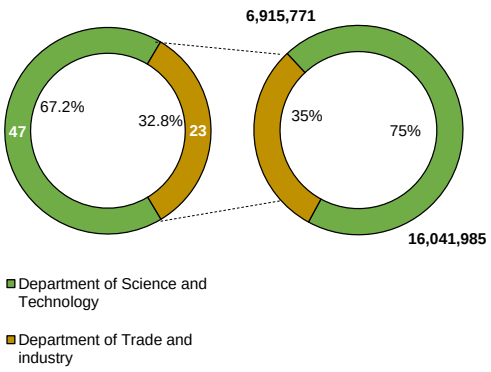
Figure 33: Value of annual spending by implementing agencies in 2017



Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

74. **We analyzed a group of innovation and SME programs that represented a total value of expenditure of PHP 20,4 billion in 2017**. The selected programs included 47 programs from Department of Science and technology (DOST) and 23 programs from the Department of Trade and Industry (DTI). The DTI programs include the 3 access to finance programs managed by SB Corp.

Figure 34: General agency affiliation and characteristics for firm innovation and SME development programs in 2017



Descriptive statistical values for programs by department in 2017/2018
Number of programs; n= 70

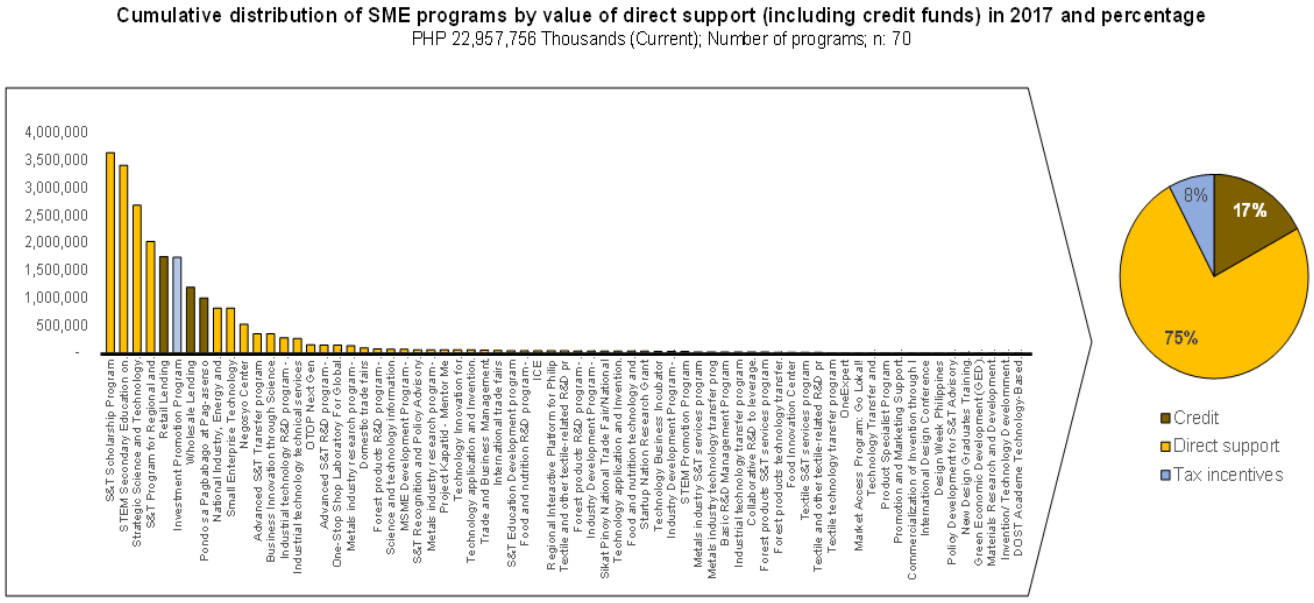
	Total	Mean	Median
		PHP thousands	
Total	22,957,756	327,968	39,727
DTI	6,915,771	300,686	41,440
DoST	16,041,985	341,319	38,400

	St Dev.	Min	Max
		PHP thousands	
Total	755,832	397	3,641,757
DTI	556,526	1,108	1,756,533
DoST	841,571	397	3,641,757

Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

75. The DoST programs were on average of higher value (341.5 million vs 300.6 million), making 67.2% of the programs but accounting for 75% of the value of expenditure to support firm-level innovation and SMEs. The presence of outliers reveals that the median value of DoST programs is lower than that of DTI programs, with 38.4 and 41.4 million of resources managed, respectively in 2017 (see figure 35).

Figure 35: Description of the composition of resources for firm innovation and SME development programs in 2017



Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

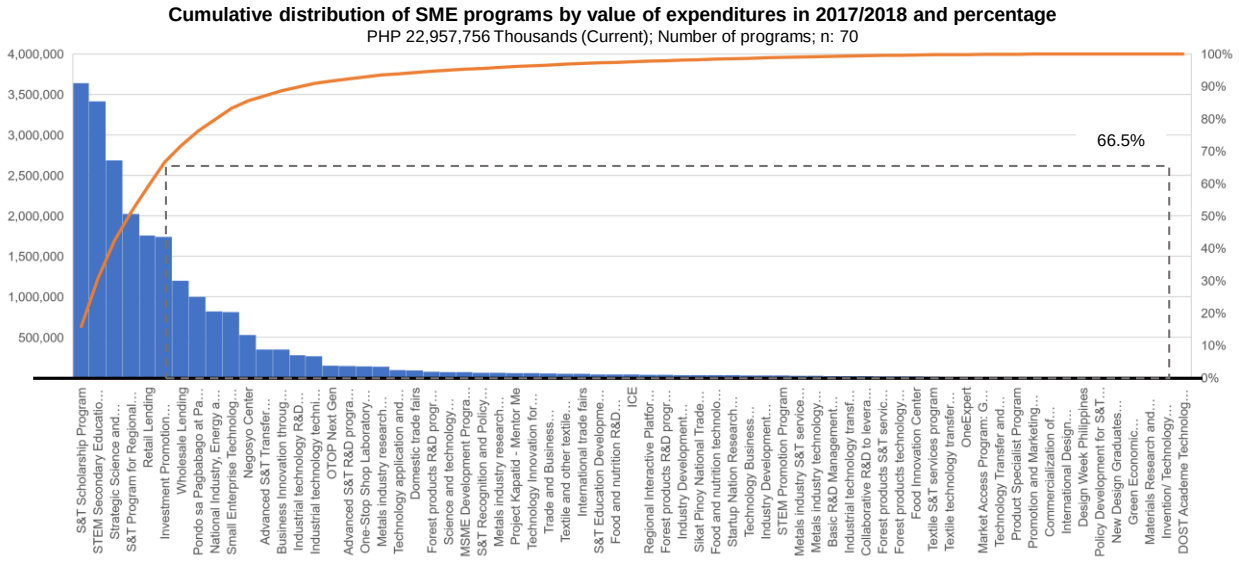
76. The range of financial resources managed by these programs was significant. The range extended from PHP 397 thousand (DOST Academe Technology-Based Enterprise) to PHP 3.6 Billion (S&T Scholarship program), with an average of PHP 335.4 million and a median value of PHP 40 million. The largest program in the selected group are S&T Scholarship program, with an annual expenditure in 2017 of PHP 3.6 billion. The portfolio included 3 access to finance programs, where credit was extended to enterprises to induce their upgrading and innovation, representing 17% of the resources of the policy portfolio in 2017 and 3 programs offering tax incentives, accounting for 8% of the budget (Figure 33).

77. It is worth mentioning that comparing programs' financing does not provide a full sense to the reader with regard of support made available to firms. The 3 programs that provide lending to improve access to financing for SMEs (retail lending, wholesale lending and P3) extend capital to SMEs (meant to induce innovation activities and upgrading). Figure 34 presents the 70 programs, including the capital funds which are available for lending purposes. Programs that extend credit present large resources under their management but belong to a separate category from those programs that provide direct support to beneficiary firms, typically without an expectation to be repaid. The analysis in the

next sections compares values of programs by expenditure, excluding the capital allocation for lending purposes.

78. The concentration of the portfolio on the largest 6 programs was relatively large, as they represented 66.5% of the value of the entire firm level innovation portfolio in 2017 (Figure 346.

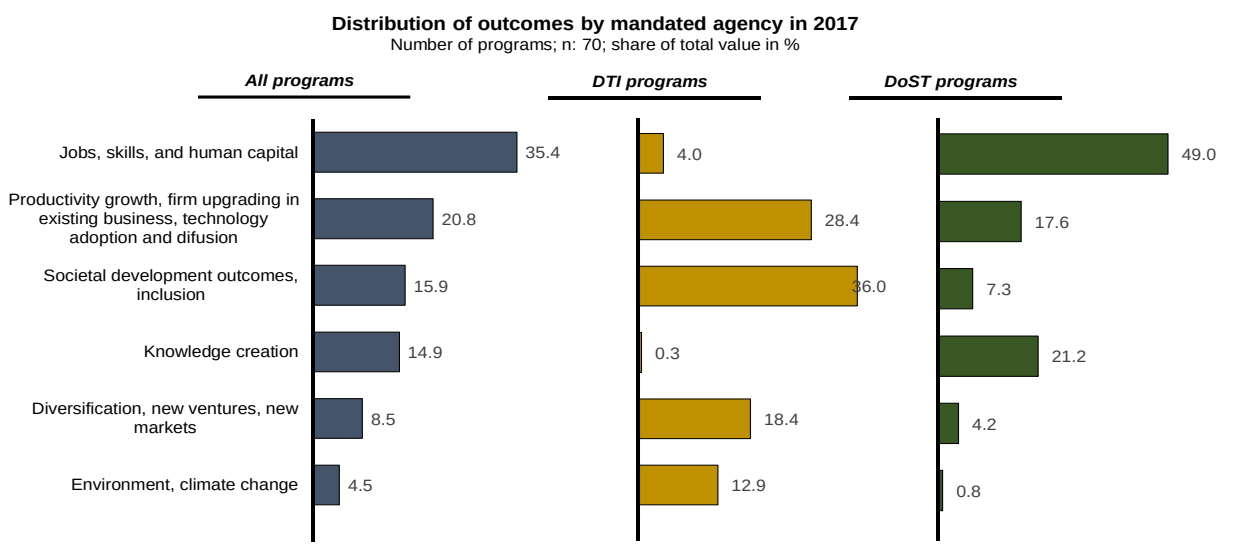
Figure 36: Distribution of resources for selected programs that promote firm innovation and SME development in 2017



Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

79. The largest share of funds in the portfolio of innovation and SME programs focused on generating jobs and skills (39.3%) and productivity growth (22.6%), followed by societal outcomes (17.6%). Knowledge generation, diversification and environmental outcomes ranked last with 16%, 4.1% and 0.5% respectively (Figure 37). DoST and DTI presented similar patterns, but DTI focused proportionally more on economic diversification, and DoST in generating skills.

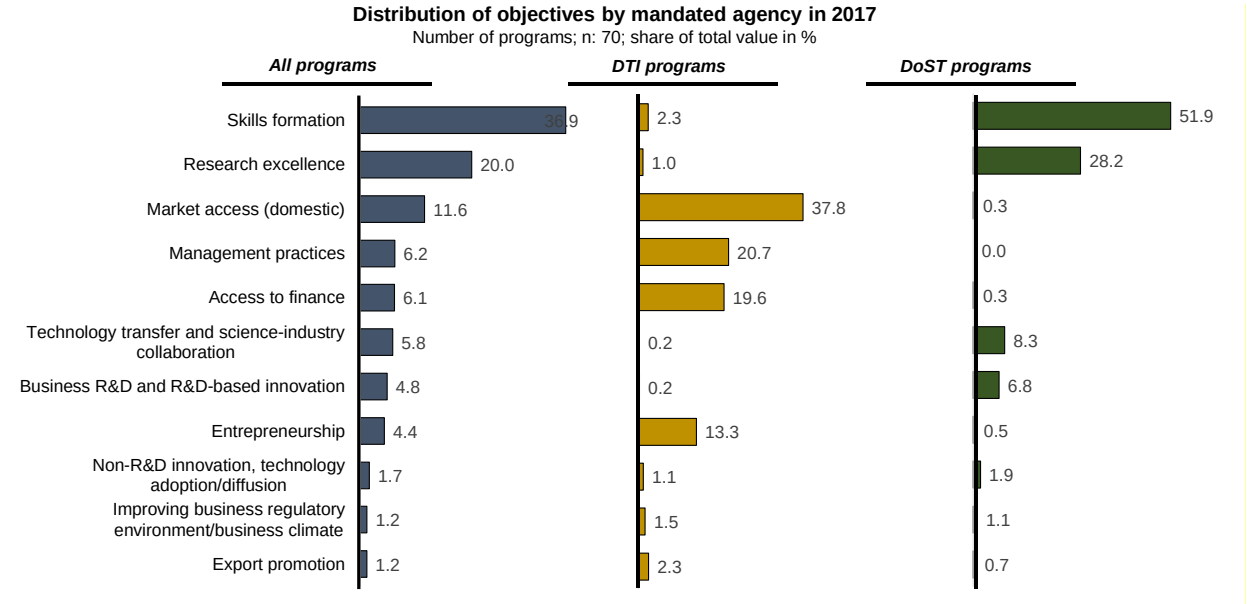
Figure 37: Distribution of resources allocated to firm innovation and SME development programs by outcomes in 2017



Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

80. **DoST spending remained highly concentrated on development of skills, building human capital and research, while DTI showed more balanced spending across building firm capability, providing credit and enabling market expansion**. The analysis of financial priority by goals, shows a more detailed pattern of financial resource allocation in the portfolio (Figure 38).

Figure 38: Distribution of resources allocated to firm innovation and SME development programs by objectives in 2017

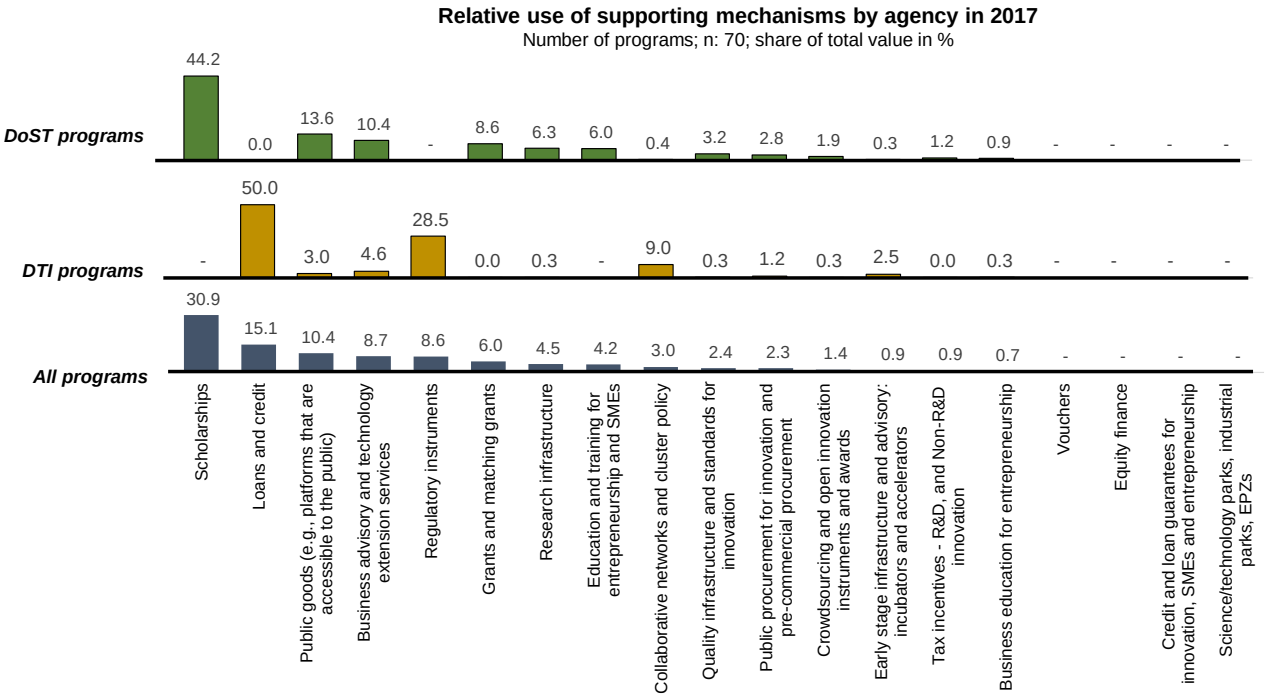


Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

81. It is worth noting that the allocation of funding for skills was driven by DoST, and by its Science and Technology Scholarship programs. DoST showed a high concentration of funding on the skills formation goal. When looking at DTI, the goals sought were more evenly distributed among 5 different categories, which included managerial practices, entrepreneurship, access to finance, formation of skills and export promotion (Figure 36). It is worth noting, innovation and R&D based innovation received relatively little funding, totaling about 4.8% of the value of the portfolio.

82. Zooming into the use of supporting mechanisms, the patterns of funding suggests that firm innovation and SME programs relied mostly on scholarships, followed by provision of loans and credit (Figure 39). The pattern of instruments differs across agencies, with DOST relying more on scholarship grants, and the DTI relying more on credit for SME and innovation.

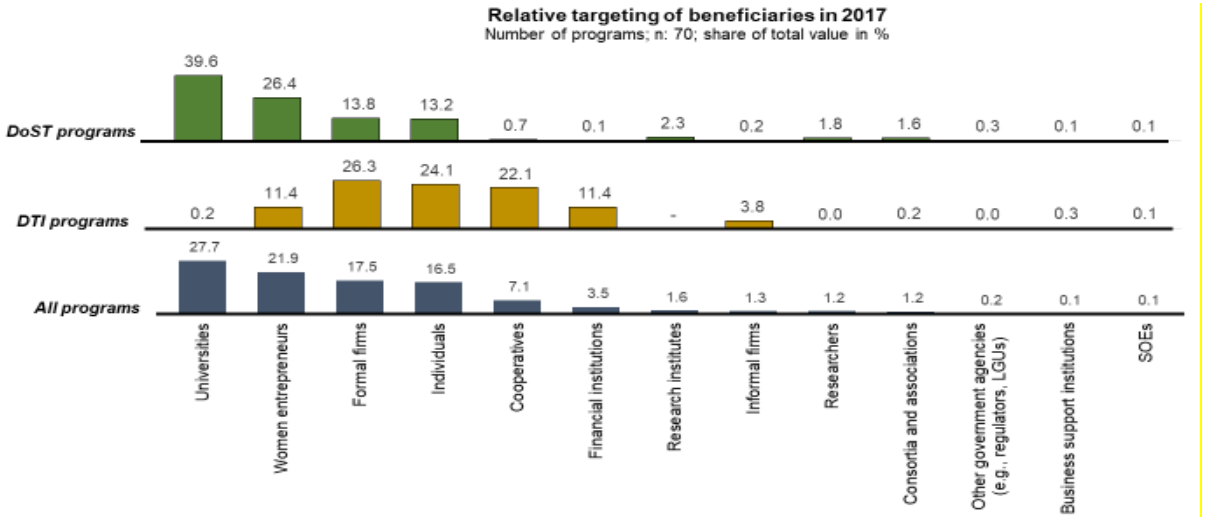
Figure 39: Distribution of resources allocated to firm-innovation and SME development programs by supporting mechanisms in 2017



Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

83. The prioritization of beneficiaries indicates that the STI programs focused on the participation of universities, which represented 27.7% of the value of the programs in 2017 (Figure 40). Other beneficiaries included women entrepreneurs (21.9%), formal firms (17.5%) and individuals (16.5%). DoST focused in attracting universities, women entrepreneurs, and individuals. DTI by contrast showed a relatively more balanced set of beneficiaries, extending the target of programs from formal firms (26.3%) to include individuals (24.1%), and cooperatives (7.1%).

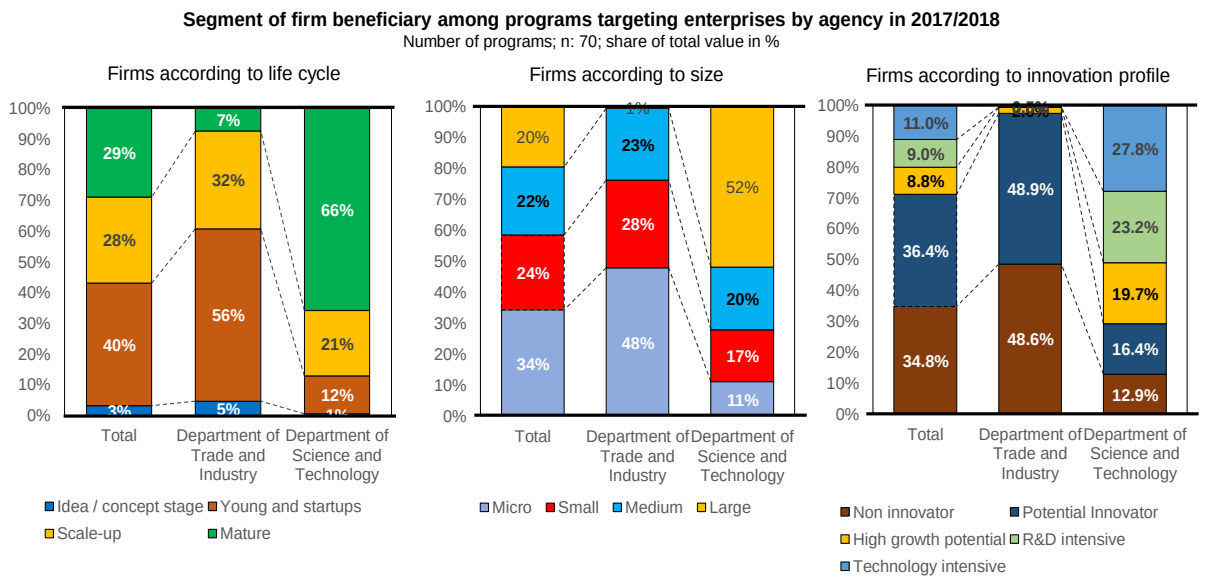
Figure 40: Distribution of resources allocated to firm innovation and SME development programs by beneficiaries in 2017



Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

84. **A detailed analysis of programs that supported firms (Figure 41) reveals that almost 71% of the programs supported young firms, particularly in their startup stage (40%)**. The DTI presented relatively higher proportion of funding support for companies in their idea and concept stage, 5% of the value for DTI programs, and startups, 56% of DTI programs. A closer look to beneficiary firms by size reveals that the highest portion of targeted firms belonged to the micro (34%) and small (24%) segments of SMEs. Medium firms were targeted by programs representing 22% of the value of the portfolio. Larger firms represented 20% of the value of the portfolio. It is worth noting, DoST presents a higher share of programs that target large sized firms while the DTI show a higher proportion for targeting micro firms (Figure 41).

Figure 42: Distribution of resources allocated to firm innovation and SME development programs by firm segments in 2017



Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

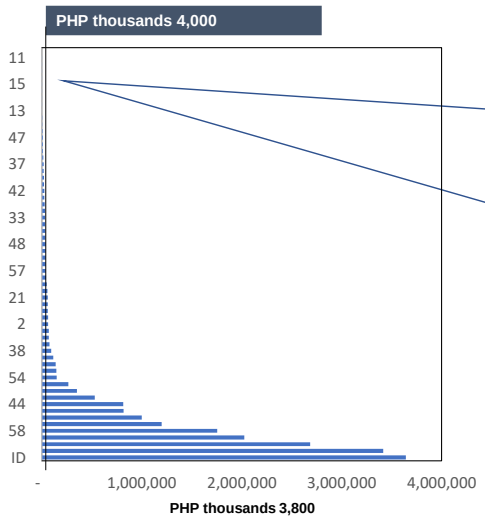
Scale and redundancies

85. **Duplicity in the scope of instruments, arises as a typical issue in the innovation policy portfolio when its growth has been organic**. This can lead to potential redundancy of programs and opens opportunity for instrument rationing. Conducting a revision of the portfolio to identify opportunities for eliminating redundancy can therefore lead to reallocation of resources, either by elimination or merging of programs, as well as to sharpen the focus of existing programs.

86. **First, we looked at the issue of scale. We identified 9 programs from DoST and DTI that held a budget of PHP 4,000 thousand or below (~ less than USD 100,000 per year) and earmarked them for further scrutiny**. At face value, these programs presented very low scale, raising the issue as whether they present a minimum scale and viability for operation. Considering the minimum level required for administration and supervision, DoST and DTI should validate that the allocation of resources for these programs can achieve significant impact and whether the ratio of administration and reporting justifies such a low annual expenditure. Figure 43 shows the identified programs with very low scale, that should be subject to further evaluation.

Figure 43: Potential programs that present scale issues in 2017

Distribution of programs by value of expenditures in 2017/2018



Programs with budget allocation below PHP 4,000 thousands in 2017

Instrument full name	Department	2017 in Thousands PHP
Marketing Support for Exhibitions of DOST Technologies	DoST	3,800
Commercialization of Invention through IP rights	DoST	3,400
International Design Conference	DTI	2,913
Design Week Philippines	DTI	2,574
Policy Development for S&T Advisory Program	DoST	1,992
New Design Graduates Training (NDGT) Program	DTI	1,913
Green Economic Development (GED) Period: 2017-present	DTI	1,600
Materials Research and Development Program	DTI	1,108
Technology Develomment and Pre-commercialization IBDP	DoST	700

Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

87. To investigate potential redundancies, we conducted a cluster analysis to identify underlying structures in the sample of instruments (see annex 7 for details). We selected outcomes, objectives, target beneficiaries and supporting mechanisms as the variables for running the clustering, considering their prominent role in defining the scope of the instrument, and their relationship with the market failure, the levers of intervention and the chosen solutions to address the problem.

88. We formed clusters from objects, starting with an individual cluster (Annex 7). We then merged clusters sequentially, according to their similarity. The algorithm creates various measures to express (dis)similarity between pairs of objects, using the segmentation variable. Cluster analysis of the instruments divided the sample into six main groups, in terms of similarities of general objectives in economic outcomes, specific objectives, beneficiaries, and supporting mechanisms. We used this segmentation to look closer at cases that presented overlapping scope, which suggests additional examination can be applied to explore potential integration or consolidation of programs (Table 2).

Table 2: Cases for instrument integration or consolidation in 2017

Potential cases for program consolidation based on similarity of scope

Number of programs; n: 21

Case #	Cluster	Department	Agency		Set of instruments subject to scrutiny	Case for consolidation: Strong	Case for consolidation: Uncertain	Case for consolidation: Non applicable	Overlapping: Outcomes	Overlapping: Objectives	Overlapping: Mechanisms	Overlapping: Beneficiaries
1	1	DTI	Regional Operations Group	(1)	Negosyo Center		x		√	√	√	√
			Philippine Trade Training Center	(2)	Trade and Business Management Training Services		x					
2	1	DTI	CITEM	(1)	International trade fairs			x	√		√	
			CITEM	(2)	Domestic trade fairs			x				
3	3	DoST	Technology Application and Promotion Institute	(1)	Technology Innovation for Commercialization Technology Transfer and Commercialization through		x		√	√	√	√
				(2)	Venture Financing Program		x					
4	3	DoST	Forest Products Research and Development Institute	(1)	Forest products technology transfer program		x		√	√	√	√
				(2)	Forest products S&T services program		x					
5	3	DoST	National Academy of S&T	(1)	S&T Recognition and Policy Advisory Program Technology application and Invention Development		x		√	√		√
			Technology Application and Promotion Institute	(2)	Program - Technology application, promotion and commercialization		x					
6	3	DoST	National Research Council of the Philippines	(1)	Industrial technology technical services program	x			√	√	√	√
			Industrial Technology Development Institute	(2)	Industrial technology transfer program	x						
7	4	DoST	Metals Industry R&D Center	(1)	Metals industry S&T services program			x	√	√	√	√
			Philippine Textile Research Institute	(2)	Textile S&T services program	x	x					
				(3)	Textile technology transfer program	x	x					
8	5	DoST	Forest Products Research and Development Institute	(1)	Forest products R&D program			x	√	√	√	√
			Philippine Textile Research Institute	(2)	Textile and other textile-related R&D program			x				
9	6	DoST	Science Education Institute	(1)	S&T Education Development program	x			√	√	√	√
			Office of the Secretary	(2)	S&T Program for Regional and Countryside Development	x						
Total				40	Instruments	6 to 3	11	4				
					Cases	3	5	3				
					Number of cases with potential instruments to consolida	3						

Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

89. According to the analysis, the closer look at similarity of scope across instruments yielded 9 cases, of which 3 seem to show not applicable consolidation as differences not captured in the policy mapping may justify separate interventions. The case of exporting vs non-exporting firms, and the vertical specialization of programs in different industries (textile and metals). Five cases present possible cases for integration as the scope of the program does not fully overlap (i.e. one parameter or more differ across programs). These are nonetheless presented as further scrutiny may conclude that close coordination or partial integration of these programs is warranted. Three cases presented a strong case for consolidation and it is recommended these are further analyzed. In these cases, the degree of overlapping in the scope of the programs is substantial and they are delivered by different implementing agencies.

Coherence of the policy mix

90. This section presents the external coherence analysis. The evaluation looks at the coherence between the country's developmental priorities for innovation and the composition of the policy mix. In this analysis, we looked at the equivalence between challenges and measures i.e. whether the instruments respond to the main challenges that constrain business innovation, in the presence of market failures, and in the context of the policy framework priorities, and we tried to identify gaps – i.e. areas in demand (i.e. pressing developmental challenge) but not covered appropriately by the existing programs. We also try to indicate which alternative instruments could have been used to meet the same goals, when possible.

91. We conducted a comparison between the revealed priorities of the portfolio through resource allocation and the stated priorities in the national SME strategy (Table 3).

Table 3: Priorities reflected in the policy portfolio compared to the national SME plan in 2017

	Priority area	Status
Bus. environment	Improved regulatory requirements	• This exercise did not focus on mapping the regulatory instruments.
	Improved access to finance	• **Somehow coherent**: The portfolio contained 3 programs that relied on extending credit to SMEs, which contributed significantly to this goal. The programs focused on growth oriented firms, but did not explicitly included features related to innovation. • It is worth noting that instruments that are aimed at addressing financial imperfections for innovation require as precondition that firms have the necessary capacity to absorb knowledge and to invest the financial resources effectively. In this regard, these access to finance programs also included in their design, assistance to increase managerial capacity for SMEs.
Business Capacity	Enhanced human capital development	• **Coherent:** The portfolio analysis revealed that a large portion of the value of the entire portfolio is devoted to develop skills, particularly in the field of science and technology, through the scholarship program and STEM education programs run by DoST. The programs aiming at forming skills represented 41.1% of the value of the portfolio in 2017. These programs included individuals and universities as the main beneficiaries. • The portfolio also included programs aiming at building managerial skills, which represented about 7% of the value of the portfolio in 2017.
	Innovation and technological capacity	• **Less coherent:** Programs aiming at building technological capacity of firms were present in the portfolio, but they represented only 6.3% of the value of funds in 2017. Program fragmentation. • The majority of the programs aiming at transferring technology relied on variety of supporting mechanisms, including – but not limited to - business advisory and technology extension services. • Instruments focus on pushing technology from PRIs, rather than supporting adoption of existing technologies.
Opportunities	Broadened access to markets	• **Less coherent:** Export promotion programs represented 1.1% of the value of the portfolio, and domestic market access programs represented 4.1% of the value of the portfolio. • These programs targeted firms, primarily as well as individuals, and relied mostly on business advisory and the national quality infrastructure network. • Implementation arrangements linking target beneficiaries with market opportunities – e.g. programs that require using lead exporting firms and FDI linkages as levers, are more likely to succeed. However, these are underrepresented in the policy mix.

Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.

92. **Through the external coherence analysis, we found that promoting innovation continues to be critical to revert recent declines in productivity growth**. There is relative consistency in the allocation of resources to STI, but there is inconsistency in the composition of expenditure, mainly on research excellence and technology transfer (25.8%) and reduced in business R&D and non-R&D innovation (~6.3%), revealing a supply side bias.

93. **In addition, supporting the internationalization of firms' sales remains a critical way to ensure competitive pressures drive productivity**. However, the portfolio falls short, with figures indicating that only 1.2% of the value of the portfolio had been allocated to export promotion programs, revealing an inconsistency in responding to unmet demand for policy support.

94. **Moreover, programs that support new enterprise formation, particularly in the earliest stages in their life cycle are necessary to add dynamism and revert a trend of motionless entrepreneurial activity**. There was a small budget devoted to promoting entrepreneurship (4.4%), but there is consistent resource allocation to support startup and scale up firms, among programs targeting firms. The underdeveloped state of the ecosystem implies that additional support, especially around equity instruments, is needed.

95. **SMEs have shown signs of constrained access to credit, with many of them relying on internal sources of funding for expansion, and the evidence suggest that only 30% of them were accessing lines of financing**. Furthermore, about 6.1% of resources were allocated to increased access to finance, with low volume of programs overall. We concluded that there is an absence of credit guarantee programs, and early stage financing support.

Summary conclusion

96. **The SME support programs are the vehicle to deliver on the aspirations articulated in the latest MSME Development Plan.** The above analysis provides some recommendations to improve the quality of the innovation and SME policy mix and improve its efficiency and effectiveness. The analysis suggest that there is room for improvement and making the mix of policies more coherent with the objective of SME and productivity growth.

97. **The overall level of expenditure seems insufficient to meet the ambitious strategic goals and impact, but before increasing expenditure, GoP must change the focus towards addressing productivity and market failures, rather than on the size of beneficiaries**. It is important to recognize that the enterprise development track (EDT), under the MSMED Plan 2017-2022, present useful frameworks to organize the myriad of DTI interventions supporting SMEs along their business cycle. While in theory the EDT promises to serve as a useful device to monitor the evolution of SMEs under support and along its sequential development stages, it is more likely to serve as a construct to balance the targeting efforts of beneficiaries from several programs and differentiate the supporting interventions. For example, the specification of the characteristics of beneficiaries at the different levels has contributed to the definition of clear eligibility criteria for participants. A simple plot of programs along the different stages suggest that the DTI policy portfolio for 2017 contain interventions that are relatively balanced along the EDT spectrum. Another conceptual construct that has assisted Filipino policy practitioners to balance interventions is the DTI's 7Ms Way of Uplifting MSMEs. The framework provides a useful list of mutually exclusive elements that are likely to enable MSME development growth.

98. **But focusing on some of these stages of firm growth, and more specifically on the size of firms, is too A narrow focus, and requires a renewed effort to focus on addressing market failures along clear objectives – e.g. entry and formalization; export and innovation, firm upgrading and technology adoption**. This approach proved to be relatively underrepresented in the portfolio but feature prominently in the strategy and in our conclusions of technical demands for innovation policy support. GoP should reduce incoherencies in resource allocation e.g. business innovation, export promotion, and fully expand the use of early-stage instruments, programs that promote access to finance for innovation and collaborative instruments.

99. **The analysis confirmed the presence of programs that respond to the key priorities stated in the most current MSME Development Plan**. However, the relative allocation of funding to specific goals, target beneficiaries and instruments do not fully match the key challenges with full equivalence. We found that while the MSME Development Plan placed increased importance of market access and innovation financing, resources allocated in achieving these goals seem insufficient. Furthermore, the targeting of collaborative groups of firms and other organizations was practically non-existent, representing less than 1 percent of the value share of the portfolio. All these outcomes were relatively underrepresented in the policy portfolio.

100. **Furthermore, GoP should investigate expanding policy instruments that can further increase the innovation rates among SMEs.** The use of business advisory and technology extension are consistent with the need to address the lack of capabilities in SMEs to conduct innovation, which is one of the key priorities in the current MSME Development Plan. However, to promote knowledge spillovers, and addressing coordination failures between knowledge providers and firms, GoP could

explore the use of vouchers for innovation and collaborative grants, which could complement the current focus on SME financing to address specific risk issues related to investing in innovation.

101. The policy mix provides a limited set of programs that address improved market access despite the importance placed on this goal in the MSME Development Plan. Considering the international trade partnerships such as the ASEAN Common Market and the APEC partnership, the plan also makes references to SME specific ASEAN and APEC related strategies[5]. Notably, the *Kapatid: Angat Lahat program*, which has been profiled in this mapping, stands as one of Philippine's most prominent initiatives to link SMEs with larger firms as suppliers, enabling market-oriented quality upgrading and innovation. The Go Lokal, OTOP and Sikat Pinoy programs featured in our mapping are meant to assist SMEs in the development of high-quality products and marketing services to promote their products. However, we found that the funding to promote market access for firms was low, representing between 5 and 7% of expenditures in 2017. The WBG enterprise survey indicated that firms remain in relative isolation from foreign markets, and the percent of Filipino firms exporting directly (at least 10% of sales) stood at just 7.1%, a rate much lower than that of its regional and structural peers (see annex). Furthermore, whereas 24% of large firms exported in 2015, only 9% of 4% of medium and small firms did in the same year.

102. SMEs seeking to innovate may require other forms of financing which is not meaningfully addressed by the current policies. Given information asymmetries between innovators and financiers, lack of SME capacity to conduct innovation activity, and inability of lenders to bear risk of uncertain outcomes from innovative activities, other forms of finance may be a better match for SMEs who seek to innovate. Matching grants for innovation have been extensively used for inducing innovation investments among SMEs (Cirera, X.; J. Frias; J. Hill and Y. Li; forthcoming) when capabilities are low and they come with technical assistance or when potential externalities are high. Credit guarantees can help addressing risk issues in financial markets. Also, instruments such as venture capital availability and local equity financing were found to be weaker in the Philippines' ecosystem relative to its regional peers, particularly Malaysia and China IN 2017 (WEF, WDI and GCI, 2018). As of 2017, a few tech startups have attracted modest regional investment from deals such as those involving PawnHero, and coins.ph (CB Insights, 2017).

103. There is a large bias in innovation towards S&T, suggesting that a rebalancing of the policy mix is needed towards business innovation. Funds for scholarships and targeted to universities consume a significant portion of the resources in the policy mix. The features of MSME Development Plan places priority on increasing business capacity of SMEs, particularly through its *Enhanced Management and Labor Capacities* and its *Improved Access to Technology and Innovation* components. However, most of the resources remain skewed towards scholarships, channeled through universities to benefit individuals. There is also a tendency (see next chapter) to frame technology transfer in terms of facilitating transfer from won PROs and not necessarily from cheaper and more efficient technology in the market.

104. While a significant portion of beneficiaries were young firms, the amount of funding allocated to entrepreneurship seems limited. This mixed result should be further scrutinized considering the importance placed on new business formation in the MSME Development Plan. According to GEDI,

[5] ASEAN Strategic Action Plan for SME Development, 2016-2025, ASEAN 2017 MSME Development Summit: Manila Call to Action, and APEC Strategy for SME Development 2017-2020.

Philippines' start-up skills are stronger than its peers, and GEM in 2015 rated Filipino entrepreneurial traits as above average for world standards. However, new business formation has been stagnant over time, and is way lower than the rate in Malaysia (top performer), according to the GEM - Global Entrepreneurship Monitor. The WDI of the World Bank, revealed that in 2018, the Filipino ecosystem suffered low rate of firm births (WDI, 2018). Furthermore, the reduced number of new business density during the period extending from 2006 to 2016 was the lowest among comparative economies, such as Vietnam and Indonesia (World Bank Doing Business Entrepreneurship Database). Our analysis of the policy mix to support SMEs identified and profiled several programs that support startups, including Go Negosyo (i.e. its start-up fund), TBI, TECHNICOM and SET-UP. TBI for example, works for establishing supporting infrastructure in HigheEd institutes and State Colleges that can assists entrepreneurs to get off the ground. However, our analysis also revealed that by value of objectives, about 4.9% of the value of the portfolio was devoted to entrepreneurship in 2017. Increasing the quantity and quality of entrepreneurs would require investing more aggressively in programs that support entrepreneurship culture and also ventures in the early stages of their life-cycle.

105. **At the ecosystem level, Philippines revealed a weak performance in university-industry R&D collaboration, also part of the ST bias in STI.** According to the world economic forum, the level of University-Industry Collaboration ranked low, which could be limiting the speed at which technologies diffuse in the local economy. Consequently, Philippine firms showed less propensity to adopt existing technologies than firms in peer countries, as in 2015, only 11.2% percent of firms used technology licensed from foreign companies, much lower than comparable peers (Enterprise Survey, World Bank`). Our analysis included TBI which by its own nature, supports startups in academic institutions. Moreover, we profiled TECHNICOM, a program that accelerate the commercialization of locally developed innovations. These are great examples of prominent programs working in this space. However, they are often based on the premise that the technology to be transferred is the one developed by their own PROs, and not the most cost efficient in the market. Also, and while technology transfer and extension were represented in the portfolio, the relative share of the portfolio devoted to targeted collaboration, in the form of supporting consortia of firms and academia, stood at less than 1% of the total value. Moreover, the value for the use of collaborative grants between firms and academia seemed insignificant.

106. **The policy mix needs to include policies that make a greater use of market-creating instruments, e.g. credit guarantees for innovation or supplier development programs** – to maximize additionality. If the case for government is justified to redress a failure, e.g. in promoting firm upgrading, employing market-oriented incentives is likely to lead to resource efficiency. If user fees can cover the variable costs of training or extension policies, and these are feasible, then these should apply. Interventions that use loan and grant schemes should take into consideration existing financing schemes available to firms and avoid crowding out the private sector by introducing unfair competition to potential lenders. The proposed intervention should include deliberate strategies to catalyze underdeveloped markets, adding dynamism to the local economy and steering fair competition, when possible.

107. **There is a need for improving knowledge management and information sharing across departments to improving policy making**. The GoP should improve access to program data, particularly financial data related to allocation of financial resources. The experience of collecting the relevant information for this study proved to be challenging, particularly for financial data related to budget allocation and disbursements. The reasons given to us were that data could not be produced

either because the information was not available under the proper classification and not disaggregated at the required level, or because some of the officers who were meant to provide the information under our agreement with DoST and DTI proved to be relatively disengaged. Our experience conducting this analysis in other countries suggests that this level of difficulty is exceptional, and that it represents a gap that should be bridged. Having readily available information of policy programs is an important way to help GoP make informed policy decisions.

Summary of recommendations

Area	Proposed action
Rebalancing the focus of the policy mix	• Increase support on to innovation programs, particularly in areas of firm-level innovation, most importantly non-R&D innovation[6], internationalization of firms[7], and marketing, and entrepreneurship[8]. • Consideration should be given to increase support to existing programs, like in the case of RIPPLES for promoting exports, as opposed to creating new programs in these areas. This would prevent proliferation of excessive programs, and the potential fragmentation of support to address a specific market failure. Integrated SME development strategies are rare, while fragmented and overlapping programs are common. Therefore, GoP should identify and address burdens on SMEs preemptively before new regulations are issued. • However, before deciding to increase financial support to any existing program, the GoP should verify that there is a demonstrated understanding of the market failure that justify the intervention that support firms, and that the government agency tasked to deliver the program has the competency to redress them successfully (Maloney and Nayyar, 2018).
Eliminating potential redundancy	• Policymakers need to further investigate the possible rationalization or programs that present a priori similar scope in terms of target group, objectives and mechanism for support. Our analysis has identified 3 tentative cases[9]. These need to be looked carefully, as our analysis may have overseen nuanced features of these

[6] Possibly strengthening management extension services, whose evidence suggests that when designed appropriately, developing country interventions have had significant impact on performance – Output additionality (at least in the short term). Group Based Management Extension programs (i.e. Consulting), see Iacovone et al, 2019.

[7] A review of the literature on export promotion programs by IGC (2011) shows that services provided by trade promotion organizations (TPOs) showed positive impact on export volumes, particularly the form of access to market studies, and outreach to prospective clients as these do seem have been effective (IGC, 2011). In addition, Volpe, 2014, suggests that offering bundled services – throughout the entire export process, has been a critical feature of success. The IGCs review also points out that credit and export guarantees have been effective to increase the probability of exports, particularly for SMEs.

[8] Incubators and accelerators host innovative companies, sometimes linked to universities, to support the commercialization of knowledge. They exploit the benefits of networking and spillover effects arising from co-location, but vary on the extent and duration of advisory services provided. *:* treated firms did not perform significantly different than non-treated in terms of patenting (Colombo and Delmastro, 2002). In a Turkish, program, employment generation (including R&D personnel) and sales growth, on-incubator firms significantly outperform off-incubator firms. Roberts et al., 2016 found that accelerators created significantly more jobs in selected versus rejected entrepreneurs (Cirera et al, forthcoming)

[9] Cases (All DOST): i) Industrial technology technical services program and Industrial technology transfer program, ii) Textile S&T services program and Textile technology transfer program, and iii) S&T Education Development program, and S&T Program for Regional and Countryside Development.

in the policy mix	programs outside of the screening criteria that we used based on overlap of scope of target beneficiary, objective and instruments, for example, regional presence and outreach in the local community. • If these candidates do not prove the case for rationalization, managers of each program should at least consider introducing systematic collaboration mechanisms among these programs, to learn from knowledge obtained from implementation, and prevent duplicity of beneficiaries (participants that apply and benefit from more than one program simultaneously) • Consider elimination of 9 programs[10] from DoST and DTI that suggested insufficient scale (at the threshold of PHP 4 million in 2017), given the potential burden these impose of administration personnel and supervision. However, final determination should be done considering the demands that the administration imposes on the program supervision – i.e. as some small programs are less resource intensive by their nature.
Recalibrating the strategic approach of specific program features	• Rethink the approach to SME interventions away from size to focus on addressing market failures, increasing productivity and stimulating growth of firms. Policies targeting market failures, rather than those focused on size, have a positive impact on firm productivity and growth. • Prioritize the use of program features that catalyze markets, (market enhancing) and leverage financial resources from beneficiaries (i.e. crowd in the private sector), over interventionist features that may create dependence of beneficiaries, and carry additional burden for administration and supervision. When applicable, the use of these programs can be less distortive and result in efficiency. Use of indirect instruments and demand enhancing mechanisms, such as vouchers for innovation[11], supplier linkages[12] and credit guarantees[13] for innovation are good examples. • Introduce instruments that promote collaboration, particularly of these bring potential for long term behavior additionality. Collaboration support, including grants, address a coordination failure that leads to a lack of collaboration and thus less innovation[14]

[10] Marketing support for exhibitions of DOST technologies, commercialization of inventions through IP rights, International Design Conference, Design week of the Philippines, Policy Development for S&T advisory program, New design graduates training, Green economic development, Materials R&D program, and Technology development and pre-commercialization IBDP.

[11] Vouchers are small grants allocated to non-innovative SMEs to purchase services from external knowledge providers. The main objective is to induce non-innovator SMEs to start collaborating with knowledge organizations and providers. Vouchers are often entitlement-based rather than competition-based. Evidence suggests some project additionality and some positive impact on sales and value added in the short-run (Cirera et al, forthcoming).

[12] The justification of programs that support supplier development typically rests on the need to address coordination problems. A often cited case study is Chile's Supplier Development Program, which aimed at strengthening established commercial linkages between local SMEs and large exporting firms. The intervention extended matching grant funding to SME so they can upgrade their management skills. The impact evaluation of the program demonstrated results in the form of increased revenues, additional employment, increase in wages, and increased survival of SMEs (Portugal, 2018). Similar positive results have been achieved in Costa Rica (PROVEE) and in Czech Republic, with the supplier development program.

[13] Credit guarantees can cover a portion of the losses experienced by lenders extending credit to firms investing in innovative projects, when firms default on loans. It applies exclusively to assets which have been explicitly covered under its provisions, in return for a fee. Credit guarantees become relevant in the late phases of the innovation cycle when risk is lower. Input additionality of lending seems positive and robust, with more schemes reporting between 35-68% in incremental loan value (Cirera et al, forthcoming).

[14] Caloffi et al. (2018) compared support for collaboration R&D grants versus individual R&D grants implemented in the same Italian region during the same period. They find that targeting collaboration grants towards SMEs with little R&D can increase the

number of SMEs that perform R&D. On the other hand, targeting individual or collaboration grants to SMEs with some prior R&D experience can be effective in increasing the amount of R&D. Finally, collaboration grants are more effective than individual grants in encouraging SMEs to start networking with external organizations (Cirera et al, forthcoming).

6. Functional Review

108. The ability to create more and better jobs depend on the extent to which entrepreneurs create new and innovative ventures, and existing businesses invest on innovation and become more competitive. The role of the government is to support this process by simplifying as much as possible regulations and red tape, encouraging entrepreneurship and addressing existing market failures that are constraining investments – physical and knowledge capital - and the growth of these firms. But while there is a clear role for this government support, any type of support is not necessarily justified, and very often can backfire in creating other distortions that affect the growth of more productive enterprises or simply waste of public resources without any positive impact.

109. Avoiding government failure requires governments to have strong processes for design, implementation and coordination of policies. This challenge becomes more pressing for governments that lack the capability to prioritize issues, weigh strengths and weaknesses of alternative courses of action, deal with highly interacting problems, and strike the right balance between interventions and facilitation of market solutions. Strong process for formulating and advancing innovation policy call for capabilities to address key dimensions:

a. **Rationale and design of policy**: policy practitioners need to ensure they are solving a real problem and avoid the trap of addressing false failures. Moreover, policy makers need to be careful to copy external forms without proper functions (Andrews, Pritchett, and Woolcock 2012), and avoid potential capture by firms.
b. **Efficacy of implementation**: Policy practitioners need to measure, learn and adapt to achieve improvements in the process of implementation, particularly in the context of pilot interventions. It has been well documented that managerial practices also matter in government programs (Rasul and Rogger, 2017), whereby better managed projects usually lead to better outcomes. Interventions need to follow a logical model of the intervention, and the presence of incentives for staff can improve management of innovation programs.
c. **Coherence of policies**: Stated priorities and expenditure commitments need to be coherent. In addition, practitioners need to avoid volatility in budget allocations which can undermine medium- to long-term change and impact processes, disparity in budget sizes across programs, and overlap of instruments or inertia despite instruments change.
d. **Policy consistency and predictability over time**: Developing a dynamic private sector with even minimal capabilities can take decades of deliberate policies. Long-term and predictable financial and institutional commitment is often necessary. In many countries, institutions experience constant leadership changes and politically driven disruptions from the top, which undermine the foundation of previous achievements.

Functional Review Approach

110. The effectiveness of MSME and entrepreneurship support programs tends to have a mixed record. Identifying the market failures and binding constraints for enterprise growth in a country context is critical to the development MSME support policies and programs. Even when the correct constraints are identified, some instruments may perform better than others based on the specific modalities of each support instrument.

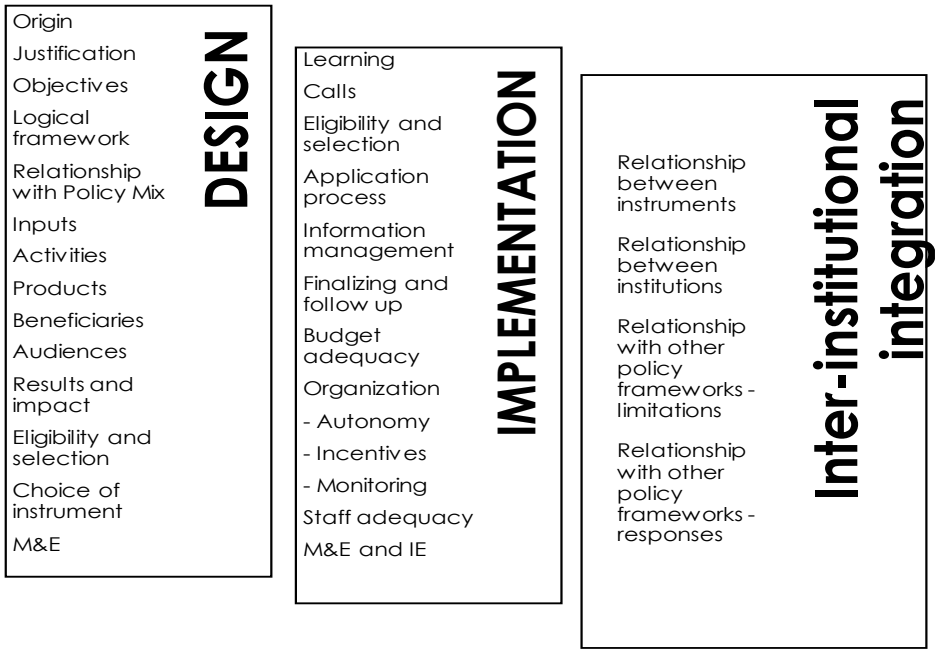
111. The Functional Review is the second part of the PER, where specific MSME support programs are assessed in the use of good practices in design, implementation and coordination. The Functional Review complements the Policy Mix, which analyzed the quality and coherence of the current mix of policies. The analysis of the Functional Review provides the analytical foundation to

provide recommendations to strengthen the design, delivery and effectiveness of current SME support programs under implementation, as well as informing the design of new programs under consideration. Based on good models for public management, the analysis assesses key elements of policy making:

i. Market failure is identified, and it justifies design and intervention
ii. Program origin is not ad-hoc.
iii. The program features clearly identified objectives that are measurable
iv. The program has explicit and realistic logical framework
v. The selection of beneficiaries is appropriate.
vi. The program counts with sufficient human, financial and organizational resources and features good managerial practices.
vii. The choice of instrument is evidence based and consideration of costs and alternatives is well documented.
viii. Programs employ M&E frameworks, with good indicators and good measurement. Full consideration of impact evaluation is documented.
ix. The program has formal system to adopt lessons and learning to make program more efficient

112. The functional analysis evaluates the three main dimensions in public management of each instrument: design, implementation and inter-institutional integration (Figure 42). The design dimension covers 14 areas; implementation covers 13 and inter-institutional integration includes the remaining 4.

Figure 41: Dimensions and parameters within each dimension



113. The methodology of the functional review uses semi-structured interviews to evaluate the quality of design, implementation and inter-institutional integration – coordination among instruments, among institutions and position within the policy mix – in relation to international best practices. The scoring matrix assigns values from 1 to 5 based on best practices, with 1 being the lowest score and 5 the highest. Scores are pre-dined based on a matrix of good practices already developed.

114. **During data collection, the team met with the program managers of the 15 selected MSME programs to complete the survey instruments**. It is worth noting that the analysis has been done based on a sample of programs, and that therefore, findings cannot be used to extrapolate and draw general conclusions about different agencies.

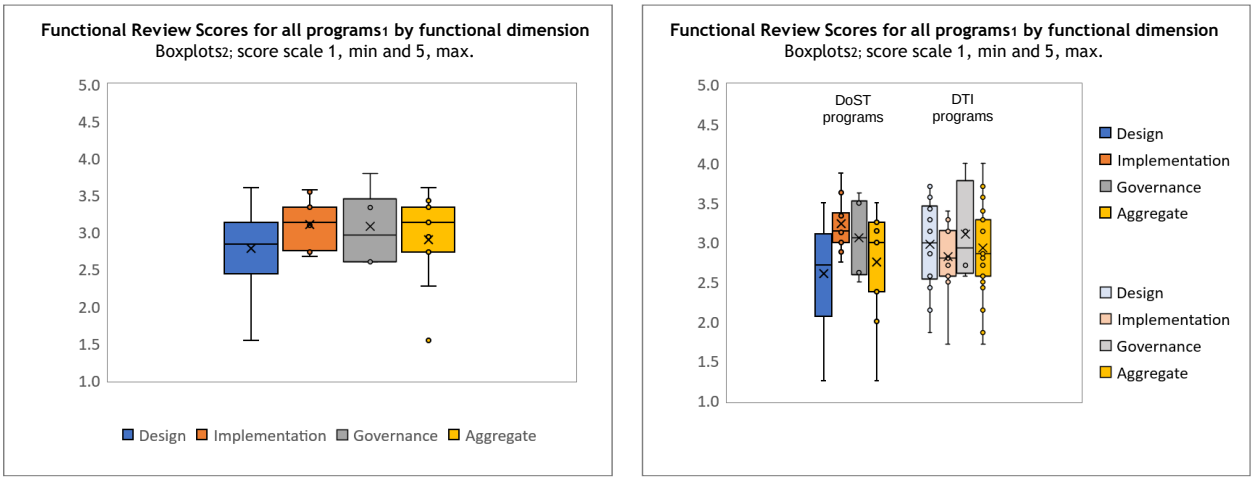
115. **In the Philippines, design is done by a central entity, but the implementation of instruments is largely delegated to regional offices with limited purview of the central agency**.[lxxiii] In decentralized setups like the Philippines, a traditional functional analysis that focuses only on central units would miss key elements of implementation and governance. For example, the existence of agile application processes, reaching out key beneficiaries, having adequate financial and human resources; can vary significantly by implementing unit. Therefore, the traditional functional analysis was complemented with an analysis of implementation in a sample of regions - Mandaluyong, Makati, Tagbilaran and Cebu.

Functional analysis findings

116. **Results suggest that there is significant room for improvement in the quality of design, implementation and governance/coordination of SME programs in the Philippines**. While most programs are reasonably well executed, adoption of good practices is still lagging in some key dimensions of policy making, and the value of the overall score is around half of that from the policy-making frontier (Figure 43). In what follows, we identify the specific areas of improvement. In reading the results, it is important to keep in mind that the results for implementation are just an approximation because most implementation is decentralized, so the findings need to be complemented with those in Annex 4.

117. **Governance/coordination emerged as the highest-ranking dimension for the entire sample of programs, followed by implementation and design**. A key element explaining the better scores for governance-coordination is the fact that there is a good narrative of complementarities between the different instruments, and a clear link to a common strategy of support to MSMEs, at least within departments. Design shows weaker practices, especially related to diagnostic of market failures and lack of proper M&E systems. However, the values of the scores for governance and implementation showed higher dispersion than the values for design.

Figure 42. Aggregate scores of the functional review by agency

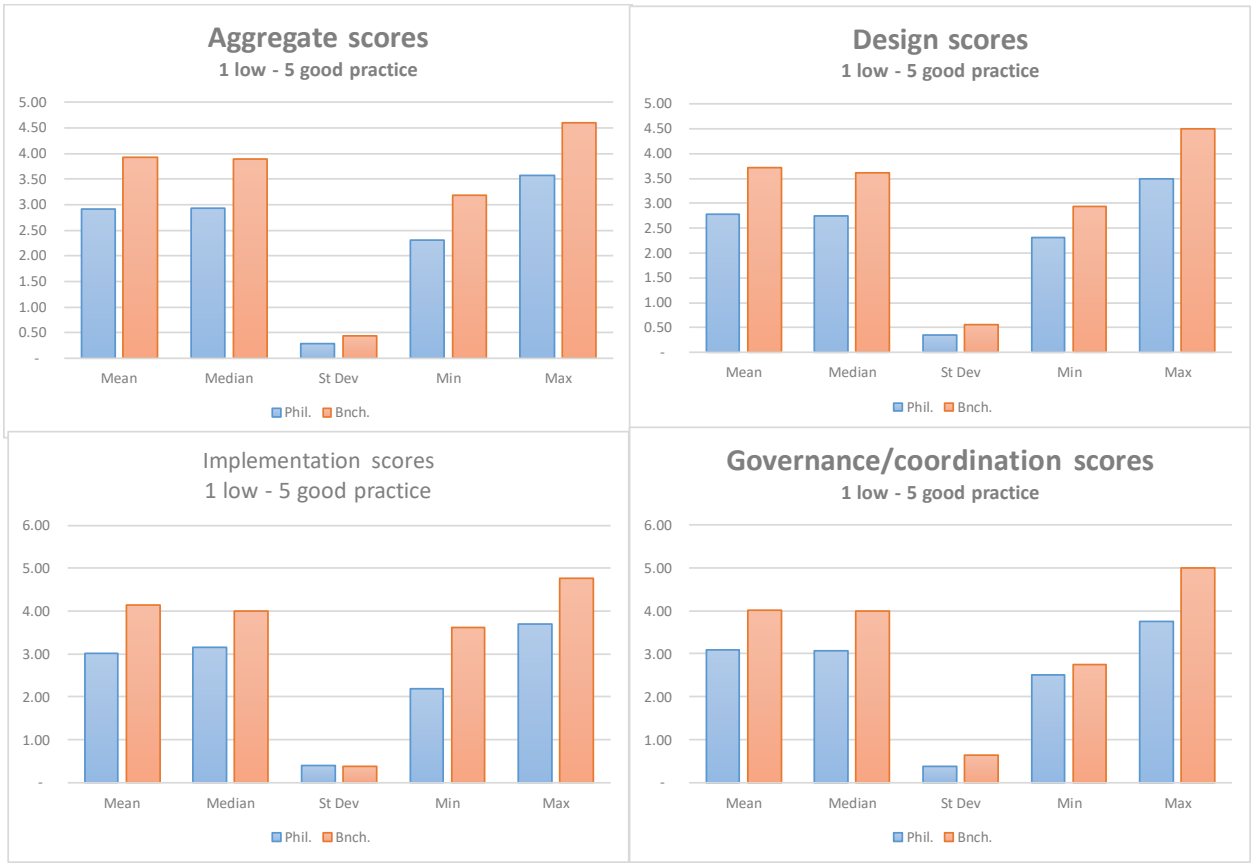


Notes: (1) includes 15 programs selected for the functional review; (2) Boxplots show interquartile range (colored), average (lines) and median values (x); Source: WBG, based on interviews and available documentation from DTI, and DoST.

118. The sample of programs ranked on average very similarly for both DTI and DoST. Across the three dimensions; DTI scored on average on design 3 – 2.6 (DOST) – and DOST scoring higher on implementation 3.2 vs 2.8 (DTI). Programs under DTI and DOST ranked equally on average in governance/coordination with a 3.1. DoST programs presented particularly large variance regarding design, and DTI presented more differences in the quality of governance/coordination. Annex 3 describes in more detail the heterogeneity within each institution.

119. A simple benchmark exercise for scores across programs between the Philippines and a good performer country in Latin America showed that the practices from the sample programs ranked consistently lower in the score scales than the peer country (Figure 43). This is true for mean and median values, across all dimensions: design, implementation and governance. It is worth noting that scores for the dimension of design ranked the lowest for both countries. Values for the scores in Design and Governance showed higher dispersion than the scores for implementation in both countries. Design tends to adopt fewer good practices in most countries. There is also more homogeneity of scores in the Philippines as compared to the benchmark country.

Figure 43: Comparison of scores between selected programs of the Philippines and benchmark case

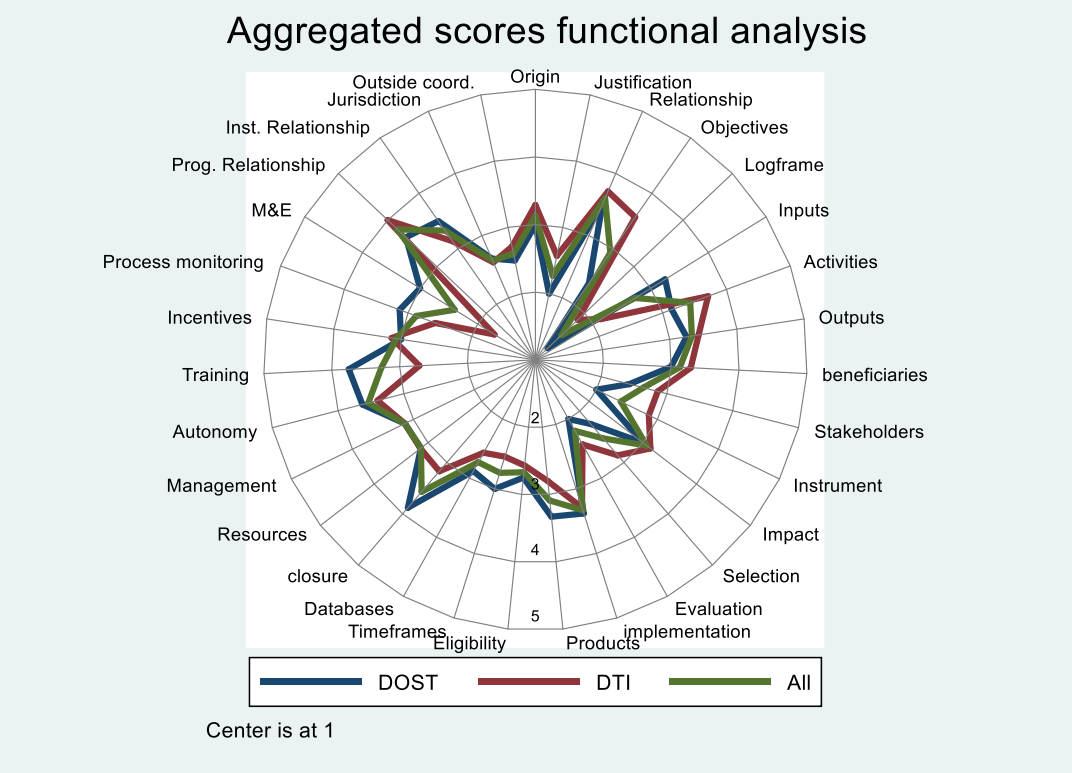


Notes: Includes 15 programs selected for the functional review; Source: WBG, based on interviews and available documentation from DTI, and DoST.

120. One important aspect of the analysis is to fully understand the adoption of good practices in each dimension. This is summarized in 44, which plots the radar diagram for the averages by agency and for all the programs. Spikes in the direction of the center suggest areas of improvement, while the spikes towards the outside of the radar figure, as areas with better use of good practices. For DTI, most

of the bottlenecks occur in justifying the program, a lack of logical framework, lack of evaluations, the application process, lack of training, lack of M&E frameworks and awareness on some of the main constraints to impact. For DoST, clear gaps occur for justifying the program, a lack of logical framework, lack of evaluations, lack of consideration to alternative instruments lack of M&E frameworks and awareness on some of the main constraints to impact. Good practices are observed in alignment with other instruments and in stating objectives for DTI; and on training of staff and closure of programs for DTI.

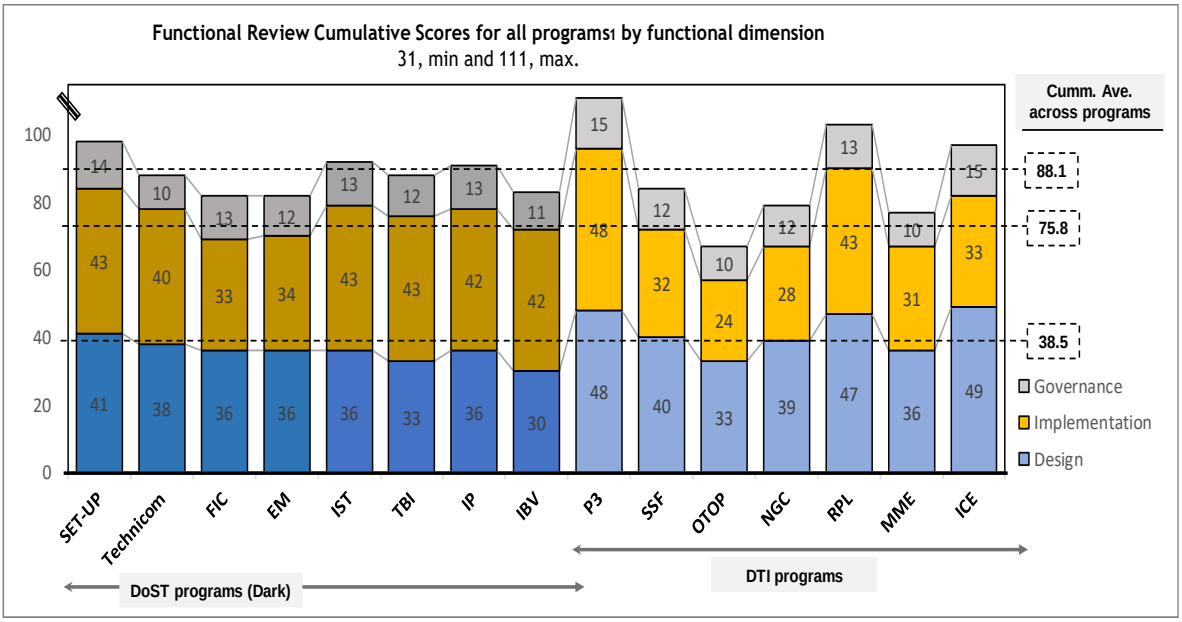
Figure 44: Functional scores by metric within each dimension



121. Looking at individual programs show limited variation. It is important to look across individual programs to i) identify the heterogeneity that exists; and ii) to identify programs that implement good practices and that can be used as a model to disseminate such practices. The cross comparison for all programs (Figure 45) showed that SET-UP, P3, RPL and ICE stood up among all programs in the sample, featuring highest overall scores. The variance across programs is smaller -i.e. there are no programs that are much better than others, or much worse – in DoST than for DTI. These best programs are still distant from the frontier (165 max score) but show strong practices in some key dimensions. Specifically, the more granular comparison across programs in the sample revealed the following:

- The valued scores for practices under SET-UP, Technicom from DoST and P3 and ICE from DTI ranked as the strongest among all programs in the sample.
- By contrast, practices under the OTOP and MME presented the strongest opportunities for further improvements.
- The recorded practices under the Technicom, P3 and ICE were valued above the average for design.
- P3, SET-UP, IST, TBI and RPL ranked particularly well in implementation practices.
- P3, ICE and SET-UP ranked particularly high in practices of governance.

Figure 45: Comparative scores across selected programs by functional dimension



Source: WBG, based on interviews and available documentation from DTI, and DoST.

Key problems in the use of good practices

122. In what follows, the functional review assesses the use of good practices in each dimension: (a) design, (b) implementation, and (c) governance.

Design

123. **Origin of the programs are hardly based on an identified market failure** in the local context; and the process to bring new instruments seems *ad hoc*. Even when reference to international examples are used, very often the program officers were not able to clearly articulate the origin of the program in a convincing way. While most managers were not present when program start, it is important that the reason why the program started is well articulated.

124. **Programs lack economic justifications**. Lack of economic justification of the programs may be leading to design problems (poor quality of entry); the main source of the problem is not properly identified, and more importantly, the right instrument may not be selected to address the problem. The technical justification of the program should also refer to the regional needs for the solution. This leads to a need of more frequent adjustment of the program. For example, P3 has a problem with MFI intermediaries that are too liquid to use funds, but this is a problem of no proper assessment of MFI incentives to participate in the program.

125. **Logical and M&E frameworks are absent for most programs**. Programs should have from their design a clear definition of inputs, activities, output, impact, and external conditioning that affect impact. This is critical for M&E, and the much-needed adaptation of the program as this is implemented. For example, in Chile, no new program is given a budget allocation without presenting the logical framework of the intervention. Moreover, every program needs an M&E framework, with measurable and harmonized indicators, and that needs to be consistently monitored to help planning

and decision making. This is currently absent and makes making informed decisions about the program very difficult.

126. **Articulation of the intended beneficiaries for the program exist, but it is too broad, and lacks targeting**. Low implied selectivity may lead to poor resource allocation and consequently diminished potential to generate impact. The position to address all beneficiaries and create referrals, is not best practice, as it can put unnecessary stress on program resources. There needs to be a mechanism to exclude proponents that do not meet the basic qualifications or that do not present significant potential to contribute to the goals of the program. There is lack of clarity and transparency about what is happening on the regions and how consistent is the implementation of basic criteria.

127. **Relevant stakeholders need to be consulted more during design**. In general, there is a lack of consideration to all stakeholders that matter for impact, especially those from the private sector. It is important to create formal processes to involve them and consult them during the design stage; always trying to avoid the capture of public support.

128. **Lack of consideration of alternative instruments to address the same problem may lead to poor efficiency.** The systematic evaluation of separate options can lead agencies to make informed choices of the best way to address the identified problem.

Implementation

129. **There is lack of clarity on how program participants are chosen**. Central entities tend to define basic eligibility requirements, but the screening of applicants is left to the regional and provincial implementers. While many of the participants may be appropriately selected, the absence of specificity in selection processes may lead to less than ideal beneficiaries and potential regional capture. This is also linked to the lack of targeting and no selectivity mentioned earlier, which can make capture more likely.

130. **Information management is fragmented, as the mechanism for collection of operational information are varied and the information remains placed in different databases**. Both DTI and DoST need to invest in an integrated information management system that allows for both: monitoring and management of applications. The use of personal computer or mobile applications and other personal software that may not be secure remains pre, and it is likely to be very inefficient. This is not good practice and an integrated and secure information system is required.

131. **The program closure procedures are good practice**, as by law most programs must collect performance information from beneficiaries beyond the end of the support program. It is critical that it is implemented, given that some of the desired outcomes are likely to materialize only in the medium and long run.

Governance

132. **The lack of awareness of the external conditioning factors to the effectiveness of the program can create blind spots for program managers**. Often programs need to adapt to address the key constraints to the outcomes -i.e. how issues of the ecosystem can affect startups. The separation between design and implementation, without effective coordination may exacerbate this problem.

133. **Coordination across departments is weak**. This is critical for cross-cutting issues such as innovation. More opportunities for exchanging experiences are needed, across DTI and DoST, and

within agencies between central and regional units. This should be a formal mechanism to share experiences, and not *ad hoc*.

Improving Program Performance

134. The functional review finds that there is significant room for improving the quality of design, implementation of governance processes to make public support to MSMEs more impactful. Design practices present the widest room for improvement and most of the problems are systemic and, hence, require a government-wide solution. There are four areas that deserve further attention going forward to improve the quality of MSME policymaking in the Philippines:

a. **A more targeted approach to select MSMEs is needed**. The current selection criteria mostly include all MSMEs, which translates into a very broad selection of beneficiaries. This leads to a loss scope of action, which can undermine the impact of the programs. The GoP needs to provide more nuanced targeting based on the type of beneficiaries and market failure to be addressed to ensure additionality and achieve greater impact. For example, by focusing interventions to work with firms that present increased growth, innovation or export potential.

b. **Excessive focus on execution compromises focus on achieving additionality of impact.** The pressure for budget execution is high, and often makes better targeting of potential beneficiaries and adaptation of programs difficult, given the need to disburse funds. The priority should not be on whether the funds are used as planned, but on whether the additionality of private investments is achieved. Therefore, the focus should be on impact additionality from the use of public resources.

c. **Decentralization of implementation should also feed the design of new programs.** While the decision from central units to decentralize implementation is commendable, program design would benefit from increased inputs and participation from the regional stakeholders, both government agencies and from the private sector.

d. **Enhanced coordination mechanisms between implementing agencies and between program implementation units would improve effectiveness of MSME policy interventions**. While there is reasonable coordination within agencies, coordination between agencies could be significantly improved, especially at the management level of individual programs. It is critical to create these spaces of coordination between program management units and managers, more generally. This can be achieved by creating working groups for agency personnel, who work on cross-cutting issues, such as development of startups and business scale-up, innovation, technology transfer or export promotion. These are issues that require both DTI and DoST to work together, to deliver interventions in an integrated manner. It is not sufficient to simply strive for avoiding duplication, it is required to fully integrate programs by, for example, sending beneficiaries graduated from a program to another, under the management of the other institution.

135. Addressing some of these issues is critical to enhance the returns to public support and achieve sustained growth and employment. A first step to adapt these practices is to learn from best performing programs. This can be done easily with internal workshops. The second step is to implement and invest in systemic processes, such as templates, procedures and information systems. This requires some investment from the agencies, and it should be done jointly to avoid further fragmentation of processes within government. More detailed recommendations are included in Annex 6.

Annex 1

Startup Support Institutions - Incubators, Accelerators, Venture Capital Financing and Networking

Incubators: are programs targeted towards startups with an existing business idea, product or concept. They offer startups support services in business development, infrastructure and professional networks as well as follow-up financing (investors, accelerators etc.). Incubator business models vary depending on their nature (nonprofit or for-profit). Incubator programs typically last for 1-3 years.

Accelerators*:* are startup support programs targeted at already established and skilled teams with a strong, preferably international growth expectation. The accelerators usually provide startup companies with program events, intensive mentoring and pre-seed investment in exchange for equity in the companies.

Venture capital: refers to equity investments made for launch and early development of startups (seed) or expansion of established firms. For early stage, seed funding is used to take a startup from idea to the first steps, such as product development or market research. Seed rounds are among the first rounds of funding a company will receive, generally while the company is young and working to gain traction. Round sizes range between $10k–$2M.

Angel investors: is a private individual, often of high net worth, and usually with business experience, who directly invests part of his or her personal assets in new and growing private businesses. Business angels can invest individually or as part of a syndicate where one angel typically takes the lead role

Networking events: Hackathons, meetups and other startup events comprise of a number of occasions for startups to meet other ventures, entrepreneurs and other startup-minded people. The duration of these events tends to be short, typically from a few hours to one weekend.

Annex 2. Entrepreneurship Ecosystem Diagnostic (EED) Toolkit

The EED toolkit relies on a framework used to assess 1) the current environment, 2) strengths & successes, 3) weaknesses & barriers, and 4) opportunities for growth across the six domains of an entrepreneurship ecosystem identified by the Babson Entrepreneurship Ecosystem Project: policy, financial capital, markets, culture, human capital, and supports.[15]

- Policy – Laws and regulations affecting digital entrepreneurship.
- Financial Capital – Sources of capital available for digital entrepreneurs, including debt, equity, grants and blended financing.
- Markets – Existence of early customers and distribution channels and connectivity of entrepreneurial networks.
- Culture – Societal attitudes toward entrepreneurship and availability of role models.
- Human Capital – State of educational institutions and access to skilled labor.
- Supports – Infrastructure and support professional services available through incubators and accelerator including entrepreneur friendly associations and other non-governmental institutions.

More specifically, the table below includes specific indicators that are relevant to each domain.

Policy	Financial Capital	Markets	Culture	Human Capital	Infrastructure and Supports
• R&D Environment & Institutions • Venture-friendly legislation • Taxation • Foreign business friendliness • Digital industry support and incentives • Entrepreneurship strategy and regulatory framework incentives (e.g. tax benefits)	• Angel Investors • Venture Capital/Private Equity • Debt Finance • Capital Markets • Foreign investment	• Availability and pricing of digital devices and platforms • Availability and pricing of Internet access • Digital commerce channels and value chains • Financial inclusion levels	• Business activity (esp. in creative sectors) • Attitudes toward entrepreneurship • Risk tolerance • Confidence • Social media attention • Role models	• Availability of software developers • Skill-levels of developers • Managerial and organizational skill levels • Creative skills • General availability of skilled labor	• Internet speed • Energy • Transportation & logistics • Tech hubs, co-working places, incubators, and accelerators • Professional (social) networks • Entrepreneur-friendly associations • Events and conferences

[15] The Babson Entrepreneurship Ecosystem Project stems from the observation that in all societies in which entrepreneurship occurs with any regularity or is self-sustaining, there is a unique and complex environment. The Babson Entrepreneurship Ecosystem finds that there are approximately a dozen elements that interact in complex ways. Thus, in order to promote entrepreneurship, a holistic approach must be taken (http://entrepreneurial-revolution.com)

Annex 3. Plans and laws focused on MSMEs and Entrepreneurship in the Philippines

National Development Plans

Policy	Description
Philippine Development Plan 2017-2022 (national)	- As part of supporting government's goal of "inequality-reducing transformation", MSMEs development is anchored on "expanding economic opportunities in industry and services through *Trabaho at Negosyo*" • Government programs supporting this goal include (a) improving backbone services (e.g., telecommunications, logistics) to facilitate MSME access to markets, (b) improving access to production networks, such as supporting linkages between MSMEs and large enterprises for GVC participation, (c) increasing financial access, (d) enhancing financial literacy through trainings, (c) assessing implementation of MSME laws - As part of supporting government's goal of "increasing growth potential", MSMEs development, especially in the technology sector, is anchored on "providing support mechanisms for startups and MSMEs in the regions" • Government programs supporting this goal include (a) Small Enterprise Technology Upgrading Program, (b) Shared Service Facilities, (c) Startup Ecosystem Development Program, (d) creation of incubation centers and a "startup economic zone" (to connect start-ups with industries, including MNCs and other markets) - As part of supporting government's goals of both "inequality-reducing transformation" and "increasing growth potential", open trade policies will be pursued, such as encouraging businesses, especially MSMEs, "to maximize export opportunities and increase the utilization of preferential trading agreements" • Government programs include (a) advocacy and capacity building programs for potential exporters, (b) provision of "comprehensive support packages for priority sectors with comparative advantage", (c) promoting MSMEs as "either as a supplier or service provider to foreign investors during investment and trade promotion events and as possible technology partners through technology license agreements" - Also as part of supporting government's goals of both "inequality-reducing transformation" and "increasing growth potential", the plan also mentioned a "level playing field through National Competition Policy", including for MSMEs • Government policies to support this objective include: "(a) diminishing anti-competitive practices; (b) reducing barriers to entry; and (c) reducing limits to entrepreneurship to allow micro, small and medium enterprises to thrive" - Other support that cuts across sectors, including MSMEs, is on "simplification of government transactions" (i.e., simplification of "rules and procedures that are burdensome to MSMEs")

MSME Development Plan 2017-2022 (national, enacted in April 2018)	The MSME Development Plan 2017-2022 lays out a vision for a "more globally competitive, regionally integrated, nationally resilient, highly sustainable and productive and innovative, and dynamic MSME sector performing as one of the most effective drivers of inclusive Philippine economic growth. The Plan includes three focus areas which are critical in attaining the vision for 2022: (i) Business Environment with emphasis on improving the business regulatory requirements and procedures as well as maximizing access to finance; (ii) Business Capacity with the aim of strengthening human capital development and improving innovation and technological competitiveness of MSMEs to transform and create new business models and enterprises; and (iii) Business Opportunities with the aim of broadening access to markets. The focus areas will be underpinned by 5 themes: (i) business climate; (ii) access to finance; (iii) Human capital development; (iv) technology and innovation; and (v) access to market.
DTI's 7Ms for MSME Development	The DTI's seven Ms describe the elements of the approach and framework for enabling the country's small enterprises. These include: • MINDSET–calls for a paradigm shift esp. for micro and small entreprens. A mindset that embraces innovation, service and continuous improvement. Specifically DTI's Negosyo Center seminars, the SME Roving Academy (SMERA) and the Kapatid Mentor ME program can promote an entrepreneurial mindset that is success- and innovation-driven, collaborative, and proactive. • MASTERY–of the technical and financial aspects of the business. For instance, Negosyo Centers, can teach MSMes to master the know-how & how of entrepreneurship, from how to set up a business, basic rules of spotting market opportunities, finding your product positioning and differentiation, product development, market development, basic business finance and plan preparation, as well as developing a system for continuous innovation. • MENTORING–We provide you with continuous business guidance in partnership with the private sector members like Go Negosyo, PCCI, PFA, AFFI, and FFCCCII, thanks to programs like Kapatid Mentor ME. Experience coaching and mentoring of industry experts and large corporations on different aspects of business operations for free! • MONEY–We give you access to funding through DTI's P3 microfinance program—in cooperation with SB Corp.—or connect you to micro finance institutions (MFIs) to help you out with financing, whether you're setting up a business or if you want to expand. • MACHINE– We equip you not only with the must-have knowledge on equipment and right tools to ensure quality production under the Shared Services Facility (SSF) program, you can also use these to level up your production and increase productivity. With innovation, you and your fellow entrepreneurs can produce more products more efficiently. • MARKET ACCESS–We help you promote your products through provincial and national trade fairs, OTOP (One-Town, One Product) shows, Go Lokal! retail store concepts in major malls, and the internationally-recognized FAME exhibits. We can also link your

	business to big companies or to government so that you can supply them with your products on a continued basis. • MODELS OF NEGOSYO–We give you different business ideas to help you get into business, from traditional enterprises to direct selling and franchising. We also teach you livelihood skills like baking, soap-making, etc. At our Negosyo Centers, there's more than one way to do business. MSMEs need to have ties with bigger guys to create synergies, which are essential in matching and innovating products and services. •
Startup Ecosystem Development Program (SEDP) 2016-2021	This is a 5-point program created by DTI to strengthen collaborative networks among MSMEs and create innovative startups towards growth and job creation. The action points include: • increasing culture and collaboration; • addressing legal and regulatory barriers; • supporting government services, capital and resources; • creating a national startup business council, and • establishing a Philippine startup economic zone.
	•
MSME Development Plan 2011-2016 (national)	- This plan is particularly focused on MSME, with "aims to promote, support, strengthen, and encourage the growth and development of MSMEs in all productive sectors of the economy" - Four major outcomes or result portfolios were identified, including Business Environment (BE), Access to Finance (A2F), Access to Markets (A2M), and Productivity and Efficiency (P&E) • BE-related goals for MSMEs include: (a) making cost of doing business affordable, (b) creating institutional support structures, (c) harmonizing MSMEs support at national and local levels, (d) creating an entrepreneurial mindset • A2F-related goals include: (a) availability and accessibility of finance-related products and support services (including MSMEs on the countryside, and start-ups), (b) simplified process of obtaining credit, (c) understanding on finance between MSMEs and financial institutions, (d) coordinated finance-related assistance • A2M-related goals include: (a) local and global market expansion for MSMEs, (b) working marketing support structures, (c) use of value chain approach, IT, and intellectual property systems by MSMEs, (d) coordinated government A2M programs (including One Town, One Product (OTOP) program) • P&E-related goals include: (a) coordinated productivity enhancement programs and policies, (b) skilled and efficient MSME workforce, (c) internationally compliant MSMEs (quality standards-wise), (d) use of productivity enhancing technologies by MSMEs • All goals advocate gender-responsiveness, and environmental-friendliness of programs

MSME-focused Laws

Name of Law	Description
Go Negosyo Act of 2014 (Republic Act No. 10644)	Promotes MSME development with aims of job generation and inclusive growth, through (a) establishment of Negosyo Centers "in all provinces, cities and municipalities", and (b) creation of Start-up Funds for MSMEs • Negosyo Centers promote (a) "ease of doing business and facilitating access to services for MSMEs within its jurisdiction" (such as technology transfer, marketing assistance), (b) coordinate government support programs for MSMEs, (c) disseminate information to MSME entrepreneurs, (d) generate feedback to improve MSME support services • Start-up Funds for MSMEs is to be sourced from MSME Development Fund and BMBE Fund, with the goal of providing funding for MSMEs in priority sectors cited in MSMED Plan
Committee Report No. 142 Innovative Startup Act (Senate Bill No. 1532)	- An act providing benefits and programs to strengthen, promote, and develop the Philippine startup ecosystem - This act establishes the Innovative Startup Development Program to provide financial and non-financial support to innovative startups. Support includes easier business registration procedures, R&D grants, fee exemptions from using government equipment and facilities, visa application subsidy for foreign owners, workers, and investors (includes exemption from alien employment permit and creation of innovative startup visas), Intellectual Property of the Philippines-related benefits and incentives, and tax exemptions. Easier business registration processes through (1) waived application fees; refund of fees for the permits and certificates; and expedited processing of permits and certificates. Tax exemptions related to income tax, VAT, withholding tax are for the commercialization of innovative products and services. -The act also creates a Php10-billlion Innovative Startup Venture Fund which covers initial or supplemental grants for innovative startup recipients (administered under DOST). -Innovative startups are defined as "a registered business entity in the Philippine operating for no longer than 60 months from the commencement of their business operation whose core business function involves product, process, or business model innovation…provided that: i. the innovative product, process, or business model is the primary source of revenue of the business entity; ii. the business entity is not a mere end user of the innovative product, process, or business model; iii. the cost of the business entity for research and development is at least 15% of its total operational cost, or is a licensee or owner of a patent or registered software; and iv. the gross annual revenue of the business entity has not exceeded Php50,000,000."
Magna Carta for MSMEs of 2008 (Republic Act No.9501; original enactment in 1991)	- Promotes MSME development, particularly rural/agri-based enterprises, in order to "attain countryside industrialization", through (a) skills training and development, (b) financial access (including reducing loan requirements, safeguarding credit delivery systems), (c) ensuring fair share of countryside MSMEs in acquiring government contracts and incentives, (d) increasing efficiency and effectiveness of government MSME support services, (e)

	linkage promotion between small and large enterprises, (f) public-private partnerships on MSMEs development • This law requires enactment of Micro, Small and Medium Enterprises Development Plan (MSMEDP), and creation of the Small Business Guarantee and Finance Corporation (SB Corporation) • SB Corporation "shall be charged with the primary responsibility of implementing comprehensive policies and programs to assist MSMEs in all areas, including but not limited to finance and information services, training and marketing"
Barangay Micro Business Enterprises Act of 2002 (Republic Act No.9178)	- Promotes MSME development (i.e., "formation and growth of barangay micro business enterprises"), by aiming "to integrate micro enterprises in the informal sector into the mainstream economy" • To support BMBE growth, incentives will be provided. Examples of incentives for registered BMBEs are the following: (a) income tax exemptions, (b) Minimum Wage Law exemption, (c) special credit window priority for BMBE financing, (d) access to BMBE support programs, such as technology transfer, production/management training, and marketing support
Microfinance NGOs Act (Republic Act No.10693)	- Promotes MSME development by supporting microfinance NGOs dealing with microfinance operations for the entrepreneurial poor • Stipulates the core programs and services to be delivered by microfinance NGOs, namely (a) microcredit and financial literacy programs, and (b) microcredit and CBU or microsavings • Provides microfinance NGOs access to government support services, such as (a) provision of operational and capacity building grants, and (b) low interest loans and guarantee funds
Credit Surety Fund Cooperative Act (Republic Act No.10744)	- Promotes MSME development, with aims to "(a) encourage, promote and assist in the creation and organization of CSF Cooperatives; (b) enhance the creditworthiness of MSMEs, cooperatives and NGOs and broaden their access to the credit facilities of banks; (c) sustain the continuous flow of credit in the countryside through the establishment of well and prudently managed CSFs which shall serve as surety covers; (d) build up the capability of cooperatives and NGOs in the areas of credit evaluation, loan and risk management, and good governance principles; (e) generate employment and contribute to the poverty alleviation program of the government through increased investments and economic activities; and (f) strengthen the CDA by providing it with powers and resources to enable it to effectively regulate cooperatives, including CSF Cooperatives" • The law creates the Credit Surety Fund (CSF), which acts as a "security for loans of MSMEs from banking institutions by providing a surety cover in lieu of acceptable collaterals"

Plans and action points are only one way in which the government has rolled out support to entrepreneurs. In September of 2016, Senate Bill No. 1532, better known as the Innovative Startup Act was proposed by Senator Paolo Benigno "Bam" Aquino IV to help improve the Ease of Business, aiming to increase incentives and eradicate constraints. Eventually, in May 2018, the Innovative Startup Act was unanimously approved in a fundamental step forward towards empowering innovators and entrepreneurs throughout the Philippines. As Senator Bam Aquino stated, this bill will "provide unique and relevant solutions to our

problems, from daily hassles, like finding a taxi during rush hour, to improving the delivery of healthcare, providing support for our farmers, and addressing unemployment…with a heart for nation building."[lxxiv] More specifically, the bill aims to encourage and support more innovative startups through financial subsidies like tax breaks and grants, easier business registration procedures and technical assistance and training programs through the Department of Science and Technology (DOST), Department of Information and Communications Technology (DICT), and/or the Department of Trade and Industry (DTI) under an Innovative Startup Development Program[lxxv]. Lastly, it includes a provision for PHP 10bn Innovative Startup Venture Fund that entrepreneurs can apply for. This fund will be administered by the Department of Science and Technology.

Other relevant laws for startups include the Go Negosyo Act 2015, which aim to provide "one-stop-shops"

Box 1. Existing relevant bills to support entrepreneurs in the Philippines

(either existing or in the pipeline) *might* include, but is not limited to:

1. The Innovation Bill
2. Tax Rationalization Bill
3. Start Up Bill
4. The Youth Entrepreneurship Bill
5. Poverty Reduction through Social Entrepreneurship Bill
6. The Competition Act
7. Informal Economy Transition Act
8. Micro, Small, and Medium Enterprises Bill (increasing financing through development banks)
9. Fast Business Permit Act (attempting to improve the ease of starting a business)
10. Secured Transactions Act
11. Retail Liberalization Law
12. An Inclusive Innovation Roadmap (DOST & DTI)
13. Foreign ownership restrictions for companies that operate in certain industries, such as: education, media, banking, and finance. In those cases, 100% of ownership must be Filipino. In other industries the number sits at 40%.

Source: Author elaboration

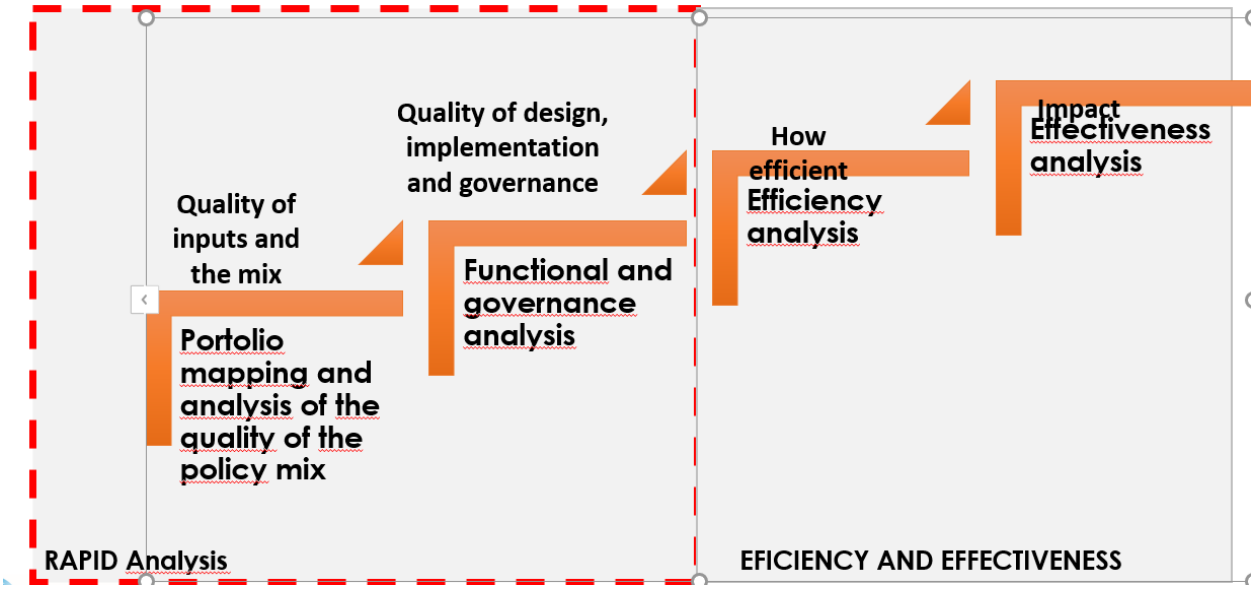
all over the Philippines for business registration and development assistance, as well as the 2017 Philippines Innovation Act, which most notably provides tax exemptions for startups.

Two of the most notable results of all these government measures is 1) Slingshot Philippines, an event bringing together different startup ecosystem players from throughout the country. The first event occurred in July 2015 and had over 1,000 participants in attendance; and 2) *QBO Innovation Hub*, which is a partnership between the public sector (DTI, DOST) and private sector (IdeaSpace, JP Morgan) with the chief aim of increasing connections within the ecosystem, such as with entrepreneurs, investors, and universities, to exchange ideas and collaborate on innovative projects. [lxxvi]. In addition, there are roughly 13 relevant bills or actions taken all with the chief purpose of easing the situation for entrepreneurs (See box 1).

This level of government involvement in entrepreneurship can be a positive mechanism to seeing consistent growth in an ecosystem, take Rwanda for example. In its post-genocide years, Rwanda's government took a strategic, holistic approach to promoting entrepreneurship, and in less than two decades saw the creation of 72,000 new ventures, which in a decade tripled exports and reduced poverty by 25%.[lxxvii] This was done, by identifying three local industries (coffee, tea, and tourism) and actively organizing the institutions that would support them from throughout the country, for example, by training farmers to grow and

package coffee to international standards and connecting them to overseas distribution channels. Impressively, this government-led strategy had extreme and lasting success, however, these benefits didn't develop in a vacuum, while the "platonic ideal of entrepreneurial ecosystems, based on success stories like Silicon Valley or Boulder, Colorado," as Spigel and Stam note, involves an entrepreneur-led transformation, more detailed histories of these cases, such as in the Rwandan, Chilean (fish), and Israeli (USB drives) domination of several key markets, demonstrate that the state, philanthropic organizations, and universities play a major role in their development. [lxxviii]

Annex 4. PER Methodology – RAPID vs. FULL



Annex 5. DTI-DOST programs for MSMEs

Instrument name		Implementing Agency	Type
Green Economic Development (GED)	DTI	Regional Operations Group (ROG) (BSMED, DTI Regional and Provincial Offices)	Education and training of entrepreneurs
Shared Service Facilities Project (SSF)	DTI	Regional Operations Group (ROG) (BSMED, DTI Regional and Provincial Offices)	Grants for upgrading equipment for collective use (cooperative)
Regional Interactive Platform for Philippine Exporters (RIPPLES) Plus	DTI	Export Marketing Bureau (EMB)-Lead Trade and Investments Promotion Group (TIPG) Regional Operations Group (ROG) (DTI-ROG) Philippine Trade Training Center (PTTC)	Technical Assistance (training, marketing support), Business matchmaking services, Trade Promotion (participation ion fairs)
Project Kapatid - Mentor Me (KMME)	DTI	Regional Operations Group (ROG)	Education and training of entrepreneurs
Industry Cluster Enhancement (ICE)	DTI	Regional Operations Group (ROG)	Technical Assistance (training, marketing support), Trade Promotion (participation ion fairs)
One Town One Product (OTOP) Next Gen	DTI	Regional Operations Group (ROG)	business advisory, education and training of entrepreneurs.
Negosyo Center (NGC)	DTI	Regional Operations Group (ROG)	Business advisory, education and training of entrepreneurs
Trade and Business Management Training Services	DTI	Philippine Trade Training Center (PTTC)	Business advisory, education and training of entrepreneurs
Sikat Pinoy National Trade Fair/National Food Fair/National Arts and Crafts Fair	DTI	Bureau of Domestic Trade Promotion (BDTP)	Grants, education and training of entrepreneurs
Market Access Program: Go Lokal!	DTI	Bureau of Domestic Trade Promotion (BDTP)	Education and training of entrepreneurs, public goods
Materials Research and Development Program	DTI	Design Center of the Philippines (DCP)	Early stage infrastructure and advisory: incubators and accelerators
New Design Graduates Training (NDGT) Program	DTI	Design Center of the Philippines (DCP)	Education and training of entrepreneurs
Product Specialist Program	DTI	Design Center of the Philippines (DCP)	Education and training of entrepreneurs
International Design Conference	DTI	Design Center of the Philippines (DCP)	Information systems and websites, Implementation of promotion and marketing campaigns; advisory for marketing

Design Week Philippines	DTI	Design Center of the Philippines (DCP)	Information systems and websites, Implementation of promotion and marketing campaigns; advisory for marketing
International trade fairs	DTI	Center for International Trade Expositions and Missions (CITEM)	Crowdsourcing
Domestic trade fairs	DTI	Center for International Trade Expositions and Missions (CITEM)	Crowdsourcing
Pondo sa Pagbabago at Pag-asenso (P3)	DTI	Small Business Guarantee & Finance Corp (SB Corp)	Loans and credit for SMEs
Wholesale Lending	DTI	Small Business Guarantee & Finance Corp (SB Corp)	Loans and credit for SMEs
Retail Lending	DTI	Small Business Guarantee & Finance Corp (SB Corp)	Loans and credit for SMEs
Industry Development Program - Comprehensive Automotive Resurgence Strategy (CARS)	DTI	Board of Investments (BOI)	Tax incentives - R&D, and Non-R&D innovation
Industry Development Program - Manufacturing Resurgence Program (MRP)	DTI	Board of Investments (BOI)	Tax incentives - R&D, and Non-R&D innovation
Investment Promotion Program	DTI	Board of Investments (BOI)	Tax incentives - R&D, and Non-R&D innovation
Technology Innovation for Commercialization (TECHNICOM)	DOST	Technology Application and Promotion Institute (TAPI)	Grants for R&D, and Technology Transfer Technical Assistance.
Technology Transfer and Commercialization through Venture Financing Program (VFP) and Invention-Based Enterprise Development (IBED) program - Phase II	DOST	Technology Application and Promotion Institute (TAPI)	Equity, advisory
Commercialization of Invention through Intellectual Property Rights Assistance Program (IPRAR)	DOST	Technology Application and Promotion Institute (TAPI)	Information, technical assistance

Invention/ Technology Develomment and Pre-commercialization support - Industry-Based Development Program (IBID)	DOST	Technology Application and Promotion Institute (TAPI)	Product prototypes
Promotion and Marketing Support through Institutional Support for Trade and Exhibitions of DOST Technologies and services (ISTE)	DOST	Technology Application and Promotion Institute (TAPI)	Grants
Small Enterprise Technology Upgrading Program (SETUP)	DOST	DOST Regional Offices	Grants, credit guarantees, business advisory and technology extension.
Food Innovation Center (FIC)	DOST	DOST Regional Offices	Business advisory, quality standards & research infrastructure
Enterprise Module (EM)	DOST	DOST Regional Offices	Business advisory, early stage infrastructure
Technology Business Incubator (TBI)	DOST	Philippine Council for Industry, Energy, and Emerging Technology Research and Development (PCIEERD)	Early stage infrastructure, advisory
Startup Nation Research Grant (SNRG)	DOST	Philippine Council for Industry, Energy, and Emerging Technology Research and Development (PCIEERD)	Grants, business advisory
Industrial technology R&D program	DOST	Industrial Technology Development Institute (ITDI)	R&D, qulity infrastructure
Textile and other textile-related R&D program	DOST	Philippine Textile Research Institute (PTRI)	Grants, early stage infrastructure, research infrastructure
DOST Academe Technology-Based Enterprise Development (DATBED) Assistance Program	DOST	Technology Application and Promotion Institute (TAPI)	Grants, business advisory, Education and training for entrepreneurship and SMEs
Collaborative R&D to leverage Philippine economy (CRADLE)	DOST	Office of the Undersecretary of Regional Operations	Grants, collaborative networks and cluster policy
Business Innovation through Science and Technology for Industry Program (BIST)	DOST	Office of the Undersecretary of Regional Operations	Product prototypes

S&T Program for Regional and Countryside Development	DOST	Office of the Secretary	not available
Industrial technology transfer program	DOST	Industrial Technology Development Institute (ITDI)	not available
Industrial technology technical services program	DOST	Industrial Technology Development Institute (ITDI)	Quality infrastructure
OneExpert	DOST	Office of the Undersecretary for R&D	Education and training of entrepreneurs, public goods
One-Stop Shop Laboratory For Global Competitiveness (OneLab)	DOST	Office of the Undersecretary for R&D	Quality infrastructure, public goods
S&T Scholarship Program	DOST	Science Education Institute (SEI)	Scholarship
STEM Secondary Education on Scholarship Basis Program	DOST	Philippine Science HIgh School (PSHS)	Scholarship
Strategic Science and Technology Program	DOST	Office of the Secretary	not available
National Industry, Energy and Emerging Technology Sectors R&D Program	DOST	Philippine Council for Industry, Energy, and Emerging Technology Research and Development (PCIEERD)	not available
Advanced S&T Transfer Program	DOST	Advanced Science and Technology Institute (ASTI)	R&D, Grants, early stage infrastructure, quality infrastructure
Advanced S&T R&D Program	DOST	Advanced Science and Technology Institute (ASTI)	R&D, Grants, early stage infrastructure, quality infrastructure
Metals Industry Research Program	DOST	Metals Industry Research and Development Center (MIRDC)	Research infrastructure
Forest Products R&D Program	DOST	Forest Products Research and Development Institute (FPRDI)	R&D, early stage infrastructure
Science & Technology Information Program	DOST	Science and Technology Information Institute (STII)	not available
S&T Recognition and Policy Advisory Program	DOST	National Academy of Science and Technology (NAST)	Policy advisory
Technology application and Invention Development Program	DOST	Technology Application and Promotion Institute (TAPI)	Technical Assistance
S&T Education Development Program	DOST	Science Education Institute (SEI)	not available
Food and Nutrition R&D program	DOST	Food and Nutrition Research Institute (FNRI)	R&D

Food and Nutrition technology and knowledge diffusion program	DOST	Food and Nutrition Research Institute (FNRI)	Quality infrastructure
STEM Promotion Program	DOST	Philippine Science HIgh School (PSHS)	not available
Metals Industry Technology Transfer Program	DOST	Metals Industry Research and Development Center (MIRDC)	Public procurement, business advisory, research infrastructure
Basic R&D Management Program	DOST	National Research Council of the Philippines (NRCP)	R&D, grants
Forest products S&T services program	DOST	Forest Products Research and Development Institute (FPRDI)	Quality infrastructure
Forest products technology transfer	DOST	Forest Products Research and Development Institute (FPRDI)	Public procurement, business advisory, research infrastructure
Textile S&T services program	DOST	Philippine Textile Research Institute (PTRI)	Quality infrastructure, education and training for entrepreneurship and SMEs
Textile Technology Transfer Program	DOST	Philippine Textile Research Institute (PTRI)	Grants
Policy development for S&T advisory	DOST	National Academy of Science and Technology (NAST)	Policy advisory

Annex 6: Agency Performance

DTI

Ripples, ICE and P3 showed strong practice in design:

- Integration with complementary instruments (credit guarantees) and beneficiaries in value chains (i.e. ICE), selection criteria, and monitoring systems by P3 and ICE,
- justification of origin, targeting of multiple stakeholders and articulation of results by RIPPLES, and ICE
- Justification and strong rationale (ICE)

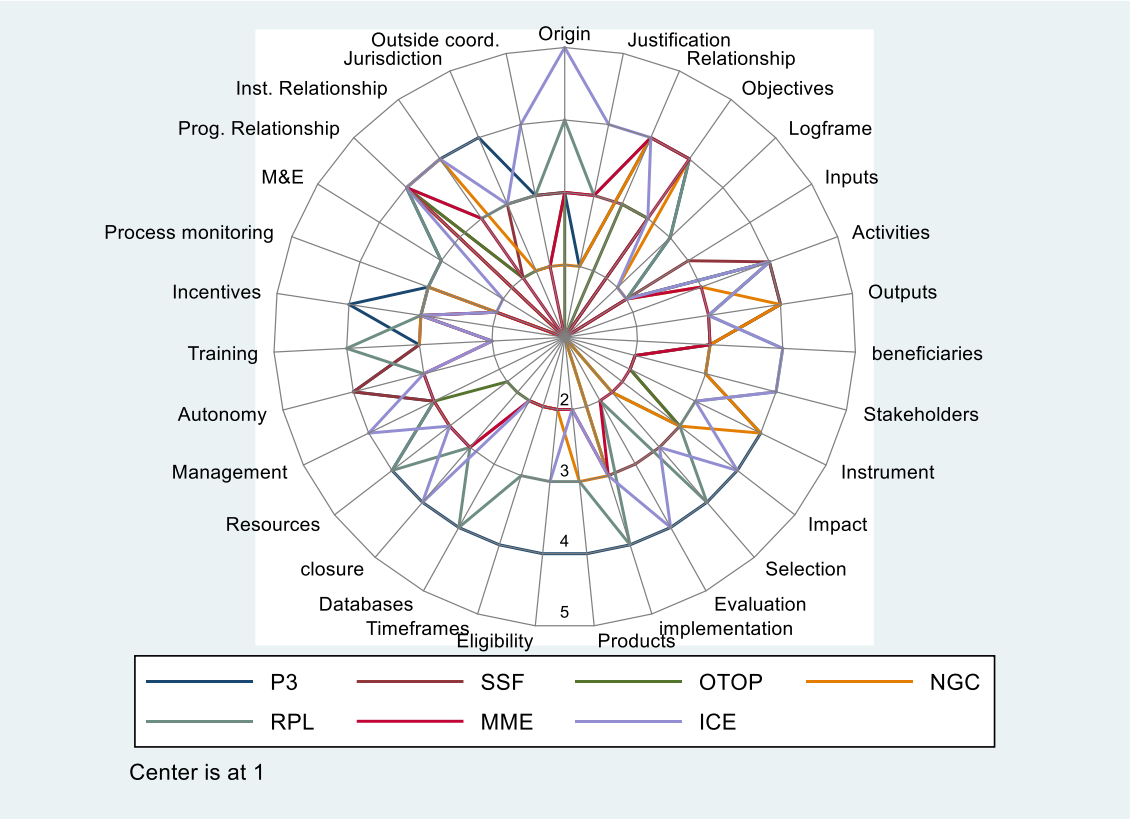
But we detected opportunities for improvement of design practices at DTI:

- Absence of a logical framework, MME, ICE and SSF
- Weak systems for monitoring: RIPPLES, Negosyo Centers,
- Poor justification: OTOP, P3
- Evaluation of alternative supporting mechanisms: SSF

Positive practices in implementation were found:

- Learning from implementation by P3,
- Selection of potential beneficiaries and application procedures by P3,
- Negosyo Centers showed good practice in selection of supporting mechanisms, and in integration
- Well-resourced program and management authority by P3, SSF and RIPPLES,
- Information management systems by RIPPLES
- Organizational management with regional partners, and good closure procedures by ICE.

Figure 1: Scores for DTI programs by functional dimension



Source: WBG, based on interviews and available documentation from DTI, and DoST.

And opportunities for improvement of implementation:

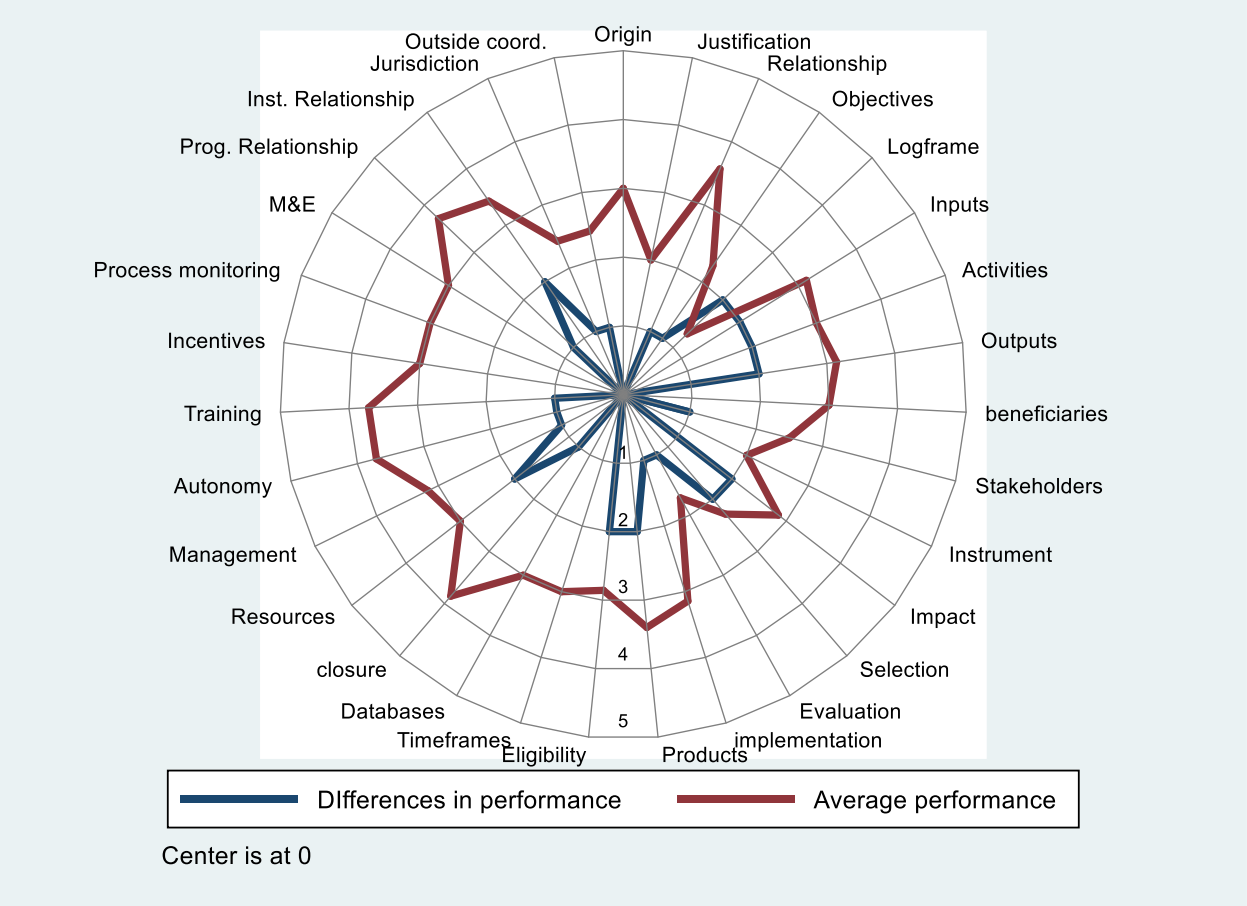
- Procedures for call for proposal at ICE, selection of potential applicants at MME, Negosyo, OTOP, SSF
- M&E and Information management systems at ICE and MME, RIPPLES, Negosyo, OTOP, SSF

Good practices for governance at DTI include:

- Committees that promote institutional coordination and address problems of implementation, and general communication among managers, for all programs, but also, we captured opportunities for improvement
- Lack of external awareness of potential factors that can negatively affect the performance of the project at MME, Negosyo, OTOP
- Absence of institutional relationship mechanisms at SSF

Finally, Figure 2 highlights the main implementation gaps and opportunities for internal learning in DTI

Figure 2: Design and implementation gap in DTI



Source: WBG, based on interviews and available documentation from DTI, and DoST.

DOST

A granular view into the DoST design practices showed:

- Good practices in the specificity of activities, deliverables, and outcomes
- Good alignment and coordination between the program and other initiatives (TECHNICOM, ENTERP)
- Use of some logical framework (FIC) that could be disseminated to other programs

And a few areas for improvement

- Absence of a logical framework in almost all instruments
- Weak mechanisms targeting and selecting beneficiaries and defining stakeholders
- Lack of consideration of alternative mechanisms to address the problem
- Absence of program rationale and justification
- Definition of objectives, and expected outcomes

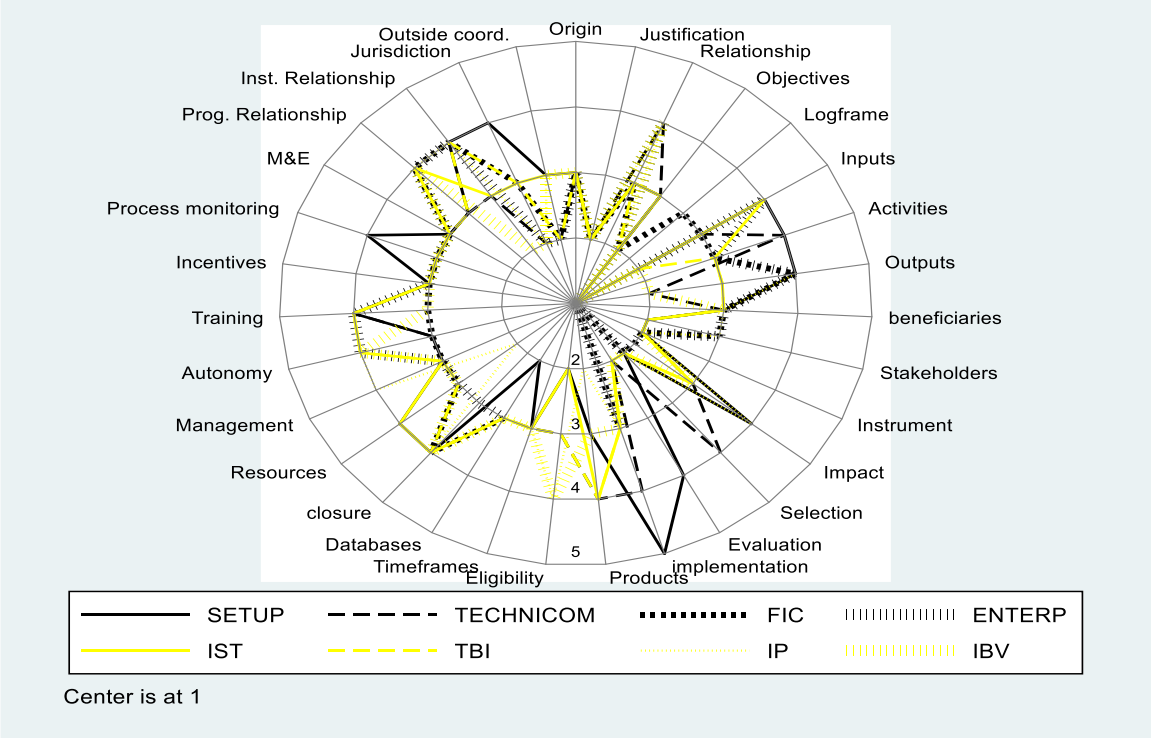
Implementation strengths:

- Learning mechanisms, including conferences to disseminate good practices closing procedures (SETUP, IFCs)
- Good coordination with regional teams (FICs)
- Autonomy given to its staff and its regional coordination (EM)
- Mechanisms for closure of support and follow up to beneficiaries (FICs, TCNM)

Opportunities for improving practices in implementation and governance were found in:

- Control of the M&E process (IFCs), and absence of a strong M&E system (EM)
- lack of external awareness of potential factors affecting the program performance (TNCM, FICs)

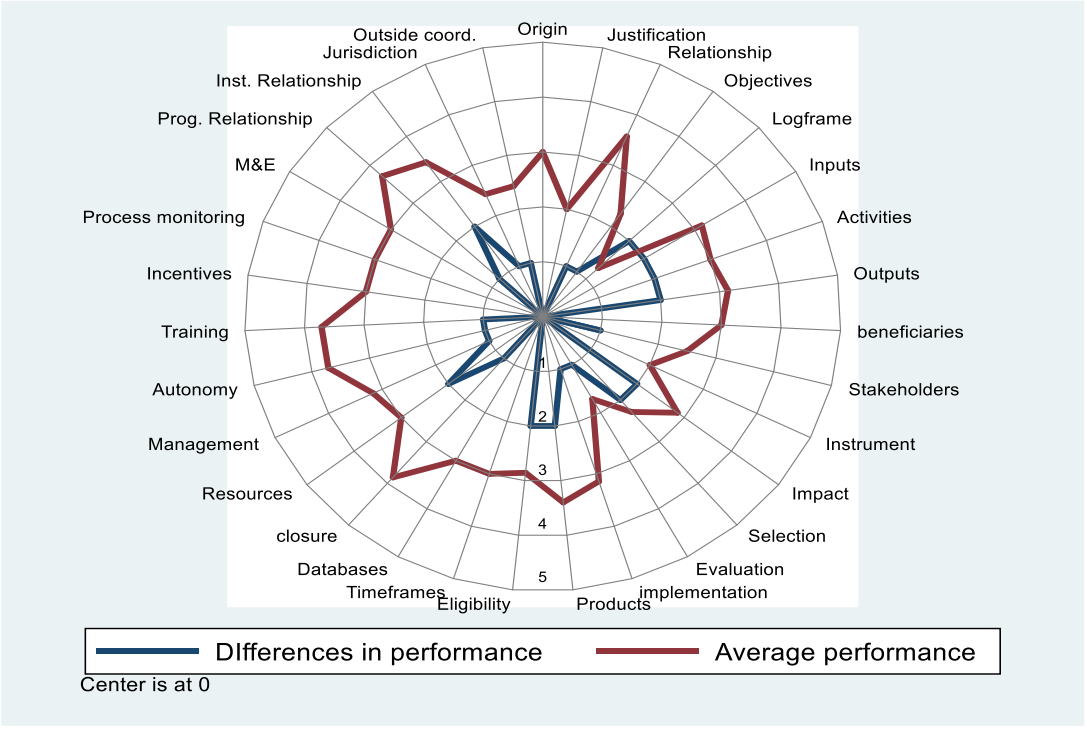
Figure 3: Scores for DoST programs by functional dimension



Source: WBG, based on interviews and available documentation from DTI, and DoST.

Finally Figure 4 shows the implementation gap within the institution. The blue line shows the difference between best and worst performer. Higher values correspond to elements where the potential to transfer good practices can be higher.

Figure 4: Implementation gap in DoST



Source: WBG, based on interviews and available documentation from DTI, and DoST.

Notes and References

[i] In supporting productive and innovative MSMEs, the GoP considers entrepreneurship as an important channel for infusing competitiveness. Entrepreneurship can be promoted through entry of new enterprises that are "growth-oriented" or "innovative" entrepreneurs or through competitiveness in existing MSMEs. The analysis in this report adopts the Government's approach. In legal terms, MSMEs are defined as in the Philippine as follow: "micro, small and medium enterprises (MSMEs) are defined as "as any business activity or enterprise engaged in industry, agribusiness and/or services, whether single proprietorship, cooperative, partnership or corporation whose total assets, inclusive of those arising from loans but exclusive of the land on which the particular business entity's office, plant and equipment are situated, must have value falling under the following categories: Micro enterprises are those with asset sizes of P3 million and below; Small enterprises have assets from P3,000,001 to P15 million; and Medium-sized enterprises, on the other hand, have assets in the range of P15,000,001 to P100 million" (Source: Republic Act 9501 –also known as the Magna Carta for MSMEs). The Philippine Statistical Authority (PSA), however, classifies MSMEs on employment basis where micro-enterprises have **1-9** employees; small enterprises have 10-99 employees; and medium enterprises have 100-199 employees. It is important to note that self-employed people are considered part of MSMEs as they are required to register as a firm to be able to issue receipts. This report relies primarily on PSA in analyzing MSMEs performance.

[ii] Refer to the GOP's *MSME Development Plan 2017-2022* as well as the overarching *Philippine Development Plan (PDP) 2017-2022.*

[iii] The MSME sector in the Philippines consists of 896,839 or 99.54% of the 900,914 total establishments in the country. These MSMEs generate a total of 4,784,870 jobs or 61.61% of the country's total employment (Philippine Statistics Authority).

[iv] The early stage entrepreneurship activity covers 42 months, starting from a "preconception" stage where an entrepreneur – between the age of 18-64 - intends to set up a business or pursue self-employment within the next 12 months, and a "nascent" entrepreneur in the "conception" stage who has started a business within the last 12 months. A firm's birth covers the first year of a business, and its maturity is said to be attained after three and a half years. (Global Entrepreneurship Monitor, GEM, 2015-16).

[v] Micro-enterprises constitute the largest portion (89.53%), followed by small enterprises (9.59%), and medium enterprises (0.43%). This composition is at par with those of MSME sectors in other ASEAN countries. Source: GOP (2018), *MSME Development Plan, 2017-2022.*

[vi] See Philippines GEM Report, 2015-16. Established businesses refer enterprises that have existed for more than 3.5 years, and effectively moved to a more mature stage of firm life cycle.

[vii] Domestic and external conditions combined with structural reforms helped boost growth. By 2016 the unemployment rate declined to 5.5 percent from 8 percent in the previous decade. Mirroring the economic growth, real per capita income growth averaged 4.6 percent during the period leading to significant poverty reduction and more inclusive growth.

[viii] This is reflected in the high underemployment in the Philippines - which remains at 18.3 percent - and has been stagnant at this relatively high level for over a decade despite the recent accelerated economic growth. The 2016 Occupational Wages Survey estimated that less than one quarter of wage workers earn middle-class wages (over 17,000 Philippine pesos or $325 per month), with some variation across sectors.

[ix] This section draws from the recently completed Growth and Productivity Report (2018) and the Country Private Sector Diagnostic (2019)

[x] World Bank Doing Business Entrepreneurship database, available at http://www.doingbusiness.org/data/exploretopics/entrepreneurship.

[xi] The success rate of start-ups in Manila are higher than elsewhere in the Philippines. For instance, the ecosystem in Manila is more mature and well-funded compared to Cebu. The overall ecosystem for start-ups needs strengthening at multiple fronts including early stage and venture capital financing, human capital, networks and mentoring systems, markets, infrastructure and cultural barriers to risk-taking. This information is based on data gathering, stakeholder consultation and site visits held in Manila and Cebu during the Scoping Mission for the Philippine SME Development ASA from December 11-16, 2017.

[xii] GEM comprises of 2 data elements in each economy i.e. (i) an entrepreneurial behavior and attitudes of *individuals* gathered through an adult population survey (administered to a min. of 2000 adult between ages of 18-64); and a National Experts Survey that seeks expert's opinion (administered to a min. of 36 experts) regarding the *institutional* or framework conditions. Together these elements is meant to allow GEM users to gain a deep understanding of the entrepreneurial environment.

[xiii] See Philippines GEM Report, 2015-16. Established businesses refer enterprises that have existed for more than 3.5 years, and effectively moved to a more mature stage of firm life cycle.

[xiv] These include Ideaspace, Wireless Wings, and Kickstart Ventures.

[xv] DICT (Final draft, August 2015). "The Philippine Roadmap for Digital Startups: 2015 and Beyond".

[xvi] The YES Philippines is an organization of young entrepreneurs that was established to educate, promote, encourage, network, and develop aspiring and successful entrepreneurs. Through a series of engagements with successful business owners and executives, learning events, mentorship, and networking opportunities, members of the society learn the crucial elements necessary to become successful entrepreneurs.

[xvii] QBO (pronounced kubo) is a partnership between tech startup accelerator Ideaspace, international grant-maker J.P. Morgan Chase Foundation, and the Philippines government's Department of Trade and Industry (DTI) and Department of Science and Technology (DOST), with the aim to help grow the startup ecosystem in the country through the establishment of a number of innovation hubs nationwide.
[xviii] See Startup Genome (2018). "Global Startup Ecosystem Report 2018". According to *Tholons Top 100 (2017*), only 100 startups are, arguably, noteworthy in the country.
[xix] See "*Off to a great start: The Philippine startup ecosystem"* (2017) which represents the first systematic attempt to understand the startup landscape in the Philippines. It is based on a startup survey of over 100 CEOs and founders. The report has been undertaken jointly by PWC, QBO Innovation Hub, DTI and DOST.
[xx] Startup Genome, (2018). "Global Startup Ecosystem Report 2018".
[xxi] Among others, these include Xurpas, Sulit and Chikka.
[xxii] Startup Genome (2018). "Global Startup Ecosystem Report 2018".
[xxiii] This framework is drawn from Cusolito and Maloney (2018).
[xxiv] These may include the policy environment for competition and private-sector investment; trade integration; spillover from FDI; access to finance and capital allocation; and education and skills quality and labor market regulations.
[xxv] This section draws heavily on the recently completed Philippines Growth and Productivity Report (June 2017). The report uses firm-level data from the Census of Philippine Business and Industry (CPBI), and the Annual survey of Philippine Business and Industry (ASPBI) that cover formal sector of the economy.
[xxvi] Philippines performance is compared to a select group of structural and regional peers. The structural peers include Sri Lanka, Pakistan, Morocco, Kenya and Bangladesh. The section below compares performance with respect to selected outcomes and outputs that underpin the demand for MSME policy. The selection of Philippines' regional peers is driven by geography and proximity, and include Vietnam, China, Indonesia, Malaysia and Thailand.
[xxvii] The Global Entrepreneurship Index (GEI) is a joint project of the Global Entrepreneurship Development Institute (GEDI) and the Global Entrepreneurship Network (GEN). The GEI is designed to profile "national systems of entrepreneurship," and provides information on the quality and scale of entrepreneurial attitudes, abilities, and aspirations in 130 countries. For details refer to http://thegedi.org/global-entrepreneurship-and-development-index
[xxviii] PWC, (2015). Doing Business and Investing in the Philippines, https://www.pwc.de/de/internationale-maerkte/assets/doing-business-and-investing-in-philippines-2015.pdf
[xxix] Interview with Ideaspace
[xxx] World Economic Forum (2017). Global Competiveness Index
[xxxi] Deloitte, (2016). Applying for government incentives in Singapore.
https://www2.deloitte.com/content/dam/Deloitte/sg/Documents/tax/sg-tax-applying-for-gov-incentives-in-singapore-noexp.pdf
xxxii The index measures the timeliness of deliveries, the quality of infrastructure assets, logistics quality and competence, and the ability to track and trace shipments.
[xxxiii] https://www.iras.gov.sg/irashome/Businesses/Companies/Learning-the-basics-of-Corporate-Income-Tax/Common-Tax-Reliefs-That-Help-Reduce-The-Tax-Bills/
[xxxiv] Aldaba, R. M. (2011), 'SMEs Access to Finance: Philippines', in Harvie, C., S. Oum, and D. Narjoko (eds.), Small and Medium Enterprises (SMEs) Access to Finance in Selected East Asian Economies. ERIA Research Project Report 2010-14, Jakarta: ERIA. pp.291-350.
[xxxv] World Bank, (2017). Global Findex.
[xxxvi] Startup Genome (2018). "Global Startup Ecosystem Report 2018".
[xxxvii] Golden Gate Ventures
[xxxviii] One of the most famous IPOs of a tech company in the Southeast Asian market remains to be Xurpas, a Philippine technology company that has created mobile products and services for the domestic market since 2001. (See: https://www.techinasia.com/xurpas-ipo-philippines)
[xxxix] PwC. 2017. "Off to a great start: The Philippine startup ecosystem". Available on online at http://www.pwc.com/ph/startup.
[xl] The index measures the attractiveness of countries for investors in the venture capital (VC) and private equity (PE) asset classes. It provides the most up-to-date aggregated information on the quality of the investment environment and an assessment of the ease of transaction-making in 125 countries. Refer to Groh A et al (2018).
[xli] World Bank Enterprise Survey (2017).
[xlii] Interviews with Endeavor and Ideaspace. One example is Edukasyon, an online platform empowering students to create more informed higher education decisions, through (1) a comprehensive database of 14,000+ colleges, 80,000+ courses and 4,000+ scholarships locally and abroad; (2) online career guidance to increase understanding on education pathways to their dream career; and (3) an online college application service. The two founders are both educated in the United States. It has received four rounds of pre-series A funding from VCs in the US (KSR Partners), France (French Partners), UK (Mustard Seed), and India (Villgro).
[xliii] Note: Human Capital (Are entrepreneurs highly educated, well trained in business and able to move freely in the labor market?); Startup skills (Does the population have the skills necessary to start a business based on their own perceptions and the availability of tertiary education?); Opportunity startups (Are entrepreneurs motivated by opportunity rather than necessity and does governance make the choice to be an entrepreneur easy?)

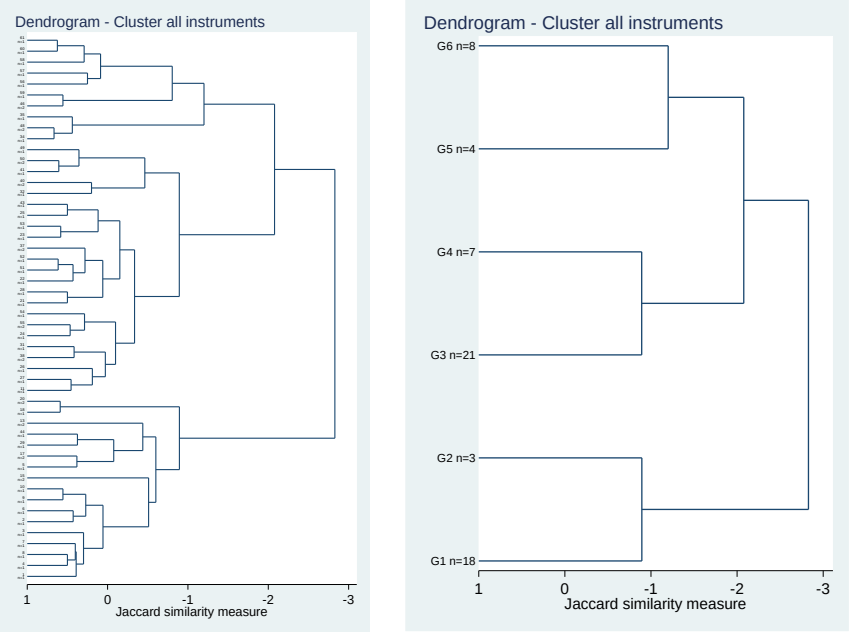
[xliv] See "*Off to a great start: The Philippine startup ecosystem"* (2017) which represents the first systematic attempt to understand the startup landscape in the Philippines. It is based on a startup survey of over 100 CEOs and founders. The report has been undertaken jointly by PWC, QBO Innovation Hub, DTI and DOST.
[xlv] DOST, (2015). Statistics, Science and Technology.
[xlvi] International Telecommunications Union, (2017). Global ICT Index
[xlvii] Interviews with Stratpoint and Ideaytech.
[xlviii] Interview with Endeavor
[xlix] UN Economic and Social Commission for Asia and the Pacific, (2017). Asia-Pacific Countries with Special Needs Development Report
[l] Speedtest, (2017). Global Broadband Index
[li] MEDEF, (2017)
[lii] This refers to digital payments that can facilitate the business of the majority of digital startups and traditional entrepreneurs going through the process of digitizing their businesses.
[liii] MasterCard Worldwide, (2016). Mobile Payments Readiness Index
[liv] The MasterCard Mobile Payments Readiness Index is a data-driven, quantitative survey of the global mobile payments landscape. Scores are derived from an algorithm comprised of over 50 inputs, including economic data, demographic data, telecommunications data, payments industry data, and proprietary consumer research.
[lv] DTI, (2016). The Startup Ecosystem Development Program
[lvi] See Innovation Paradox, World Bank (2017). The National Innovation System (NIS) frames the scope of innovation policies and institutions to a wider view of markets, institutions, and individuals and the links among them. On the demand side, it helps identify the key constraints faced by enterprises – i.e. existing firms and new/start-ups while on the supply side it shall review the research sector (GRIs and universities), business development services. Innovation infrastructure includes a country's accumulated knowledge stock and talent pool; national investment and policy priorities -- such as higher education spending and intellectual property protection; the availability of information technology infrastructure; and openness to competition, which will exert a cross-cutting impact on innovation across sectors.
[lvii] This draws on the Mid-term Evaluation of the 2011-2016 MSMED (Jan. 2014) and empirical literature and interviews with stakeholders held during 2018 mission.
[lviii]This report uses the term "early stage entrepreneurs" and "start-ups" interchangeably, and clearly differentiates them from conventional SMEs or livelihood focused microenterprises that do not promote innovative products/processes or business models.
[lix] In line with the Government's priorities, the overall Programmatic MSME ASA focuses on both existing innovative firms as well as new firms. The latter is the focus of this note while the former is being covered under the productivity note. It is worth emphasizing that the approach to study new and early stage entrepreneurship versus entrepreneurship in existing firms is driven primarily due to different data and methodology.
[lx] For Colombia, see Eslava and Haltiwanger, 2015. Census data for Moroccan, Tunisian and Ethiopian firms, also indicates that startups and large firms account for the bulk of net job creation (Freund 2011)**.** New research by the World Bank (2018), focusing on a select group of 11 developing countries across the globe, supports the earlier findings that high growth episodes tend to be drawn from a younger population of firms *vis a vis* an average firm but they are not necessarily small. Moreover, these can be found across sectors and are not necessarily more common in high-tech industries.
[lxi] The emerging technologies cover robotics, 3 D printing, artificial intelligence (AI) and machine learning), the Internet of things, cloud computing and cognitive computing. Together the new and existing technologies can catalyze systems new systems in distribution and procurement, new systems in the development of products and services, among other things.
[lxii] To support these goals, a Startup Ecosystem Development program 2016-2021 has been rolled out, and a new Innovative Startup Act has been recently approved. Details are discussed under section 4.
[lxiii] Schoar (2009) defines *"*necessity" (or subsistence) entrepreneur is someone who engages in entrepreneurial activity primarily as a means of providing subsistence income to himself/herself. Subsistence entrepreneurs typically do not aspire to grow the business to the point of creating employment opportunities for workers outside of their immediate family. On the other hand, "innovative" (i.e. "growth" or "transformational" or "opportunity") entrepreneur is one who aims to create large, vibrant business that grows much beyond the scope of an individual's subsistence needs and provide jobs and income for others.
[lxiv] For this report when referring to startups, we subsume pre-seed and seed stages. Pre-seed starts from the point of inception when an initial product or idea is developed (i.e. idea stage) to the point where a product demonstrating basic design features is developed (also called "minimum via product). At the seed stage, startup funding is sought by marketing and selling of products to potential funders.
[lxv] For instance, accessing finance at the start-up stage is much more challenging than at the mature/established stage. Unlike the latter stage, specifications of an innovative product at start-up stage are not very visible to the financers. Private sector financers are thus more reluctant to invest in startups which may be on the ideation/pre-seed and seed stages and thus may have yet to prove that their products or services work.
[lxvi] For example, incubation services may support the creation of start-ups, but they address neither the post-entry growth barriers nor the market impediments facing established SMEs, such as family businesses. In addition, sectoral differences may also play a role.

[lxvii] Aside from asymmetric information being the highest in the earliest stages, it is typically presumed that externalities are higher in earlier stages than in later stages of the innovation process, when in principle firms are better able to capture the benefits from their innovation. Both types of market failures are used as justification for Government intervention.
[lxviii] This is due the possibility of others copying their ideas and creating spillovers.
[lxix] This draws on the framework from Cusolito and Maloney (2018). External factors are generally deemed outside the control of the individual firm while internal factors are considered within the control of the firm. Nonetheless, this categorization has limitation as the internal factors – e.g. human capital and innovation needs - may also be affected by the external environment. It is worth emphasizing that external and internal factors to the firm that affect productivity, innovation, and entrepreneurship performance are interlinked and also affect each other.
[lxx] Mason C. and Brown R. 2014.
[lxxi]There may also be non-governmental organizations - such as small-business associations and private foundation grants - that offer advice and mentoring to entrepreneurs (e.g. through entrepreneurship centers or websites). Multilateral and bilateral development partners also support entrepreneurial programs.
[lxxii] http://www.senate.gov.ph/press_release/2018/0516_prib3.asp
[lxxiii] Implementation is always decentralized, but in many cases is done by subnational offices of the same agency or there is a tight direct control from the central agency that ensures that implementation follows all the procedures, and more importantly is responsible for the quality of implementation.
[lxxiv] Senate of the Philippines, (2018). Senate approves Innovative Startup Act
http://www.senate.gov.ph/press_release/2018/0516_prib3.asp
[lxxv] Under the bill, the benefits will include: (1) waived application fees; (2) Refund of fees for the permits and certificates; and (3) Expedited processing of permits and certificates. Other benefits include research and development grants, exemption from fees and charges, exemption from fees and charges levied by the national government agencies for the use of equipment, facilities, or services availed by the innovative startup, access to applicable benefits and incentives provided by the Intellectual Property of the Philippines; and Subsidy for Visa application, renewal, or extension of foreign owners, employees, and/or investors of an innovative startup and support service provider, and exemption from the alien employment permit.
[lxxvi] http://www.tradelinephilippines.dti.gov.ph/web/tradeline-portal/startup-ecosystem-development-program-sedp-
[lxxvii] Isenberg, D. (2010)
[lxxviii] Spigel, B., Stam, E., (2016). "*Entrepreneurial Ecosystems*." Utrecht School of Economics, Tjalling C. Koopmans Research Institute, Discussion Paper Series 16-13.

Annex 7: Dendrograms for firm innovation and SME development programs groupings in 2017

A note on the hierarchical clustering exercise that we conducted. In the chart below, the horizontal axis of the dendrogram represents the distance or dissimilarity between clusters. At the same time, the vertical axis represents the programs and clusters. Considering the need to visualize the similarity, each fusion of two clusters is represented on the graph by the splitting of a horizontal line into two horizontal lines. The horizontal position of the split, shown by the short vertical bar, gives the distance (dissimilarity) between the two clusters (NCSS manual, 2014). The figure on the left side shows the clustering for all the programs in the sample. The graph on the right shows the cluster groups that we used for comparing the scope of the programs, and assessing redundancies.

Grouping of programs based on similarity of scope



Source: Authors calculations based on various DTI and DoST sources, interviews with representatives of program management units, and implementing agencies.