



Business Practice Intervention Survey (Descriptive Report)

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Business Practice Intervention Survey

(Descriptive Report)

Central Statistical Organization
Ministry of Planning, Finance and Industry

and

UNU-WIDER



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Foreword

This 'Business Practice Intervention Survey (Descriptive Report)' provides an analysis of Myanmar's manufacturing sector, which comes as a result of the third visit to our panel of many hundreds of firms across 14 States and Regions including Nay Pyi Taw Union Territory . The Central Statistical Organization (CSO), under the Ministry of Planning, Finance and Industry (MoPFI) has implemented the so-called Myanmar Enterprise Monitoring System (MEMS). In addition to contextualization of this body of research into the wider programme, this report describes recent changes related to firm size, the items manufactured, profit, output, investment, employment and management practices.

MEMS is a four-year study that has been funded by the Government of Denmark which has benefitted from the technical guidance offered by the United Nations University World Institute for Development Economics Research (UNU-WIDER) and the Development Economics Research Group (DERG) of the University of Copenhagen. In addition to the nationally representative quantitative study of almost 2,500 firms and 6,000 employees undertaken in 2017 and 2019, the 2020 experimental study investigating the impact of a Business Practice Intervention (BPI) has generated a clear understanding of the on-going change experienced by approximately 1,800 businesses on which this report focuses.

This continued collaboration creates a unique opportunity to generate and share current information on a sector that is integral to both Myanmar's economy and its prospects of sustainable economic development. The growing authority of the MEMS programme to provide timely insights, and the integral role played by the Central Statistical Organization of the Ministry of Planning Finance and Industry, is truly helping stakeholders to engage in the shared aspiration of developing a manufacturing sector to an internationally competitive standard.

The professionalism and diligence of CSO representatives, especially those working in the Industry, Mining and Energy Section has substantially supported the rapid dissemination of the information shared in this report. As with previous MEMS reports, I am optimistic that this report will benefit the work of policymakers, planners, investors and researchers in enhancing the prosperity of Myanmar and the wellbeing of its citizens.

His Excellency U Soe Win
Union Minister
Ministry of Planning, Finance and Industry



Foreword

Denmark's relationship with the Government of the Republic of the Union of Myanmar (GoM) is formalised in the 2016-2020 Country Programme. Over the past four years, this has focused on sustainable economic growth that back up the 2030 Sustainable Development Goals (SDGs). Our collaboration in Myanmar specifically contributes to this objective through Sustainable Coastal Fisheries (the SCF), the Responsible Business Fund (RBF) and the Myanmar Enterprise Monitoring System (the MEMS).

MEMS stands on 'four pillars', which comprise both quantitative, qualitative and experimental research. Research and analysis that is relevant to policy-making in the Myanmar context, communicating clearly both findings and policy recommendations and building the capacity of partners to generate specific, targeted and purposeful research. The ongoing transition of the Myanmar economy offers substantial opportunities for the people of Myanmar; however, the foundation for this is an enabling business environment in which sustainable businesses can increasingly operate in an environment of confidence based on data and evidence. To this end, the growing confidence and authority of the Central Statistical Organization to provide evidence-based research is key for successful policymaking.

Since the development of the first nationally representative study of the manufacturing sector in 2017, and the development of the robust panel in 2019, stakeholders from national and international agencies, within both the public and private sectors, have used the MEMS to get a better understanding of the business environment within this sector. As Myanmar prepares to move on economically from the COVID-19 pandemic, this additional report, in the face of such an unprecedented global challenge, offers important insights at a pivotal time.

I would like to recognize the diligence and commitment of the Central Statistical Organization (CSO) under the Ministry of Planning, Finance and Industry (MoPFI). I also take the opportunity to thank UNU-WIDER and researchers from the Development Economics Research Group (DERG) of the University of Copenhagen, whose technical support and commitment to capacity building has been at the heart of the project. The Embassy of Denmark in Myanmar hopes that this report will be used to get a better understanding of the Myanmar economy and also provide a basis for future policy initiatives.

His Excellency John Nielsen
Ambassador



Acknowledgements

High-quality statistical reporting has always been important and the Central Statistical Organization's (CSO) commitment to obtaining and disseminating accurate and relevant data is key to effective policy-making and trust in the economic and commercial environments. The most recent statistics law, enacted in January 2018, and the National Strategy for the Development of Statistics (NSDS), have provided the guiding principles for ensuring robust official statistics pertaining to Myanmar in the public domain. The rigorous, transparent and contemporary methods of data collection, management and dissemination can give interested parties the confidence in decision-making.

It is widely agreed that the manufacturing sector is the backbone of economy. More broadly, developing the private sector is essential during this period of economic change. For this reason, CSO is proud to fulfil its commitment to publish policy-relevant data in a timely way. This report offers additional insights on the most pertinent issues. Without doubt, at a time of global uncertainty, this supplementary report answers many questions related to changes to firm size, items manufactured, profits, output, investment, the labour force and management practices.

I would like to thank the many professionals who have been committed to the MEMS in both the nationally representative quantitative studies in 2017 and 2019 and, more recently, the experimental Business Intervention Study from which this report's data is drawn. The CSO acknowledges with gratitude the financial support from the Government of Denmark and the technical support from researchers of UNU-WIDER and the Development Economics Research Group (DERG) of the University of Copenhagen. I also offer my thanks to business owners and managers from the 2,068 firms, who gave valuable time in the gathering of data this year.

Htun Zaw
Director General
Central Statistical Organization
Ministry of Planning, Finance and Industry

Contents

Foreword	i
Foreword.....	ii
Acknowledgements	iii
List of Tables.....	v
List of Figures	v
Acronyms and Abbreviations	vi
Executive Summary	vii
1. Introduction	1
2. The Changing Face of Myanmar’s Manufacturing Sector	2
3. Methods.....	4
4. Insights from the 2020 Survey	7
4.1. Firm Size in 2019 and 2020.....	7
4.2. Products Manufactured	8
4.3. Initial Insights into Profits	9
4.4. Total Output	11
4.5. Investment.....	13
4.6. Employment.....	15
4.7. Management Practices	18
5. Conclusion.....	21
6. References.....	23

List of Tables

Table 1: Interviewed Firms by State and Region	6
Table 2: Firm Size by World Bank Definitions.....	8
Table 3: Production Output by Sector.....	9
Table 4: Annual Real Profit per Employee by Sector	10
Table 5: Profit per Employee by Firm Size	11
Table 6: Growth in Output (between 2019 and 2020) – By Region	12
Table 7: Growth in Output (between 2019 and 2020) – By Agglomerated Sector	13
Table 8: Types of Investment Undertaken	14
Table 9: Labour Force Composition across Firm Size Categories.....	15
Table 10: Stability of the Labour Force across Firm Size Categories 2019-2020	17
Table 11: Real Monthly Wages in Myanmar Kyat (MMK) for Permanent Full-time Production Workers by Firm Size Category.....	17
Table 12: Real Monthly Wages in Myanmar Kyat (MMK) for Permanent Full-time Workers by Industrial Sector.....	18
Table 13: Total Number of Management Practices Implemented by Firm Size.....	20

List of Figures

Figure 1: Share of Female Workers across Industrial Sectors	16
Figure 2: Share of Unpaid Family Labour across Firm Size Categories	16
Figure 3: Total Number of Management Practices Implemented.....	19

Acronyms and Abbreviations

BPIS	Business Practice Intervention Survey
CAPI	Computer Assisted Personal Interviewing
CSO	Central Statistical Organization
DERG	Development Economics Research Group
DICA	Directorate of Investment and Company Administration
DISI	Directorate of Industrial Supervision and Inspection
GoM	The Government of the Republic of the Union of Myanmar
MEMS	Myanmar Enterprise Monitoring System
MMK	Myanmar Kyat
MoPFI	Ministry of Planning, Finance and Industry
NSDS	National Strategy for the Development of Statistics
RBF	Responsible Business Fund
SCF	Sustainable Coastal Fisheries
SDGs	Sustainable Development Goals
SSID	Small-Scale Industries Department
UNU-WIDER	United Nations University World Institute for Development Economics Research
USD	United States Dollar

Executive Summary

Myanmar's manufacturing sector is at the heart of the country's commercial landscape. From garment production for the international market to diverse food, furniture, gemstones and metal provision, the more than 70,000 Micro, Small and Medium firms, employing hundreds of thousands of people, continue to be the focus of substantial economic policy. As Myanmar transitions to an increasingly connected market economy, efforts to sustain high-quality employment, garner capital investment and be at the forefront of innovation are increasingly important. Through the Myanmar Enterprise Monitoring System (MEMS), we have an increasingly deep knowledge of the Myanmar manufacturing sector, which is pertinent for making fact-based and timely decisions. This report comes one year after the second nationally representative quantitative study and seeks to provide an interim assessment of the rapidly changing industrial landscape. The commentary follows challenging natural disasters during the rainy season of 2019 and a period of internal conflict in the States of Kachin, Rakhine and Shan but captures information just before the onset of the COVID-19 pandemic, which forced large parts of the country into lockdown during March of 2020.

A key component of the 'Towards Inclusive Development in Myanmar' is a commitment to experimental research. Ahead of the 2019 survey, we implemented a randomized intervention on business practices. About a half of all firms that participated in the 2017 study received a simple letter thanking them for participation, whilst the remaining firms received written guidance on how to improve their productivity and profitability. Enumerators returned to determine engagement with this intervention and took time to learn more about how firms have changed in size, the products they manufactured, changes to profit and output, recent investment, employment issues and practices that business owners and managers regularly undertake.

Experienced enumerators of the Central Statistical Organization (CSO) under the Ministry of Planning, Finance and Industry gathered the data in February and March 2020. The participating firms had all contributed to both the 2017 and 2019 studies, but travel restrictions prevented enumerators from engaging with firms in the Rakhine State. Some firms in Yangon had temporarily closed due to the earliest cases of the novel coronavirus. Accordingly, enterprises in a total of 14 States and Regions including Nay Pyi Taw Union Territory, operating in 33 of the 35 previously selected townships, contributed to the study. In total, some 2,068 of the MEMS panel of enterprises gave commentary, for which an analysis of 1,811 firms could be undertaken.

There have undeniably been some success stories at the individual level, though for our sample of firms, the period between 2019 and 2020 was not an overtly positive period considering output

and profitability, with a majority of firms reporting reductions in these measures. Based on a firm's main product, we separated enterprises into the eight key sectors defined in the 2019 study. On average, real annual profits declined across seven of these sectors to a varying extent. This decline is associated with a reduction in output, affected by two main factors: a transition to service provision for a minority of revenue and comparably cheaper international imports.

Almost two thirds of firms producing 'textiles, apparel and leather' items recorded a reduction in output. This is of real concern given Myanmar's reliance on this particular area of production for participation in the international supply chains for the garment sector. This is likely to be an important area of focus moving out of the COVID-19 pandemic.

Only around one in every five firms claims to have invested within the six months preceding the study. Around a half of these firms accounted for bulk purchases of stock or raw material in this measure, with only 10.4 per cent of enterprises making capital or process-related investments between September 2019 and March 2020. Compared to a year earlier, this is a reasonably large reduction, likely explained in part by the challenging trading environment.

CSO and UNU-WIDER (2020) reported instability in the labour market be a concern. Whilst small and medium firms have substantially reduced the proportion of employees leaving compared to 2019, there has not been much improvement amongst micro firms, and this is an area of concern going forward. In our sample, real wages fell for workers in all sectors other than rice mills, electronics and coke, chemicals, rubber and minerals. In other sectors the decrease varied from 1.8 (food, beverages and tobacco) to 16.6 per cent (wood, paper and printing). Wages declined, on average, for those working in micro and medium firms by 6-7 per cent, whilst those employed by small firms saw wages increase by 10 per cent.

We draw on McKenzie and Woodruff (2016), who refer to a number of universally important management practices. Of the 20 practices across four categories on which we focus, about 20 per cent of firms from our sample implement either zero or just one technique. On average, firms implemented more strategies related to buying and stock control techniques, but practiced other strategies less commonly. Medium firms implemented two times as many strategies, with an average of 88 per cent of financial planning techniques, which were undertaken less by smaller firms. As Myanmar looks ahead to be competitive on the global stage, a lack of interaction with often easily implementable and cheap strategies is a cause for some concern.

1. Introduction

The pace of change in Myanmar shows no sign of abating. Since its partial democratization and initiation of broad political and economic reforms in 2011, the government has made substantial efforts to develop an economy that is competitive, vibrant and successful against other Southeast Asian counterparts. Integral to its success is the effective and sustainable growth of the manufacturing sector.

Funded by the Danish Government, Danida, and supported technically by the University of Copenhagen's Development Economics Research Group (DERG) and UNU-WIDER, the Myanmar Enterprise Monitoring System (MEMS) is an international collaboration with the Central Statistical Organization (CSO) of Myanmar. Since the first publication of *The Myanmar Micro, Small and Medium Enterprise Survey – 2017* (see CSO and UNU-WIDER, 2018), enumerators visited a panel of manufacturing firms across the country on two subsequent occasions. The report's second edition was published in 2020 (see CSO and UNU-WIDER, 2020) and began to tell the story of how businesses have been changing and adapting to the new commercial environment.

Ahead of the 2019 survey, a randomized intervention on business practices was implemented; one half of business owners from the 2017 study received a placebo letter thanking them for their participation and the remaining half received written guidance on ways to increase profitability and productivity within their business setting. In February and March 2020, we gathered complete data from 1,811 of these businesses to come to grips with the impact of the intervention.

The survey provided rich data on business performance in many of the areas of our previous full surveys and came approximately one year after our last visit. This generates the opportunity to provide commentary on the changing face of the manufacturing sector in Myanmar, against a backdrop of ongoing internal conflict in the states of Kachin, Rakhine and Shan, the substantial impact of natural disasters and a challenging economic environment. It captures data predominantly for the 2019 calendar year and provides an opportunity to reflect on the situation ahead of the likely ramifications of the COVID-19 pandemic.

The purpose of this interim report, written in addition to the focused study on the business-practice intervention, is to paint an updated picture of the fast-changing manufacturing

sector in Myanmar over the period when the randomized trial took place. In doing so, the report offers insights that are important in interpreting the results of the intervention. In the next section, the report will contextualize the analysis in the broader MEMS framework by considering key findings from the previous wave of the survey (2019). Section 3 will describe the methodological approach. Section 4 will present the new results based on the latest survey wave (2020) and Section 5 concludes.

The report reaches a number of important conclusions about the changing face of the manufacturing sector in Myanmar:

- More than 56 per cent of businesses reported lower real annual profits per employee in 2020 when compared to the 2019 survey, which is an issue affecting mainly micro and small businesses. The main explanation is a decline in output reported in the 2020 survey compared to one year earlier by more than a half of firms participating in the study.
- There was a disproportionate decline in output in a number of areas, namely ‘textiles, apparel and leather’, ‘wood, paper and printing’ and ‘electrical equipment, machinery and motor vehicles’.
- Just over a fifth of firms reported investments in the six months before the 2020 survey, and around a half of these investments were associated with bulk orders of raw materials.
- The mean number of workers per firm and real salaries declined across six of the areas of manufacturing defined in this report.
- The average firm implemented fewer than seven of twenty measured management practices, with medium-sized firms implementing almost twice as many techniques as micro firms.

2. The Changing Face of Myanmar’s Manufacturing Sector

Before presenting the findings of the 2020 survey in Section 3, the purpose of this section is to provide context surrounding our previous findings. CSO and UNU-WIDER (2020) provided commentary on the changes between 2017 and 2019 in five key areas.

Over the relatively short period between 2017 and 2019, the landscape of the manufacturing sector of Myanmar changed in a number of crucial ways. As reported in CSO and UNU-WIDER (2020), the second full quantitative survey, undertaken in 2019, recorded an overall

more productive sector between 2017 and 2019. Irrespective of size, firms were deepening their capital intensity and simultaneously increasing full-time employment. However, this was particularly true for firms employing at least 50 people.

Over the two-year period, there were some, generally limited, changes in labour productivity. This was, however, reasonably context specific and was heavily dependent on the location, firm size and main product of production. A cornerstone of the country's industrial policy was its investment in industrial zones, though we found no evidence that there was higher labour productivity in these designated commercial areas. That said employment levels grew in micro and small firms operating out of one of the industrial zones.

Between 2017 and 2019, micro and small firms were still heavily reliant on local suppliers and consumers. There were some positive changes among medium and large firms, which certainly sourced more raw materials at the national level and there was some evidence of increasing demand for supplies across international borders.

The majority of output of our panel of firms was of finished goods, with around 20 per cent sold as an intermediary product. This implies that there has been little success in establishing international value chains. Such connections are pertinent for the sector in terms of knowledge transfer, which was seen to be occurring only in a limited number of cases, with the most notable exception being that of the garment sector, where fabrics are provided to clothing manufacturers in reasonably large quantity.

In 2019, the number of firms investing in their business had decreased, but an increase in the size of investment from those firms choosing to do so meant that overall levels remained broadly the same. The focus of investment decisions changed somewhat with firms reporting a greater commitment to increase capacity, which compares to a larger proportion of firms seeking to improve quality in 2017. Pertinently, only the firms that were comparatively productive were choosing to invest in large numbers. This interesting phenomenon justifies careful analysis of widening gaps in future studies.

An area of contention amongst business owners was a lack of access to credit; paired with a reduction in the number of businesses borrowing from formal sources. Although the amount of money remained limited in nominal terms, it increased by around a half when comparing across the two phases of the study. The report's statistical analysis of the potential impact of making credit more broadly available suggests an increase of less than 15 per cent. This

implies the need for an innovative response from policy makers to ensure that businesses develop in a way that makes them more competitive within the regional and global context.

Both gross and net labour turnover are high, implying that there is substantial worker stability or job security. Depending on perspective, this may or may not be a concern. A substantial proportion of micro firms employed unpaid family labour, whilst women mainly find employment in medium and large firms. For many reasons, there are domestic economic migrants; the majority were women who moved to Yangon for employment in one of the city's many factories.

Although we reported an increase in real wages between 2017 and 2019, we did note that wages were likely to be higher in larger firms. Compared to other countries in the region, Myanmar showed poor returns to education in the manufacturing sector, with a decline in returns for the most educated people between 2017 and 2019. However, those with high school degrees were still likely to earn more. Wages of women employees were 22 per cent lower than wages of men employees in 2019, irrespective of their education or experience.

Concerns amongst owners changed over the two phases of the study. Whilst the biggest concern was a lack of access to credit in 2017, more business owners in 2019 were cognizant of higher levels of competition and reported a much lower appetite to invest or expand. We concluded that this was likely a reflection of the tough macroeconomic environment and is a factor that requires further consideration if the sector is to remain competitive in the longer term.

3. Methods

Enumerators collected data for the present report during February and March 2020 as compared to June and July 2017 and May and June 2019. As this study also provided data for a secondary study into the intervention on business practices, we only targeted businesses that had participated in both of the previous rounds of data collection.

In previous rounds of the study, we visited firms in all 14 of the country's states and regions, in addition to the Nay Pyi Taw Union Territory. We randomly selected some 35 townships at the outset of the project. Moreover, we also chose registered firms from each of those locations at random from a frame list made up of all firms registered with one or more of the formal authorities: The Directorate of Investment and Company Administration (DICA), The Directorate of Industrial Supervision and Inspection (DISI), the Small Scale Industrial

Department (SSID) or the respective municipal office. We used the Myanmar Standard Industrial Classification (MSIC) codes to classify output. Only firms producing items in the MSIC 2-digit codes 10-33 were eligible for selection.

The 2,496 firms selected originally were statistically representative of the 71,000 or so manufacturing firms operating in the country. Replacements were included for those firms that exited the study between 2017 and 2019 for the 2019 round of data gathering. However, we do not target these so-called replacement firms, of which there were 229, for this round of the study on the basis that they had not received the intervention document, as described in Section 1 of this report.

Compared to previous rounds of data collection, it was not possible to visit firms operating in either Rakhine State where instability made the gathering of data unsuitable. Some 78 formal firms received the intervention after participation in 2017, but received no visit in 2020. Additionally, the COVID-19 pandemic had a substantial impact on operations in Yangon, where severe restrictions hampered the data gathering process. The lockdown in some of the city's industrial zones and other residential areas led to the exclusion of 63 firms. This is undeniably an important change as more than 15 per cent of all firms interviewed in 2019 were located in Yangon; in 2020, they represented a little under 12 per cent of the full sample.

Of the 2,068 firms visited, 167 were no longer valid for investigation. Ten firms now undertake resale and do not derive at least 50 per cent of revenue from manufacturing, 83 obtain more than a half of their turnover from services, 28 were temporarily closed, eight refused to participate and 38 are no longer in business. From these 1,901 firms, we dropped 90 due to incompleteness, leaving 1,811 firms for the analysis.

Table 1 shows the geographic distribution of these firms across the States and Regions. Pertinently, our commentary refers to the firms visited and this report does not claim to be statistically representative of all firms operating in the sector. On issues pertaining to profits (see **Table 4** and **Table 5**), we removed the top and bottom 1 per cent of values for calculations and commentary is provided on 1,739 firms across all eight sectors and three size categories.

Researchers in Copenhagen prepared the one-module survey in collaboration with CSO counterparts in Nay Pyi Taw. We separated it into 10 sections asking questions related to business information, owner information, sales structure, production quantity and pricing,

revenue and costs, assets, investments, labour issues, business management practices and the intervention on business practices. We will explore the last of these components separately in a paper focused on the issue. All questions relate to the 2019 calendar year with the exception of assets the business currently owned, investments that took place in the six months immediately before and business management practices undertaken in the previous three months. This reflects the way enumerators asked questions in the two previous surveys.

As with the previous study, we used a Computer Assisted Personal Interviewing (CAPI) technique, with the survey loaded on Android tablets through the KoBo Toolbox software. Unlike in the previous round, all enumerators (not just supervisors) participated in six days of training in Myanmar delivered by three researchers from the University of Copenhagen. The training included a one-day survey trial including enterprises outside of the sample in a township in Mandalay Region. Following the trial, we edited the survey instrument for final implementation.

Table 1: Interviewed Firms by State and Region

State/Region	Number of Firms Interviewed in 2020	Percentage of 2020 Sample	Number of Firms Interviewed in 2019	Percentage of 2019 Sample	Percentage of 2019 Sample Included
Kachin State	72	4.0	98	4.3	73.5
Kayah State	59	3.3	68	3	86.8
Kayin State	43	2.4	73	3.2	58.9
Chin State	12	0.7	12	0.5	100
Sagaing Region	226	12.5	238	10.5	95.1
Tanintharyi Region	80	4.4	111	4.9	75.7
Bago Region	165	9.1	183	8.1	89.9
Magway Region	132	7.3	163	7.2	81
Mandalay Region	269	14.9	306	13.5	87.9
Mon State	122	6.7	157	6.9	77.7
Rakhine State	0	0.0	96	4.2	0.0
Yangon Region	244	13.5	307	13.5	79.1
Shan State	120	6.6	159	7	76.2
Ayeyarwady Region	186	10.3	212	9.3	87.7
Nay Pyi Taw Union Territory	81	4.5	85	3.7	95.3
Total	1,811	100.0	2,268	100.0	

Source: Authors' calculations based on Myanmar's MSME 2019-2020 data.

Enumerators conducted the interviews face to face in February and March 2020 in Myanmar language. Where possible, we interviewed the businesses owner or the most senior manager

at the main production facility or head office. Respondents were assured no reference will be made to any individual enterprise or person in any statistical tables or other publication. Similarly, enumerators confirmed that the information received will not be used against the respondent or the enterprise in any way. Interviews lasted between 60 and 120 minutes, with an average completion time of 90 minutes. We offered no financial compensation for participation in the study.

CSO and DERG staff cleaned the data in Stata (Version 16), and DERG produced the final data set. To protect respondents' identity, we removed variables that contain sensitive information such as enterprise name and owner's name during data cleaning and stored them separately from other parts of the dataset. The survey did not collect further private information such as GPS coordinates, exact address and emails, which could be used to identify respondents or their enterprise. Only the principal investigator has access to personal information about respondents. As the survey was conducted online, it was assured that the data were transmitted and stored encrypted. The online storage lasted only during the data collection process, after which we removed the data from online data storage and continued storing only internally at CSO, University of Copenhagen and UNU-WIDER.

4. Insights from the 2020 Survey

This section introduces the major findings and insights from the 2020 study, separated into seven key areas focused on firm size, the items manufactured, profit, output, investment, employment and management practices.

4.1. Firm Size in 2019 and 2020

Table 2 summarizes firms by size, using World Bank definitions that a micro firm has 1-9 *workers*, small firms have 10-49 *workers*, a medium firm has 50-299 *workers* and a large firm has more than 300 *workers*. As there are only 10 large firms in the sample, we combine medium and large firms into the category medium+. We applied the same approach as in previous rounds of data collection to ensure that the owners did not include themselves in their number of *employees* and added them subsequently to total firm size in our calculations.

Table 2 indicates that there has been limited change in firm size categories between the two years; however, the proportion of small firms has increased slightly, offset by a small reduction in the proportion of medium and micro firms.

Table 2 provides no evidence that firms are getting larger in the manufacturing sector. This is notably different to 2019, where firms employing at least 50 people had grown over the previous two years. However, some caution is required because we undertook the survey at a slightly different stage in the Myanmar calendar, and some minor seasonal differences may be expected. For example, the previous round of data collection partially occurred during the rainy season, when rice firms are most likely to have their highest level of employment. The counter to this is that some firms reduce or close down operations during the rainy season, particularly when outdoor space is used.

Table 2: Firm Size by World Bank Definitions

	2020		2019		Percentage of 2019 Sample Included
	Number of Firms	Percentage	Number of Firms	Percentage	
Micro	1,318	72.8	1,685	74.3	78.2
Small	403	22.3	461	20.3	87.4
Medium+	90	5.0	122	5.4	73.8
Total	1,811	100.0	2,268	100.0	

Note: Medium+ category contains 10 large firms.

Source: Authors' calculations based on Myanmar's MSME 2019-2020 data.

4.2. Products Manufactured

Unsurprisingly, the main product did not change for firms in our balanced sample, and data presented for 2020 (see **Table 3**) matches information a year earlier. For the purpose of analysis, the 2019 report used eight so-called sectors, which we also use in the 2020 analysis. These broad groupings provide a useful means of analysis because of the very limited number of firms falling within each of the 24 unique MSIC2 categories, or the more than one hundred different MSIC4 categories.

Table 3: Production Output by Sector

Sector	Number of Firms	Percentage
Rice Mill	136	7.5
Food, Beverages and Tobacco	759	41.9
Textiles, Apparel and Leather	274	15.1
Wood, Paper and Printing	167	9.2
Coke, Chemicals, Rubber and Minerals	173	9.6
Metal	114	6.3
Electrical Equipment, Machinery and Motor Vehicles	79	4.4
Furniture and Other Manufacturing	109	6
Total	1,811	100.0

Source: Authors' calculations based on Myanmar's MSME 2020 data.

As noted in the 2019 study, rice mills are an MSIC4 code of their own, however, they are separate from other food manufacture because they represent a special component of the manufacturing landscape. That report confirmed that of the 71,226 registered firms at the time of data collection, some 19,783 engaged with the husking and preparation of paddy, typically sold within the township of production to markets, tea stores and residential consumers. It is important to note that food, beverages and tobacco represent by far the biggest component of Myanmar manufacturing. Cooking oil manufacture is particularly common, and this provides firm owners both a manufacturing and service component within their operation. However, all included firms derive a minimum of 50 per cent of their revenue from production. The purification of water for drinking is also an important MSIC4 within this sector and demonstrates a similar potential for service.

4.3. Initial Insights into Profits

Of the 1,739 firms whose data were analysed after the top and bottom 1 per cent of profits were excluded, some 1,020 (56.3 per cent) reported lower real profits per employee in the 2020 survey than a year earlier.¹ This compares with three firms (0.2 per cent) reporting the same profit, and 788 (43.5 per cent) which saw profits going up in the same period.

¹ The value of profit is in real terms, adjusting to 2018 price levels and accounting for the differences in the costs of living between different states and regions in Myanmar.

Table 4: Annual Real Profit per Employee by Sector

Sector	2019	2020	Percentage change
	MMK	MMK	
Rice Mill	8,264,633	4,018,100	-51.4
Food, Beverages and Tobacco	4,205,598	2,355,444	-44.0
Textiles, Apparel and Leather	2,003,580	1,294,631	-35.3
Wood, Paper and Printing	3,725,183	1,802,366	-52.5
Coke, Chemicals, Rubber and Minerals	2,883,886	1,988,833	-30.7
Metal	2,194,603	1,737,490	-21.0
Electrical Equipment, Machinery and Motor Vehicles	1,838,576	2,338,281	25.0
Furniture and Other Manufacturing	2,337,214	1,680,475	-28.3

Source: Authors' calculations based on Myanmar's MSME 2019 and 2020 data.

Notes: USD1 = MMK 1,353. Top and bottom 1 per cent of profits removed from outliers.

We present information based on the agglomerated sector into which firms organize in **Table 4**. The average real profit per employee declined in each of the eight categories. The most important decline between the years is in the 'food, beverages and tobacco' sector, which includes 41.9 per cent of our sample. Here, the profit per employee shrunk by 44 per cent over the course of a year. Although a comparatively smaller sector, average profits per employee declined by almost 51.4 per cent amongst Rice Mills.

This potentially reflects some of the concerns expressed in 2019, when business owners described their fears surrounding their competition, both at a national and international level, taking some of their market share.

When considering firm size, micro firms saw their profits per worker falling by around MMK 1.5 million, while those employing between 10 and 50 people reported an average decline in profits per employee of just over MMK 1.56 million. Medium sized firms did comparably better according to their reports in 2020 with profits per employee in excess of MMK 3 million. However, this still represents a decline of MMK 1.49 million over the course of the year. We summarize this information in **Table 5**.

Particularly considering the large number of people employed by micro and small firms, the 2020 financial figures offer a bleak picture and highlight the real vulnerability of the manufacturing sector. Specifically, when one considers the long period of lockdown during the dry season in spring 2020, the ramifications of COVID-19 are likely to exacerbate the decline experienced in the period up to our most recent survey. Reduced profits have the

dual potential for further reductions in employment and the continued trend of underinvestment in capital and processes. In a country where comparatively cheaper exports from China and other neighbouring countries have been a feature of the economy in recent years, this should be an area of significant focus in the short- and medium-term.

Table 5: Profit per Employee by Firm Size

Firm Size	2019	2020	Percentage change
	MMK	MMK	
Micro	3,602,708	2,130,450	-40.4
Small	3,736,573	2,175,827	-40.0
Medium	3,610,158	2,124,544	-57.0

Source: Authors' calculations based on Myanmar's MSME 2020 data.

Notes: USD1 = MMK 1,353. Top and bottom 1 per cent of profits removed from outliers.

4.4. Total Output

Output declined for the main product produced for a majority of firms in 2020 when compared to a year earlier, with around 55 per cent of firms reporting this to be the case. **Table 6** highlights the diversity of experiences across all firms, with approximately 40 per cent of firms increasing production and 5 per cent holding their production entirely constant. The importance of this change should not be under-estimated as it presents an important area for investigation within the Myanmar context; questions surrounding the drivers behind this widespread decline should be a concern. Anecdotally, and as has already been noted, some firms chose to reduce output to provide a service arm to their production. Although firms only remained in the study if more than 50 per cent of revenue derived from manufacturing, tracking this phenomenon is of relevance for future rounds of the study.

At a State/Region level, the picture was generally comparable with the national situation, with a majority of firms reducing output in most areas. Kayah State provides one exception, where approximately 49 per cent of firms grew output and a comparably smaller 31 per cent reduced their production quantity.

Table 6: Growth in Output (between 2019 and 2020) – By Region

State/Region	Output Grew in the 2020 study	Output Remained Constant in the 2020 study	Output Declined in the 2020 study
	%	%	%
Kachin State	45.8	2.8	51.4
Kayah State	49.2	20.3	30.5
Kayin State	20.9	34.9	44.2
Sagaing Region	41.2	6.6	52.2
Tanintharyi Region	46.3	6.3	47.5
Bago Region	37.6	3	59.4
Magway Region	36.4	5.3	58.3
Mandalay Region	31.6	2.6	65.8
Mon State	36.9	4.1	59
Yangon Region	48.8	2	49.2
Shan State	43.3	4.2	52.5
Ayeyarwady Region	39.2	3.2	57.5
Nay Pyi Taw Union Territory	39.5	3.7	56.8
Total	40.0	5.1	54.9

Source: Authors' calculations based on Myanmar's MSME 2019-2020 data.

Looking at the specific sectors is useful to understand where the declines in output occurred. It is noteworthy that more firms reduced their output than grew it in each of these eight strategically relevant areas of the manufacturing sector.

The production of 'textiles, apparel and leather' and 'wood, paper and printing' seemed to be particularly vulnerable in 2020 when compared to a year earlier. **Table 7** indicates that in those sectors, at least twice as many firms reduced output when compared to those that grew it. It is particularly important to review the importance of Chinese and Thai imports of textile items and the extent to which these offset production in Myanmar. In terms of 'wood, printing and paper', strict laws limiting the felling of trees are likely to impact smaller firms, though it is not immediately clear why the decline in production was so pronounced in the 2020 study.

Table 7: Growth in Output (between 2019 and 2020) – By Agglomerated Sector

Sector	Output Grew in the 2020 study	Output Remained Constant in the 2020 study	Output Declined in the 2020 study
	%	%	%
Rice Mill	45.6	2.2	52.2
Food, Beverages and Tobacco	45.1	4	51
Textiles, Apparel and Leather	31	4.7	64.2
Wood, Paper and Printing	32.3	3	64.7
Coke, Chemicals, Rubber and Minerals	41.6	9.2	49.1
Metal	37.7	7.9	54.4
Electrical Equipment, Machinery and Motor Vehicles	35.4	7.6	57
Furniture and Other Manufacturing	35.8	9.2	55
Total	40.0	5.1	54.9

Source: Authors' calculations based on Myanmar's MSME 2019-2020 data.

4.5. Investment

As shown in **Table 8**, some 21 per cent of all firms (380) reported making investments in the six months immediately before being surveyed in 2020, however, just under a half of those (179 firms) selected that their main 'investment' was in the purchase of raw materials. This presents an interesting business difference within the Myanmar context, whereby business owners perceive an investment to include the spending of monetary resources on anything, other than labour, which may be involved in the production or marketing of a good. The perception could indeed stem from the seasonal nature of Myanmar manufacturing and strategic decisions to buy raw materials in bulk for use over a longer time-period.

Overall, 10.4 per cent of all firms made capital or process-related investments in the six months before the 2020 study. Around a half of those firms made investments in large pieces of machinery, perceived as necessary to sustain competitiveness in the sector. Against a backdrop of declining output and profits, this outcome is perhaps predictable. However, it leaves open the opportunity for pertinent further investigation. In the 2019 study, a large proportion of business owners complained about a lack of access to formal finance and it is possible that this has continued over the year that followed. However, as was noted in the detailed statistical analysis of that report, the impact of wider access to credit was likely to be

low, with an increase of no more than 15 per cent of businesses choosing to make investments.

As may be expected, micro firms invested in the smallest proportion, with just 7.9 per cent making capital or process-related investments. Some 12.6 per cent of small firms reported such investments in the 2020 study and almost 33.7 per cent of medium firms made such an investment. Particularly given the large number of people employed in micro firms, a sustained lack of investment is likely to cause substantial challenges if gaps in competitiveness in price-sensitive markets widen.

Table 8: Types of Investment Undertaken

Type of Investment	Number of Investing Firms	Percentage of Firms Investing
Larger machinery and equipment	106	27.9
New product development	8	2.1
Production facilities (construction or repair of rooms and buildings)	23	6.1
Raw materials or intermediates	179	47.1
Smaller tools and equipment	59	15.5
Other	5	1.32
Total	380	21.2

Source: Authors' calculations based on Myanmar's MSME 2020 data.

4.6. Employment

The last year has seen few changes in the employment situation across the manufacturing sector. As shown in **Table 9**, micro enterprises have employed fewer permanent workers and more temporary staff in 2020 compared to 2019.² A similar trend is characteristic for permanent full-time and part-time workers. Conversely, medium enterprises have employed larger number of permanent full-time workers, as opposed to part-time ones. Small firms have kept the employment across different categories almost unchanged apart from permanent full time employees whose share decreased slightly. The share of female workers has in particular decreased among medium enterprises, while it has increased among small ones.

Table 9: Labour Force Composition across Firm Size Categories

	Micro		Small		Medium	
	2019	2020	2019	2020	2019	2020
	%	%	%	%	%	%
Permanent	94.6	92.4	84.4	84	86.8	86.4
Temporary	5.4	7.6	15.6	16	13.2	13.6
Permanent full time	93.1	88.2	83	82.1	83.3	86.2
Permanent part time	1.5	4	1.6	1.9	3.1	0.3
Female	26.6	26.6	43.2	44.7	51.7	47.6
Male	73.4	73	57.2	55.3	48	52.4

Source: Authors' calculations based on Myanmar's MSME 2019-2020 data.

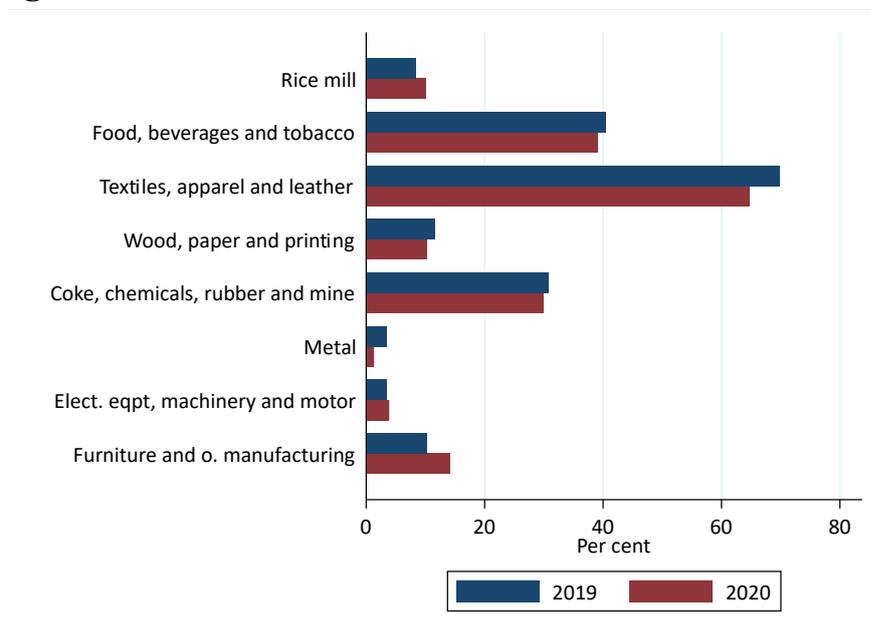
Figure 1 demonstrates that the share of female workers has decreased in one of the key sectors for female employment, namely the textiles, apparel and leather sector. Moreover, it has decreased in the wood, paper and printing sector, as well as the coke, chemicals, rubber and mine one. Conversely, the share of female workers has risen in rice mills and in furniture businesses.

As family businesses represent 30 per cent of the manufacturing sector, unpaid family labour is present across all industrial sectors (MSME, 2019). **Figure 2** displays the share of unpaid family labour employed across size categories of firms included in the sample. The highest

² We define permanent workers as those expected to work every month in which the business operates. This includes full-time and part-time workers who work for a daily, weekly or monthly salary, excluding the owner. Temporary workers include full-time and part-time workers, excluding the owner, who do not work in every month the business operates. A full-time worker works at least five days per week or at least 8 hours per day. A permanent full-time worker is expected to work at least 8 hours per day for at least five days per week during every month in which the business operates.

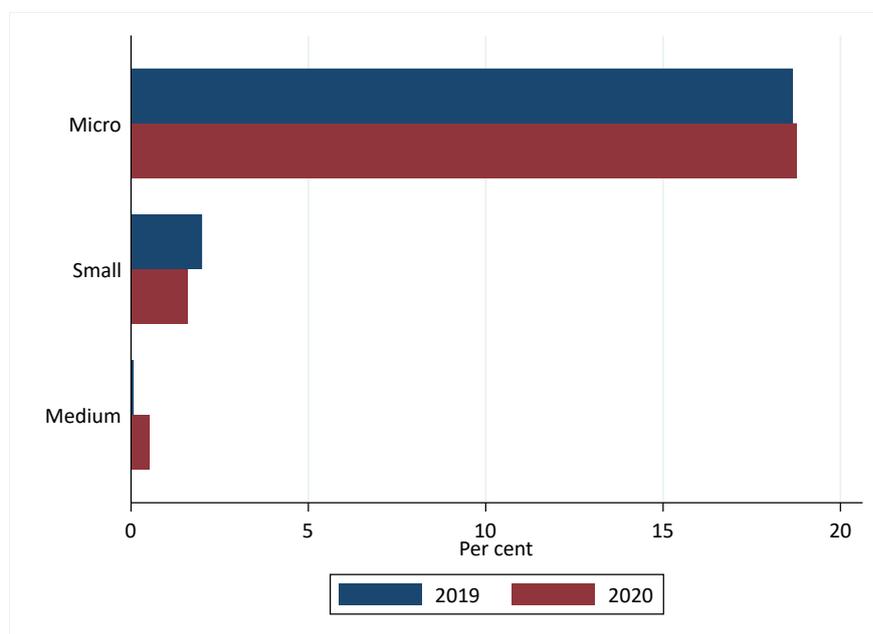
share is among Micro businesses, but the highest increase from 2019 to 2020 occurred among the medium firms.

Figure 1: Share of Female Workers across Industrial Sectors



Source: Authors' calculations based on Myanmar's MSME 2019-2020 data.

Figure 2: Share of Unpaid Family Labour across Firm Size Categories



Source: Authors' calculations based on Myanmar's MSME 2019-2020 data.

The instability of the labour force represents a considerable challenge for firm owners (MSME, 2019). **Table 10** presents statistics for different indicators of labour force stability

across firm size categories, including gross and net turnover rates, as well as the share of workers who have joined or left the firm in the year before the 2019 and 2020 studies.

Table 10: Stability of the Labour Force across Firm Size Categories 2019-2020

	Micro		Small		Medium	
	2019	2020	2019	2020	2019	2020
	%	%	%	%	%	%
Gross turnover	22.8	7.4	16	8.7	13.6	7.8
Net turnover	-2.8	-0.4	0.4	0.5	1.4	0.5
Hired	10	3.5	8.2	4.6	7.5	4.1
Left	12.8	3.9	7.8	4.1	6.1	3.7

Source: Authors' calculations based on Myanmar's MSME 2019-2020 data.

The manufacturing sector in general experiences a high employee turnover. However, in our sample, gross turnover rates decreased for firms in all size categories between 2019 and 2020. Net turnover rates remained negative for micro enterprises and they decreased in particular among medium firms. The share of workers who joined and left small and medium businesses more than halved in 2020, while it dropped by one-third among the micro businesses.

Table 11: Real Monthly Wages in Myanmar Kyat (MMK) for Permanent Full-time Production Workers by Firm Size Category

	2019	2020	Percentage change
Micro	154,516	144,969	-6.59
Small	162,252	180,774	10.25
Medium	171,196	161,776	-5.82

Source: Authors' calculations based on Myanmar's MSME 2019-2020 data.

Note: Average wages are calculated for permanent full-time production workers, as reported by the employer. Real monthly wages are adjusted to 2018 price levels.

The remainder of the section focuses on wage levels for employees, drawing from the information reported by employers. **Table 11** reports the average monthly salary for permanent full-time production workers across firm size categories. The average salary is in real terms, adjusting to 2018 price levels and for differences in the costs of living between different states and regions in Myanmar. Of interest is the fact that salaries declined in micro and medium firms, while they increased in small enterprises.

Table 12 displays average real wages across industrial sectors. Monthly salaries decline across all sectors with the exception of rice mills and electronics.

Table 12: Real Monthly Wages in Myanmar Kyat (MMK) for Permanent Full-time Workers by Industrial Sector

	2019	2020	Percentage change
Rice Mill	171,199	214,393	20.15
Food, Beverages and Tobacco	142,912	140,427	-1.77
Textiles, Apparel and Leather	128,163	122,365	-4.74
Wood, Paper and Printing	190,510	163,454	-16.55
Coke, Chemicals, Rubber and Minerals	163,085	163,468	0.23
Metal	187,215	170,438	-9.84
Electrical Equipment, Machinery and Motor Vehicles	180,431	194,305	7.14
Furniture and Other Manufacturing	202,065	182,012	-11.02

Source: Authors' calculations based on Myanmar's MSME 2019-2020 data.

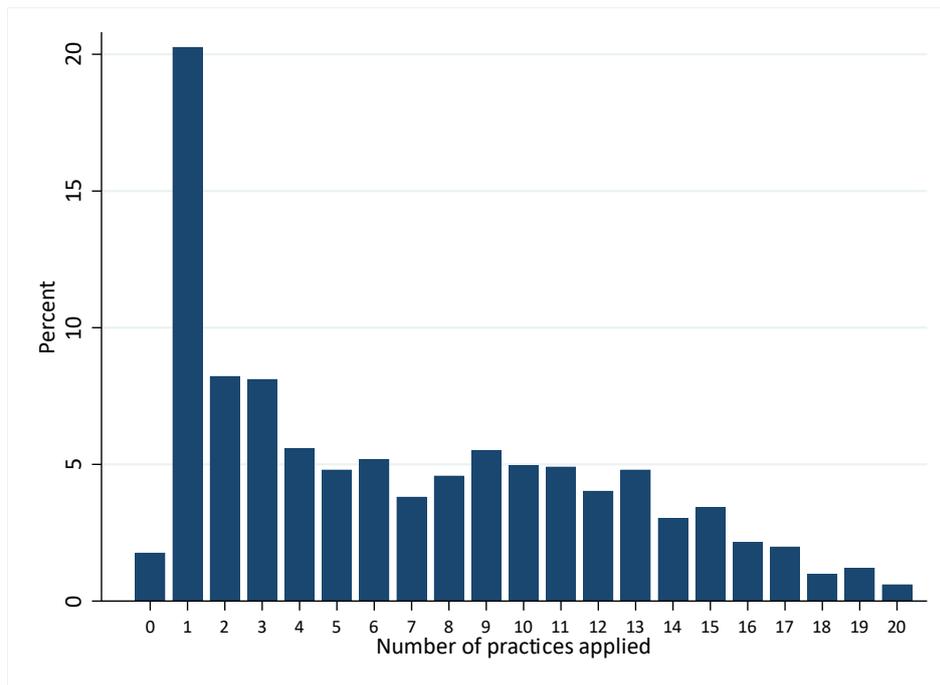
Note: Average wages are calculated for permanent full-time production workers, as reported by the employer. Real monthly wages are adjusted to 2018 price levels.

4.7. Management Practices

According to McKenzie and Woodruff (2016), there are some 26 'best practices' that should be implemented by all business managers. Of these 26 factors, we asked business owners whether they had undertaken each of 20 practices in the three months leading up to the survey or, where relevant, on a regular basis as part of their operations. The practices are categorised into four overarching categories: marketing; buying and stock control; cost and record keeping; financial planning.

We assume equal importance of each practice for business performance and present in **Figure 3** the percentage of firms applying a specific number of business practices. Some 346 firms or 22 per cent of the sample, implemented zero or just one of the techniques. The fact that around 90 per cent of firms only relied on one technique confirmed that this was simply to avoid running out of stock inputs. Approximately 0.6 per cent, or 11 firms, claim to implement all 20 strategies of which two were micro and three were small firms.

Figure 3: Total Number of Management Practices Implemented



Source: Authors' calculations based on Myanmar's MSME 2020 data.

Note: Owners/Managers acknowledged the implementation of between 0 and 20 techniques in total.

Data in **Table 13** depict the proportion of firms that implement each of the 20 practices. In turn, this provides the mean number of management practices implemented by our total sample and by each size category. Given their strategic importance to the Myanmar economy, rice mills are included as a separate category.

The most common business practice is stock control to prevent it from running out, with six out of every 10 firms engaging in this technique. Only 13 per cent of firms advertise in any form (including signs on the premises) and this is even less common among the firms employing fewer than 10 people.

It should come as no surprise that micro firms implement the fewest practices, each applying an average of just 5.6 strategies. Although medium firms apply more than twice this number of strategies, this means that, on average, there are still eight not implemented among the largest firms in our study. The biggest difference according to firm size relates to the implementation of cost and record keeping strategies, with medium firms using almost four times as many strategies as micro enterprises.

Table 13: Total Number of Management Practices Implemented by Firm Size

Business Practices	Number and Share of Practices Undertaken				
	All Firms	Rice Mills	Micro	Small	Medium+
All Management Practices Index (average number out of possible 20)	6.81	6.41	5.57	9.15	12.77
Marketing Total (average number out of possible 7)	1.50	1.32	1.33	1.80	2.39
Marketing 1: Visited competitor to see prices	0.25	0.25	0.24	0.26	0.27
Marketing 2: Visited competitor to see products	0.22	0.22	0.20	0.24	0.27
Marketing 3: Asked customers about offer of other products	0.25	0.17	0.23	0.29	0.30
Marketing 4: Talked with customer to see why stopped buying	0.22	0.15	0.19	0.26	0.34
Marketing 5: Used special offer to attract customers	0.21	0.21	0.17	0.25	0.43
Marketing 6: Asked supplier which products sell well	0.24	0.23	0.21	0.29	0.40
Marketing 7: Advertises in any form	0.13	0.09	0.09	0.21	0.39
Buying & Stock Control Total (average number out of possible 3)	1.71	1.73	1.67	1.80	1.93
Buying & stock control 1: Negotiation with supplier for lower prices	0.44	0.46	0.40	0.51	0.56
Buying & stock control 2: Compare alternative suppliers	0.49	0.54	0.47	0.54	0.58
Buying & stock control 3: Don't run out of stock frequently	0.79	0.72	0.80	0.76	0.79
Cost & record keeping Total (average number out of possible 5)	1.58	1.40	1.10	2.47	3.99
Cost & record keeping 1: Record every purchase and sale	0.49	0.48	0.38	0.72	0.92
Cost & record keeping 2: Able to document cash balance	0.39	0.40	0.29	0.61	0.89
Cost & record keeping 3: Use financial records to know whether sales of product increase or decrease	0.36	0.30	0.24	0.58	0.89
Cost & record keeping 4: Detailed costs of each product	0.35	0.35	0.25	0.54	0.84
Cost & record keeping 5: Have monthly written budget	0.43	0.43	0.32	0.63	0.93
Financial planning Total (average number out of possible 5)	2.02	1.96	1.47	3.08	4.46
Financial planning 1: Review financial performance monthly	0.42	0.36	0.32	0.61	0.88
Financial planning 2: Have sales target for next month	0.24	0.18	0.16	0.37	0.69
Financial planning 3: Compare actual sales to target set	0.23	0.18	0.15	0.36	0.68
Financial planning 4: Have annual profit and loss statements and cash flow statements	0.35	0.33	0.23	0.56	0.87
Financial planning 5: Have annual income/expenditure sheet	0.35	0.35	0.23	0.57	0.88
Observations	1,811	136	1,290	413	108

Source: Authors' calculations based on Myanmar's MSME 2020 data

Note: The incidence of specific practices presented as a share of firms applying a specific practice. Medium+ category contains 10 large firms.

5. Conclusion

While there have been some limited success stories, the time elapsed between the 2019 MEMS quantitative study and the 2020 survey of the intervention of business practices has not been a positive period in terms of production output and profitability for a majority of our sample firms. Across large pockets of the sector, production is lower, profits are down, and investment is not taking place.

Profit per employee declined in seven out of eight sectors to at least some extent over the study period. In the majority of cases, this is likely to have come about because of a reduction in production output in more than one-half of firms within each of the eight sectors. The comparably smaller output is a cause for concern for the manufacturing sector. While some firms are drawing on opportunities to increase their service sector provision, cheaper imports and a challenging economic environment may explain unplanned declines.

Some 64.2 per cent of firms manufacturing ‘textiles, apparel and leather’ goods reported a decline in production, which is particularly worrisome given the country’s reliance on this output for its engagement in international supply chains. With the compounded effect of the COVID-19 pandemic, this is a pertinent area of focus going forward.

Remaining competitive relies on appropriate investment, yet only 10.4 per cent of firms made capital or process-related investments in the six months leading up to the study, with a further 9.9 per cent of the organizations investing in raw materials. This year-on-year reduction may be explained by the challenging trading climate but is worthy of continued analysis.

CSO and UNU-WIDER (2020) reported instability in the labour market to be a concern. Micro and medium firms have substantially reduced the proportion of employees leaving compared to 2019. However, there has not been any important change among small firms, and this deserves further analysis.

With the exception of rice mills, electronics and coke, chemicals, rubber and minerals, real monthly wages have fallen in the six remaining sectors. While the food, beverages and tobacco sector went through a small decline (1.8 per cent), the extreme decline was a 16.6 per cent reduction in earnings for employees in ‘wood, paper and printing’ firms. Although employees of small firms saw wages rise by 10 per cent, wages declined for employees of micro and medium manufacturers.

Almost 400 firms in our sample implemented zero or just one of 20 management practices deemed to be universally important by McKenzie and Woodruff (2016). On average, firms implemented more than a half of buying and stock control techniques, while they practiced other categories of strategy less commonly. Medium firms implemented twice as many strategies; a figure bolstered by their application of more than four of the five financial planning techniques. The lack of engagement with these techniques may be some cause for concern and further investigation, particularly given that most are easily implementable and could support in issues pertaining to firm competitiveness and performance.

In sum, this interim report serves as an important reminder that the implementation of recommendations provided in CSO and UNU-WIDER (2020) is even more pertinent than a year earlier, particularly against the backdrop of the COVID-19 pandemic, which has the real potential to present insurmountable challenges in a sector that is already vulnerable and struggling.

6. References

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