**Establishing a Continuous Welfare Monitoring System in Zimbabwe:
Lessons from the COVID-19 High Frequency Household Monitoring Survey**

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Acknowledgement

Introduction

Soon after the onset of COVID-19, the Zimbabwe Statistics Office (ZIMSTAT), with technical and financial assistance from the World Bank and UNICEF, started a high-frequency household survey to monitor the socioeconomic impact of the pandemic. Similar surveys were implemented by several national statistics offices around the world (World Bank, 2023). Between July 2020 and January 2023, ZIMSTAT conducted nine rounds of phone surveys.[1] The base questionnaire was the global COVID-19 questionnaire developed by the World Bank. It was customized for Zimbabwe by adding or modifying some questions and changing the response options for other questions.

After every round, ZIMSTAT, the World Bank, and UNICEF jointly prepared and disseminated a summary brief with the key findings. The briefs documented the impact of the pandemic on outcomes such as job loss, poverty, food security, school enrollment, coping strategies, access to basic services, and public assistance, among others. The briefs were intended for the national audience, which included the policymakers, development partners, and academia. They also informed World Bank policy dialogue and other diagnostics such as the Country Economic Memorandum (CEM) and Country Economic Update (CEU) (World Bank, 2021; World Bank, 2023). Based on the successful implementation of the high-frequency phone survey, this note argues for instituting continuous welfare monitoring in Zimbabwe's national statistical system.

The need for up-to-date information on fast-changing health and economic conditions was felt most vividly after the sudden onset of the pandemic. At a time when face-to-face surveys were being canceled due to mobility restrictions and safety measures, it was vital to establish another channel for the flow of information. One obvious alternative was phone surveys, thanks to their successful implementation in similar contexts, notably during the Ebola outbreak in West Africa (Etang and Himelein, 2020). Zimbabwe also had a wide network coverage and high penetration of phones, even in rural areas.[2] In 2019, 96 percent of urban and 83 percent of rural households had at least one member who owned a mobile phone (ZIMSTAT and UNICEF, 2019).

Although the emergency that prompted the innovation has passed, the episode has only revealed the importance of having in place a continuous monitoring system. Without it, in the next pandemic, natural disaster, or economic shock, there will be a lack of timely information for making decisions. Furthermore, decision makers can benefit from real-time monitoring even during 'normal' times. The use of phone surveys will then be one additional mode of data collection, which could also be used to collect enterprise data and to develop the system for perception monitoring (e.g., inflation expectations, economic sentiments, etc.)

In what follows, we present a selection of key findings and lessons from nine rounds of surveys in Zimbabwe to argue the necessity and feasibility of a high-frequency monitoring system. These examples show what we learned from the survey that we would not have otherwise, and how they shaped our understanding of the impact of and response to the pandemic. Much more data was collected than what is presented below. Our purpose here is not to be exhaustive or have an extensive discussion on the interpretation of the findings or their policy implications. These findings have been analyzed in depth

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[1] The timing of the nine rounds were as follows: Round 1: July 2020; Round 2: September 2020; Round 3: December 2020 – March 2021; Round 4: May 2021; Round 5: June – July 2021; Round 6: September – October 2021; Round 7: February – March 2022; Round 8: July – August 2022; Round 9: December 2022 – January 2023. The timing of field implementation depended primarily on the schedule of ZIMSTAT's other activities.
[2] https://www.gsma.com/coverage.

elsewhere, notably the 2022 Zimbabwe Poverty Assessment (World Bank, 2022). It is to illustrate, with a few select examples, the value of a frequent monitoring system and argue for its institutionalization in the national system. The argument rests on two pillars: a monitoring system is *necessary,* and it is *feasible*.

I.   A monitoring system is *necessary*.

a.   To track the impact of shocks

One of the main functions of the high-frequency survey was to track the impact of the pandemic on a variety of socioeconomic outcomes. Here, we focus on three dimensions: school enrollment, employment, and poverty.
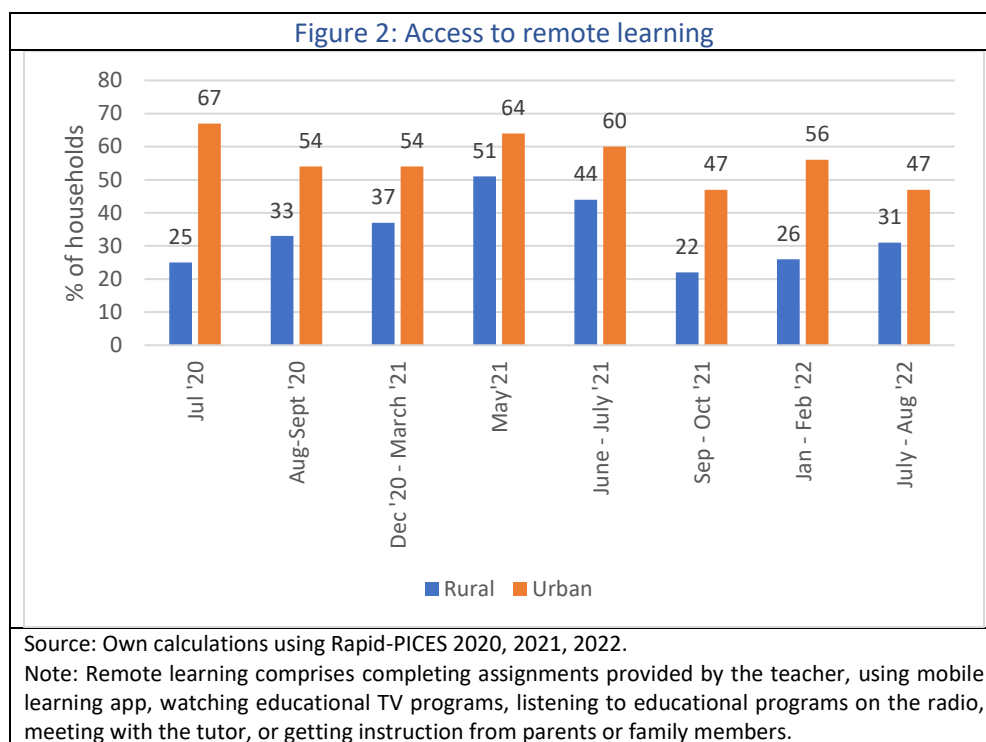
School enrollment and remote learning

Schools in Zimbabwe were closed on March 24, 2020, soon after the first COVID-19 case was detected, and they remained shut until mid-September 2020. After September, schools were fully or largely opened for in-person instruction, except for short durations when there was a rise in COVID cases. The data show that some children – about 9 percent – who were in school just before the pandemic in March 2020 were not in school in early 2021. Among those who were out of school, the main reasons for not coming to school were teacher absence (40 percent) and a fear of infection (8 percent). Recent studies have shown the school closures during the pandemic to be associated with learning loss, with long term implications on human capital accumulation, earnings potential, and intergenerational mobility (Azevedo et al., 2022, Azevedo et al., 2023, Bundervoet et al., 2022, Narayan et al., 2022, Schady et al., 2023).

Figure 1: School enrollment (among those who were in school in March 2020)
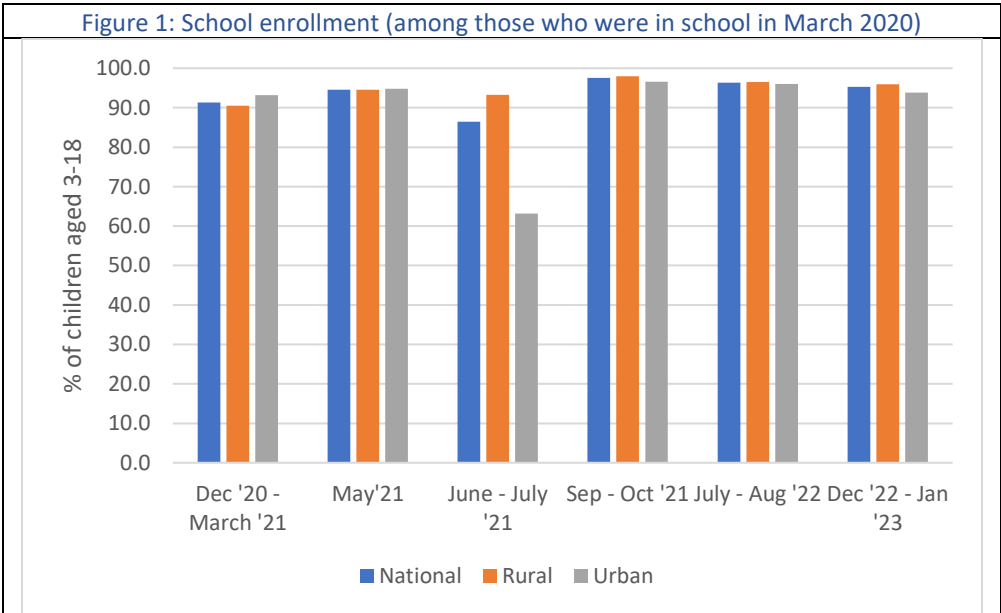
Source: Own calculations using Rapid-PICES 2020, 2021, 2022.
Note: The information on current school enrollment for each child was collected starting round 3 (December 2020). It is unclear why urban school enrollment fell sharply in round 5 (June – July, 2021).

There was a clear urban-rural divide in the pattern of home-based learning. Immediately after school closures, less than 40 percent of students were engaged in any educational or learning activities at home.[3] Children in rural areas were much less likely to have completed assignments from teachers or used mobile applications for learning purposes, suggesting a difficulty in establishing and maintaining remote contact with teachers, ownership of devices, or poor network. Nevertheless, rural school-goers were more likely to receive parental support at home compared to their peers in urban areas.

Figure 2: Access to remote learning

Source: Own calculations using Rapid-PICES 2020, 2021, 2022.
Note: Remote learning comprises completing assignments provided by the teacher, using mobile learning app, watching educational TV programs, listening to educational programs on the radio, meeting with the tutor, or getting instruction from parents or family members.

Employment

Lockdown measures during the pandemic had a swift and severe effect on employment., More than 20 percent of employed people stopped working following mobility restrictions (Figure 3).[4] Among those who stopped working, most were temporarily out of a job because of business closures (54 percent).[5]

Employment was slow to recover in 2020, but there were tentative signs of economic resumption by early 2021, with 57 percent of working-age adults working. The recovery continued over the year, reaching 75 percent in urban areas and 49 percent in rural areas by late 2021. Though employment continued to rise in urban areas in 2022, it only reached pre-pandemic levels in January 2023. In rural areas, employment increased until February 2022 but declined after that for the rest of the year.[6]

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[3] The activities included completing assignments from parents or teachers, meeting with tutors, using a mobile learning app, or watching or listening to educational programs on the radio and TV.
[4] It is not possible to calculate the labor force participation rate using high frequency data because there is not enough information to differentiate between active and inactive workers. Labor force participation rate calculated using LFS 2019 and following the standards adopted in the 19th International Conference of Labor Statistics (ILCS) is 42.8 percent (ZimSTAT, 2020).
[5] Other reasons included being laid off or fear of going out.
[6] This decline is consistent with the downward trend in rural employment-population ratio between the second and third quarters of 2023 from ZIMSTAT's Quarterly Labor Force Survey (QLFS).

The impact was not equal on everyone, everywhere. Given the nature of the crisis and containment measures, relatively more urban residents lost their jobs. Of the 79 percent of urban workers who had a job before the pandemic, 18 percent were not working in July 2020, compared to 10 percent in rural areas.[7] Urban residents were more likely to experience job loss because of the nature of their jobs. Of the urban workers who lost their jobs, 80 percent were previously employed in service sector occupations such as wholesale and retail, education services, food and accommodation, or other service activities that were most affected by the crisis. There was no difference in the unemployment rate in male- and female-headed households.[8]

Figure 3: Employment status

Figure 4: Employment status (by location)
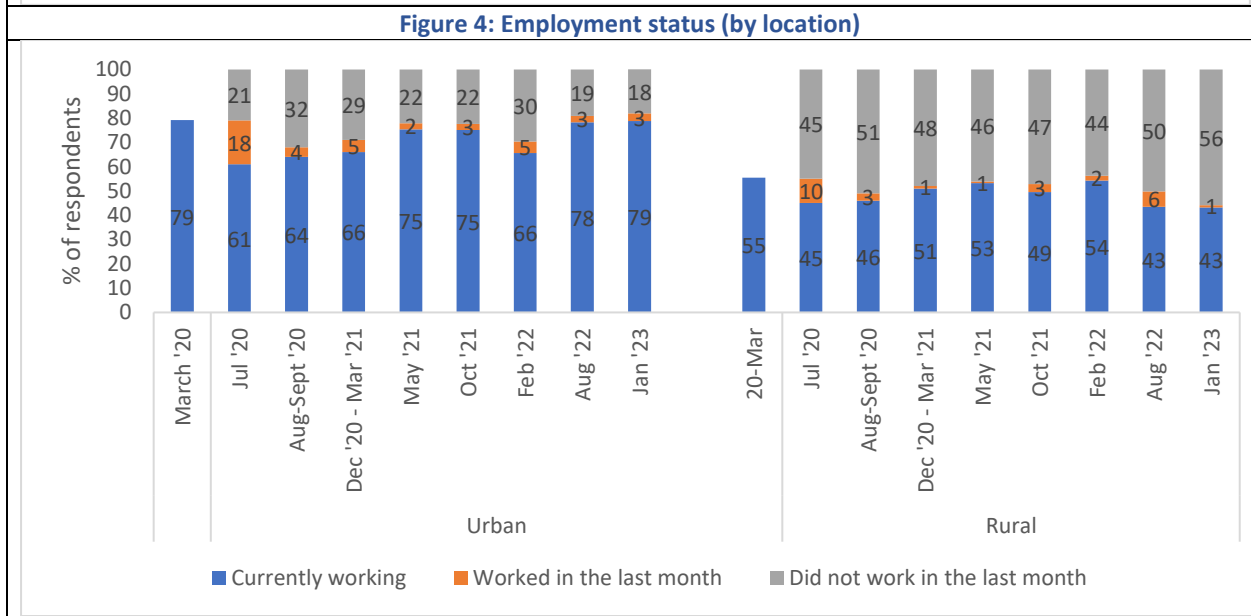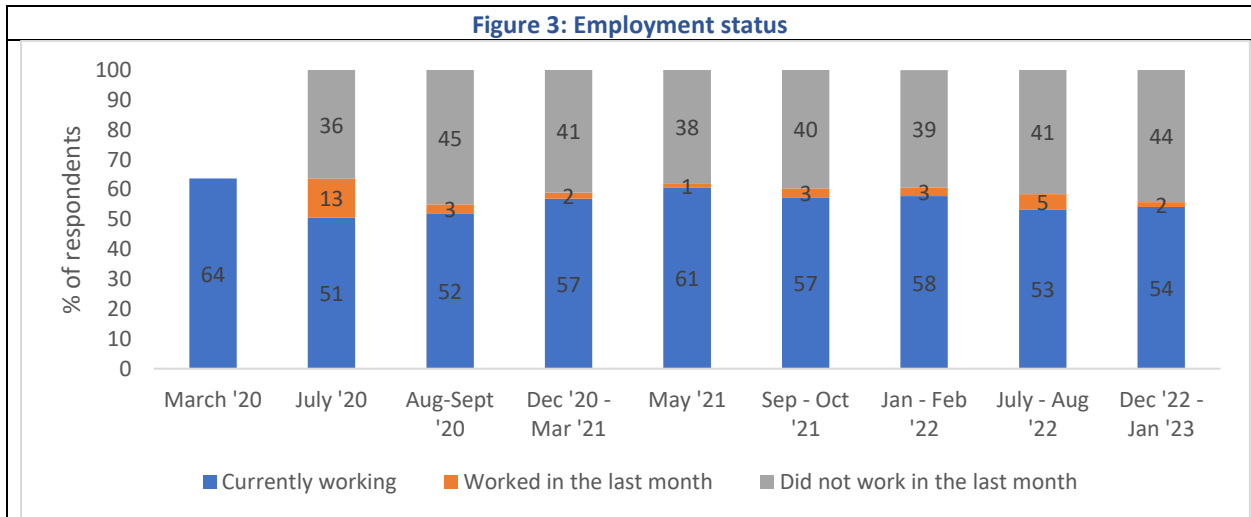
Source: Own calculations using Rapid-PICES 2020, 2021, 2022.

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[7] This includes employment in all sectors, including agriculture.
[8] We do not have employment information at the individual level. The disaggregation is based on the gender of the household head or key respondent.

The sample for the continuous household survey was drawn from the baseline survey conducted in April and May of 2019. This allows a comparison of the employment status about a year before the pandemic and a few months after the pandemic. The joblessness rate soon after the pandemic was the highest among service sector workers. While about 17 percent of agricultural and industrial workers had lost jobs in July 2020, more than a quarter of service sector workers were without work (Table 1). Nevertheless, these numbers must be interpreted with caution. The respondents may have switched sectors before the pandemic. The data may also be picking up seasonal differences as casual workers may switch jobs and sectors from one season to another.
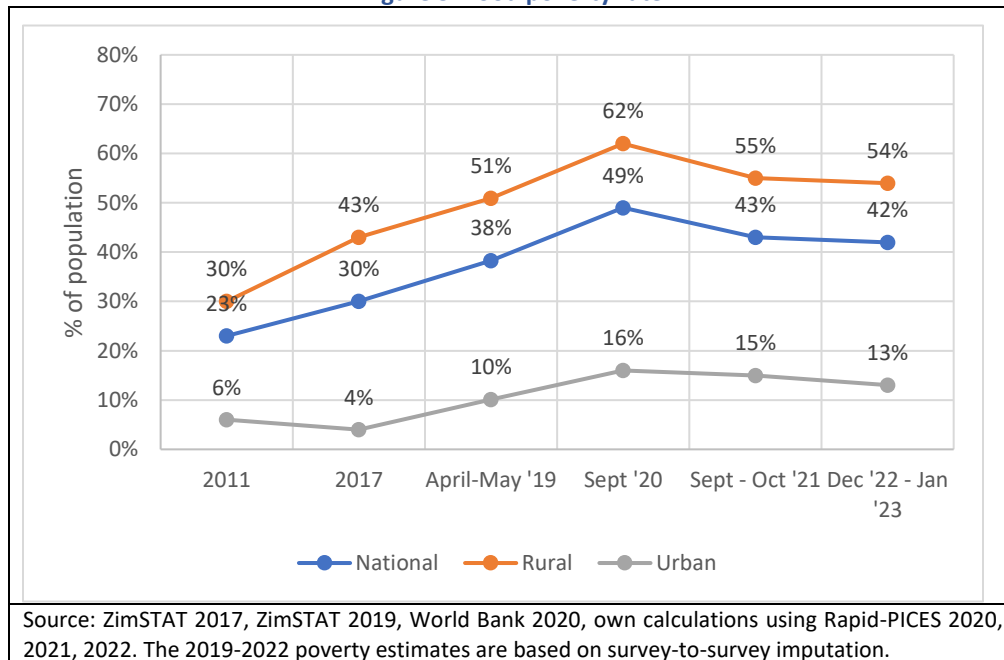
Table 1: Transition across the sector of employment and employment status

		July, 2020				
		Agriculture	Industry	Services	Not working	Total
Pre-pandemic (April-May 2019)	Agriculture	81.0	0.9	1.1	17.1	100.0
	Industry	0.7	79.4	2.6	17.3	100.0
	Services	4.0	0.5	70.1	25.4	100.0
Source: Own calculations using Rapid-PICES 2020, 2021, 2022.						

Poverty

The impact of the economic shock on poverty could be monitored thanks to the phone survey. The survey collected information on non-monetary indicators. A regression model developed from the 2019 Mini-PICES survey was used to impute household consumption using the proxy indicators. This exercise revealed that food poverty rose sharply after the pandemic, from about 38 percent in 2019 to 49 percent in September 2020. (The poverty rate had been rising even before the pandemic, increasing from 30 percent in 2017 to 38 percent in 2019.) The post-pandemic increase was due to a combination of factors: an increase in the price of food and other necessities, income loss due to the economic contraction, and a drop in agricultural production because of poor rains during the 2019/2020 growing season. This increase in poverty mirrors the global trend (Mahler and Lakner, 2022; World Bank, 2022). After the resumption of economic activities, economic growth, and better harvests, the poverty rate declined to 43 percent and 42 percent in 2021 and 2022, respectively. The high frequency survey was key in tracking the increase and decline in poverty consistent with the economic fluctuations.

Figure 5: Food poverty rate

Source: ZimSTAT 2017, ZimSTAT 2019, World Bank 2020, own calculations using Rapid-PICES 2020, 2021, 2022. The 2019-2022 poverty estimates are based on survey-to-survey imputation.

Food security

The COVID-19 pandemic had profound implications on food security and nutrition globally (FAO, 2020, Kakaei et al., 2022) and Zimbabwe was no exception. Food insecurity increased sharply immediately after the pandemic. In July 2020, 72 percent of Zimbabwean households were severely or moderately food insecure, with 27 percent in severe food insecurity (Figure 6). A year earlier (April-May 2019), the respective proportions were 42 percent and 7 percent. The rise in food insecurity was a combined result of poor harvests, inflation, and COVID-19-induced stresses. Food security improved in 2021 owing to the bumper harvest of the 2020-2021 agricultural season.[9] Nationally, only 9 percent of the population was in severe food insecurity, the lowest level since 2019. Although this is unmistakably a positive development, it does reveal the vulnerability of households to the ebb and flow of the natural rainfall cycle.

Food insecurity stayed high in 2022, with 40 percent of the population in severe or moderate food insecurity. Low crop yield compared to the previous season, high food inflation, an increase in the price of fertilizers, and supply disruptions due to the Russian invasion of Ukraine contributed to the continued prevalence of food insecurity in 2022.

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[9] Food insecurity is measured using the FIES (Food Insecurity Experience Scale) comprising eight questions with simple dichotomous responses ("Yes"/ "No") on whether during a reference period, households have worried about their ability to obtain enough food, have run out of food, or were forced to compromise the quality or quantity of the food eaten due to lack of money (FAO, 2013). Other approaches to measure food security are currently in use in Zimbabwe. We acknowledge FAO's technical assistance in estimating the prevalence of food insecurity.

Figure 6: Food insecurity

Source: FAO estimates using PICES 2017, Mini-PICES 2019, Rapid-PICES 2020-2022
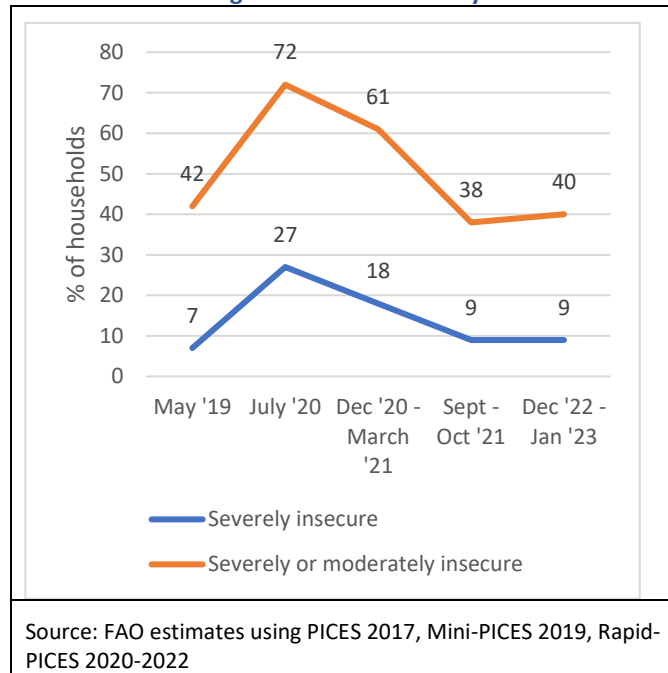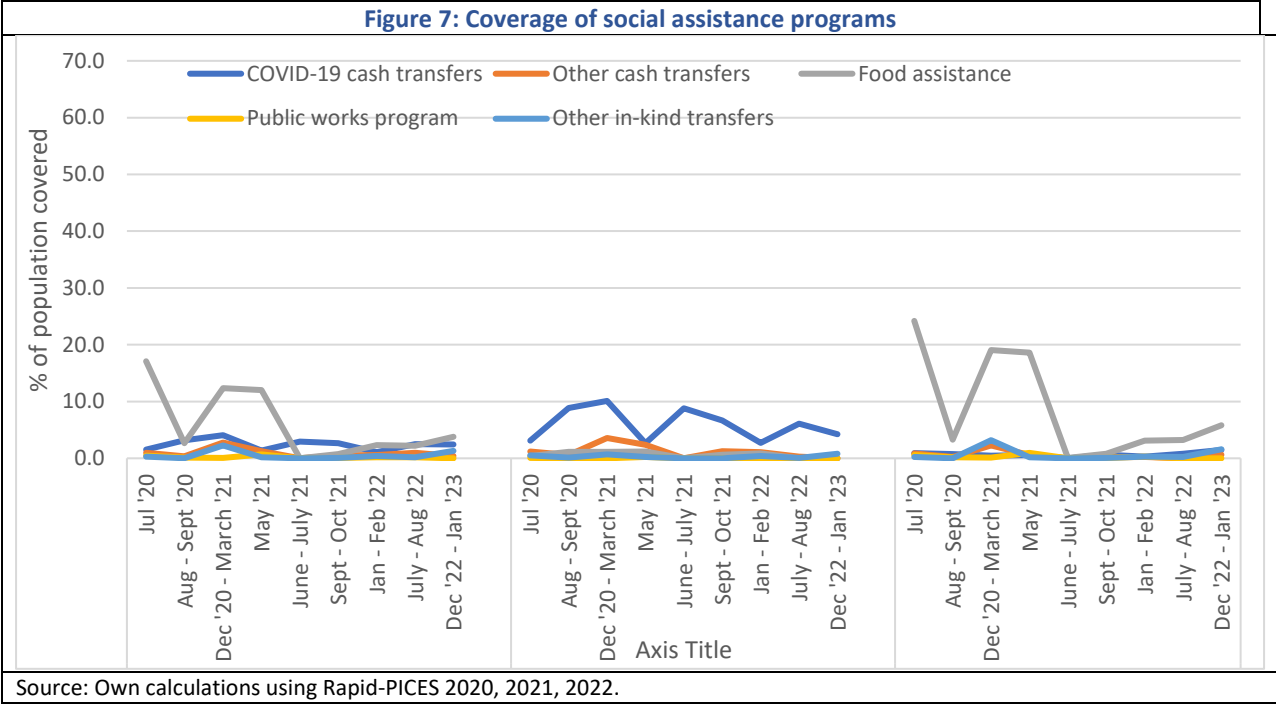
b. To track the implementation of public programs

Having a monitoring system in place also makes it easy to track the implementation of public programs and policies. It can be used to collect information such as the program reach, coverage of intended beneficiaries, and other information useful for policymakers and program implementers.

Social assistance

Many countries expanded or started new social assistance programs in response to the crisis (World Bank, 2022). Zimbabwe also announced a package of assistance to households and firms to buffer from the impact of the pandemic. However, the continuous survey showed that social assistance coverage did not expand meaningfully. The largest category of support was in-kind food distribution, a scheme that predated the pandemic. Further, even this low coverage was not well-targeted to the poorest, most vulnerable, or those who were most affected by the pandemic and hence were likely the most in need of support (World Bank, 2022).

The household monitoring survey detected a higher coverage of emergency cash transfer in urban areas. This pattern is consistent with the expanded coverage of emergency cash support in urban areas after the pandemic. The government's emergency package offered universal emergency cash support to urban households. This was complemented by the Emergency Social Cash Transfer Program introduced in August 2020 by UNICEF, in collaboration with the Ministry of Public Service, Labour and Social Welfare, targeting the vulnerable households in urban locations.

Figure 7: Coverage of social assistance programs

Source: Own calculations using Rapid-PICES 2020, 2021, 2022.

Vaccine rollout

Zimbabwe launched its vaccination campaign in February 2021, but it wasn't until the summer that vaccines became widely available. In the summer of 2021, 20 percent of the population had received at least one shot. But there was a large gap between urban and rural residents. Whereas almost 40 percent of urban residents had received a shot by July 2021, only slightly more than 10 percent of rural residents had done the same. With a rapid expansion of vaccine coverage, the gap closed rapidly. By early 2022, about 80 percent of all respondents had received at least one shot, with the urban-rural gap all but erased (Figure 8).

Figure 8: Vaccination coverage (at least one dosage)
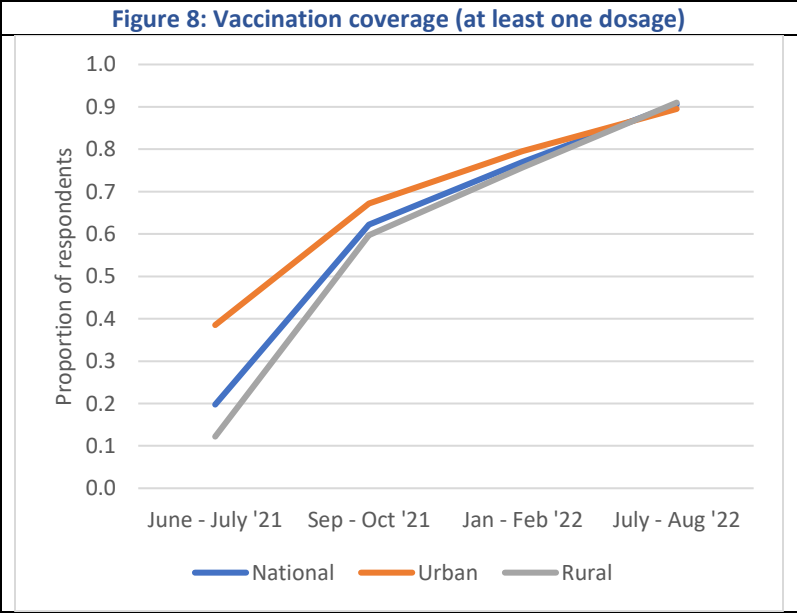
Pfumvudza program

The government of Zimbabwe started the Pfumvudza/Intwasa program to mitigate the problems of low productivity, low profitability, and food insecurity. The Pfumvudza /Intwasa concept is based on conservation agriculture principles such as reducing soil erosion and moisture loss. The program targets smallholder farmers vulnerable to climate change and low yields. Each participating household is expected to plant 3 plots – two plots with maize and/or other traditional grains, one plot with soya beans or sugar beans in high-potential areas, and sunflowers or cowpeas in low-potential areas. The participating households receive a package of inputs comprising seeds, fertilizers, and pesticides, as well as extension services. Those who do not prepare the plots according to the program specifications or receive the training are not eligible for the input package.

The high-frequency phone survey showed that in the 2020-2021 season, about half the national population participated in the Pfumvudza program (55 percent rural and 19 percent urban). There were gaps in the implementation of the program. Of those who participated, almost all carried out the preparatory activities as required by the program, but not all received the complementary extension services and training. A significant proportion – 80 percent – attributed higher yields to the program, and about half said they applied the practices in non-required plots as well. Finally, almost all the participants said they would participate in the program again.

Table 2: Participation in the Pfumvudza program (Round 4, May 2021)

	National	Rural	Urban	Male-headed	Female-headed
Participated in the Pfumvudza/Intwasa programme (% of respondents)	51	55	19	52	49
Of those who participated…(%)					
Carried out preparatory activities such as digging holes and mulching	98	97	100	98	97
Received extension services support	84	84	71	86	81
Received training in a demonstration plot	75	75	78	80	69
Yields are higher because of the program	80	80	81	82	76
Applied the Pfumvudza farming practices in non-Pfumvudza plots	49	48	71	51	46
Will participate again	98	98	100	99	96

Source: Own calculations using Rapid-PICES 2020, 2021, 2022.
Note: The gender disaggregation is based on the gender of the household head or the gender of the key respondent.

c. To track the economic trends

High-frequency surveys can also be used to monitor economic indicators such as income, consumption, savings, prices, and trade flows, among others.

Currency use

After the Zimbabwe dollar started losing its value in 2022, it was believed that Zimbabweans were abandoning the local currency in favor of stable currencies like the US dollar or South African rand for daily transactions. To inform this discussion with concrete evidence, questions on currency use were introduced in rounds 8 and 9 of the high-frequency survey. Specifically, respondents were asked about the currency used to buy five main food items: maize meal, cooking oil, rice, beef, and bread.

Indeed, the data showed that a large proportion of local market transactions were taking place in foreign currencies. In July/August 2022 and late 2022, about 77 or 75 percent of transactions took place exclusively in US dollars or South African rand (Figure 9). Only a small share of transactions (7 and 3 percent in rounds 8 and 9 respectively) were exclusively in ZWL. These findings informed the public discussions on the extent of "de facto dollarization" in the country.

Figure 9: Currency of transaction
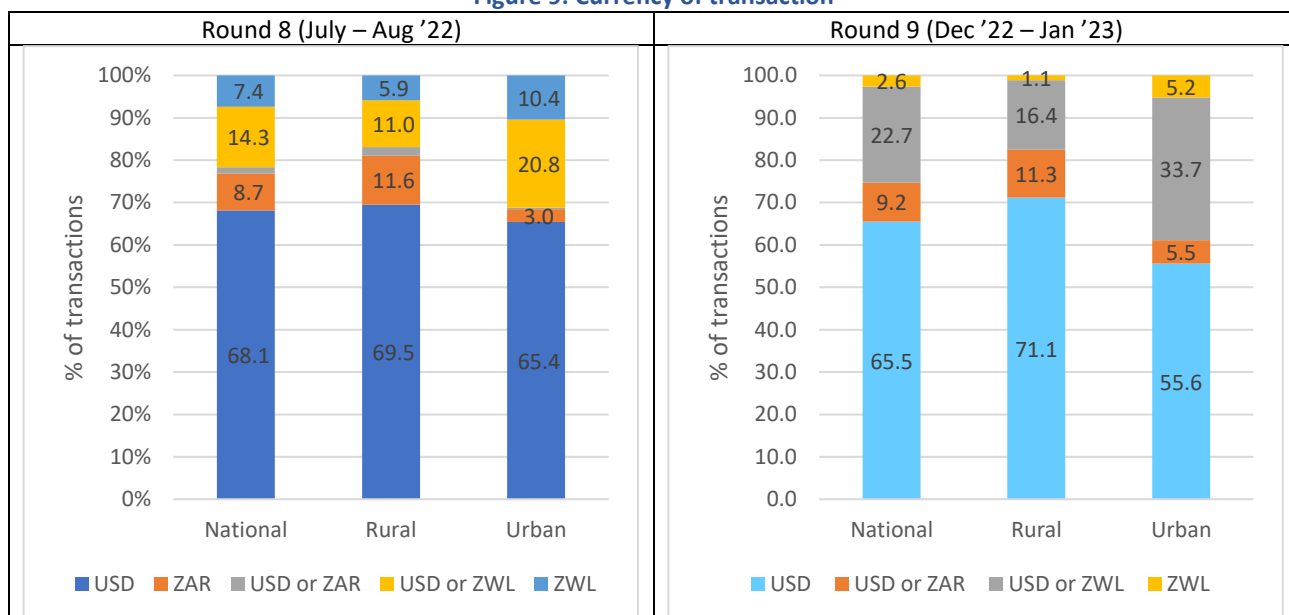
Source: Own calculations using Rapid-PICES 2020, 2021, 2022.
Note: The currency of transaction is for five main food items: maize meal, cooking oil, rice, beef, and bread.

d. To track public attitudes and sentiments

In addition to objective economic indicators, subjective questions on attitudes and sentiments were included to gauge the "mood" of the public. Subjective indicators do not just complement objective indicators, they are important since economic recovery depends on consumer confidence, and a souring of public sentiment can presage economic slowdown. Public perceptions about the risk of contagion and vaccine safety also shape health behavior and outcomes.

Vaccine hesitancy

To achieve herd immunity, as many people as possible must be vaccinated in as short a time as possible. Initially, the primary impediment to a high vaccination rate was the unavailability of vaccines. However,

as sufficient vaccine doses became available, the barrier to a high vaccination rate was no longer insufficient supply but a weak demand.

The questions on attitude toward vaccination was modified depending on when the survey was administered. In survey rounds before the rollout of the vaccine, respondents were asked "*If an approved vaccine to prevent COVID-19 was to become available at no cost, would you agree to be vaccinated?*" In rounds after the vaccine rollout, the question was modified to "*Are you planning to be vaccinated?*"

Before or just after the vaccine rollout, a sizable proportion of the population was hesitant to get the shot. The proportion that said it would not get the vaccine ranged between 15 to 18 percent from March to July 2021. This put Zimbabwe in the bottom half of vaccine hesitancy in a pool of 53 countries analyzed by the World Bank (Eberwin et al., 2022). This proportion shrank rapidly once vaccine distribution picked pace and more people received at least one dose. By August 2022, only 5 percent of the population said it would not get the vaccine. There was a similar reduction in the proportion of "fence-sitters", i.e., those who said they would likely get the vaccine but were unsure. Starting from 21 percent of the population in March 2021, it had dwindled to 1 percent by August 2022. This pattern in drop in vaccine hesitancy is consistent with the trend observed elsewhere (Nguyen et al., 2022).

Figure 10: Vaccine hesitancy

Source: Own calculations using Rapid-PICES 2020, 2021, 2022.
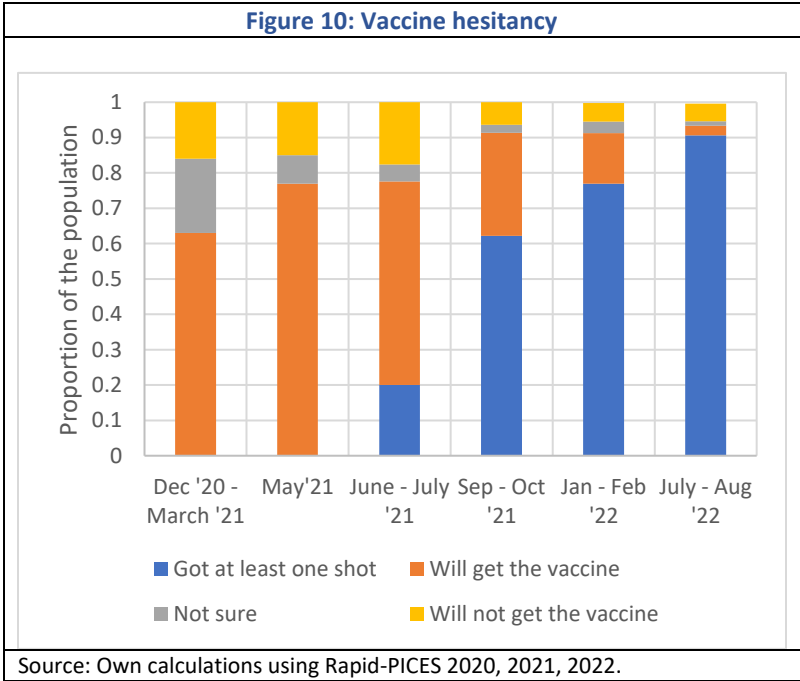
Fairness of vaccine distribution

As vaccine distribution picked up, the surveys were adapted to record respondents' perceptions of the fairness of vaccine distribution. In October 2021, when 62 percent of people had received at least one shot, two-thirds of the population said vaccine distribution was fair. This share increased over the following months in line with an increase in vaccination coverage, reaching 77 percent in August 2022. Only a small share (less than 6 percent) thought vaccine distribution was unfair. Thus, people's perception of vaccine distribution was consistent with the wide coverage of vaccines.

Figure 11: Fair vaccine distribution

Source: Own calculations using Rapid-PICES 2020, 2021, 2022.
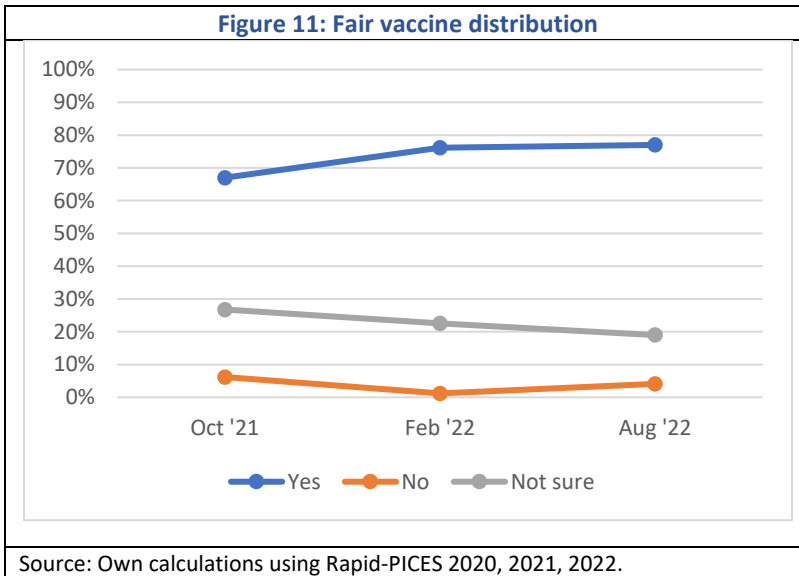
Fear of contagion

At the beginning of the pandemic, most people were understandably very concerned about falling ill. More than 90 percent were "very worried" (84 percent) or "somewhat worried" (10 percent) that they or someone from their family would become seriously ill. The share of "very worried" was in decline even before the rollout of the vaccine, likely because of the preventive health behaviors. The pace increased in 2022 when most of the people had received at least one dose of the vaccine. By the end of 2022, only 35 percent of the population remained "very worried."

Figure 12: Fear of contagion

Source: Own calculations using Rapid-PICES 2020, 2021, 2022.
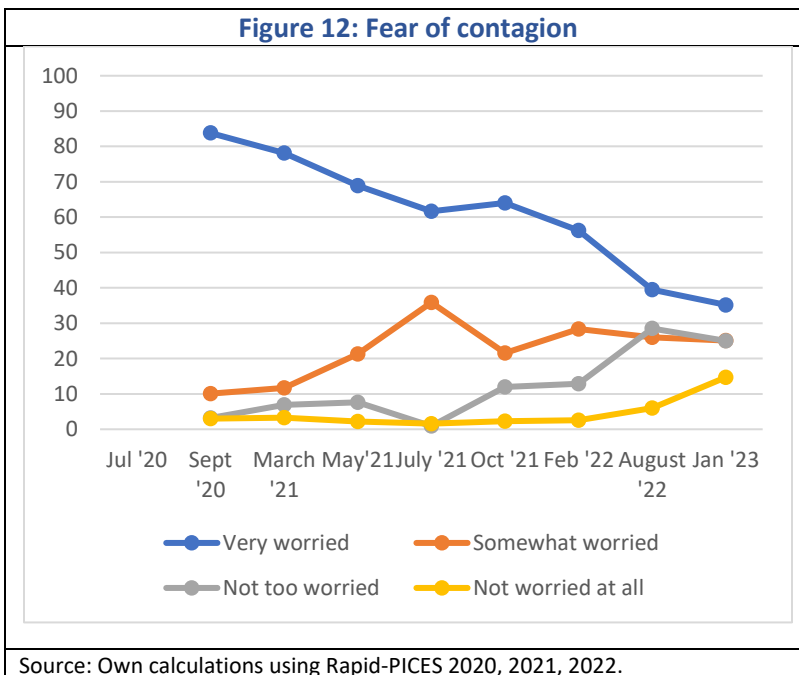
Threat to household finances

Economic recovery can take place when people believe their finances are secure. With the outbreak of the pandemic, when lockdown measures were in place and businesses were shut, many people believed the pandemic to be a substantial threat to the household finances. But as the economy gradually reopened and people started working, the perception that the pandemic threatened the household's financial standing diminished. From a high of 78 percent in September 2020, the proportion of people who though the pandemic to be a substantial threat to household's financial situation dropped to 30 percent in January 2023 (Figure 13).

Figure 13: Threat to household finances

Source: Own calculations using Rapid-PICES 2020, 2021, 2022.
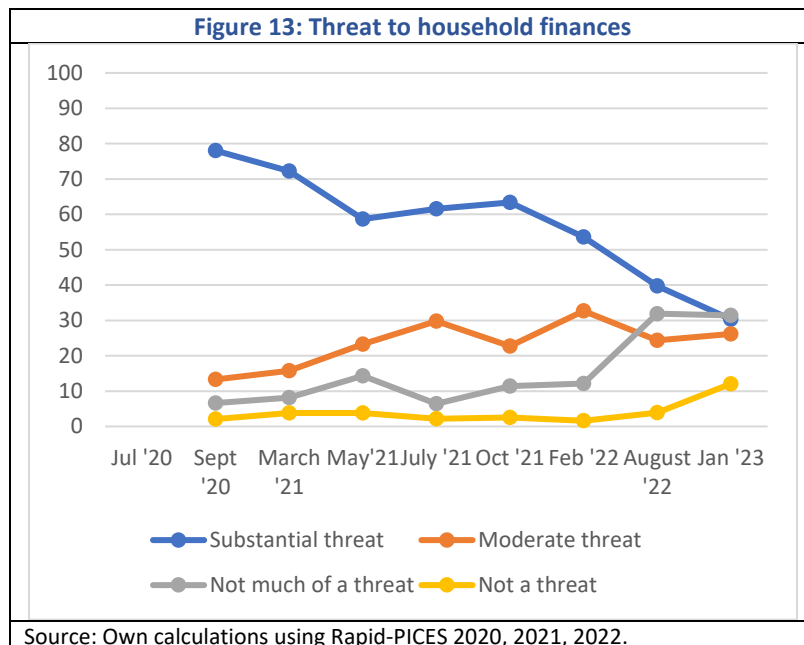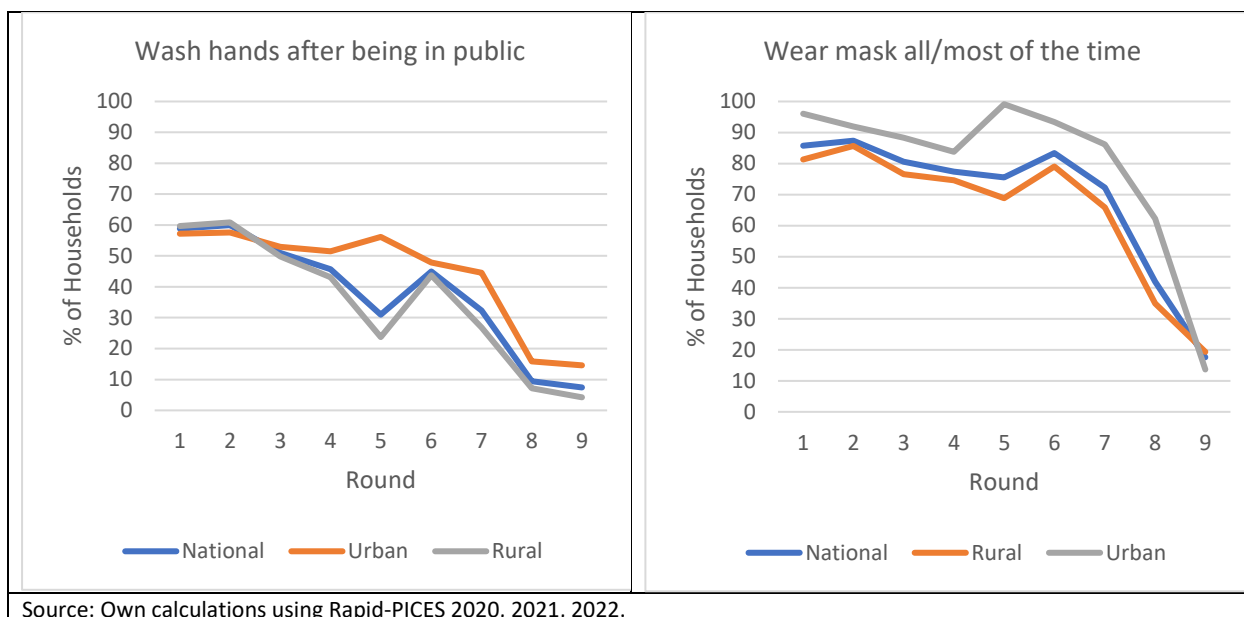
e. To track public behavior

Besides vaccination, what was needed to arrest the transmission of vaccines was the practice of preventative health measures. Governments promoted and mandated behaviors like wearing masks while in public and washing hands. The data shows that people were cautious during the pandemic, but the practice decayed over time. For example, 87 percent of people were wearing masks while in public in July 2020. This proportion declined gradually until round 6, then dropped precipitously once the vaccine coverage increased.

Likewise, washing hands can prevent the transmission of diseases, but the practice is not common. Before the pandemic, only 64.2 percent of the population had a handwashing facility with soap and water (ZIMSTAT and UNICEF, 2022). The proportion who washed their hands is likely smaller. Right after the pandemic, the proportion who said they washed hands after being in public was 59 percent, but this rate declined steadily over time, reaching seven percent by January 2023. This shows that although the fear of the pandemic momentarily changed people's behavior, the habit did not stick.

| Wash hands after being in public | Wear mask all/most of the time |

Legend (left chart): National, Urban, Rural
Legend (right chart): National, Rural, Urban

Source: Own calculations using Rapid-PICES 2020, 2021, 2022.

II.   A monitoring system is *feasible*.

As important as showing that a continuous welfare monitoring system was *necessary*, this exercise showed it was *feasible* to institute a cost-effective system in the existing institutional structure. The key elements to its success were national ownership of the survey, flexible survey structure, and cost-effectiveness.

a.   National ownership

The crucial factor for the success of frequent welfare monitoring in Zimbabwe was that it was a nationally-led and owned process. ZIMSTAT's commitment included using the interviewers in its payroll to carry out the surveys. The agency led the adaptation of the global questionnaire developed by the World Bank to the national context. After every survey round, ZIMSTAT, jointly with the World Bank and UNICEF, prepared and disseminated a summary report with the main findings. The intended audiences were policymakers, academics, development partners, media, civil society, and the public. Eminent policymakers and researchers were invited as discussants in the dissemination events. The disseminations were actively supported by the ZIMSTAT leadership which strengthened national ownership of the findings. The results were widely reported in the national media which broadened their reach.

ZIMSTAT also made an effort to minimize the nonresponse rate. The original design intended to interview 1800 households. In the first round, 1747 households were interviewed, an impressive success rate of 97 percent. After the sharp drops in response rate in rounds 3 and 5, ZIMSTAT retrained the interviewers to establish rapport with the respondents and emphasize the importance of their answers. As a result, the response rates rose in rounds 4 and 6 (Figure 14). Without such a concerted effort, the response rate would have likely fallen sooner and faster.

These response rates are not unusual for phone surveys, especially in the challenging context of the pandemic. For example, in a 2014 phone survey in Madagascar, the response rate had dropped to 76

percent after seven months.[10] A decline in response rate, even with face-to-face surveys, is also a secular problem, with attendant implications on sample representativeness (National Academies Press, 2013). One design feature than can help maintain the sample over a longer term is to include "replacement" respondents as non-participating households, randomly selected from the same PSU. If a participating household refuses to respond or goes out of contact, it is replaced by the replacement household.

Figure 14: Survey attrition

Source: Own calculations using Rapid-PICES 2020, 2021, 2022.
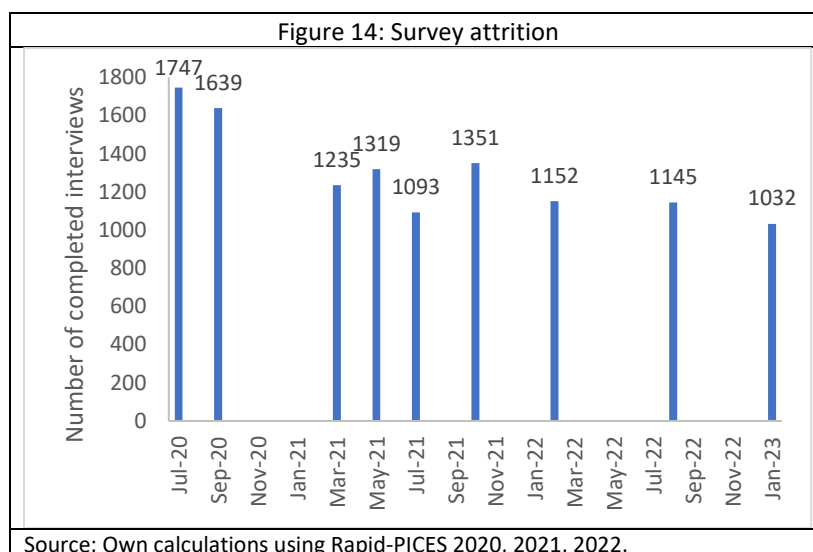
One of the main limitations of phone surveys is that they may not be representative of the population due to non-universal phone ownership, patchy network coverage, inactive phone numbers, or higher-than-usual nonresponse rate. However, these issues are common to all phone surveys, and they were considered in the sampling design and data analysis plan. The sample was representative as it was drawn from the 2019 nationally representative household survey (the Mini-PICES). To overcome the problem of nonresponse, sampling weights were recalculated after each round to make the population pyramid resemble the original pyramid in the frame. Hence, known prior information was used to mitigate the bias from nonresponse.

Other strategies may be adopted to mitigate the bias due to respondents lacking a phone or network, or both. Phones can be provided to populations that do not have them, or interviews in some areas can be done by resident enumerators. If the unobserved population is large, the results can be disaggregated into a sample for which we have high confidence in the results (i.e., the enumerated population) and another group for whom out-of-sample prediction is estimated. Maintaining separate results for the two groups would demonstrate how meaningful such considerations are in practice.

b.   Flexible survey structure

The survey adopted a flexible structure to collect the relevant data. A set of core modules of first-order importance were fielded in every round. They included employment, access to basic services and social assistance, incidence of shocks, and coping mechanisms. As a result, the trend in these indicators can be tracked for the entire duration of the survey (July 2020 – Jan 2023). The core modules were recommended by the World Bank for global comparison.

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[10] The response rate increased subsequently, after several strategies were adopted to fix the problem, including home revisits to difficult-to-reach households.

Other modules were rotated between rounds in consultation with ZIMSTAT, line ministries, partner agencies, and the World Bank sectoral teams to generate periodic information (Figure 15). Chief among them were the modules on poverty and food security. Monetary poverty was estimated using an imputation approach which uses proxy variables to predict household consumption.[11] Food insecurity was measured using the Food Insecurity Experience Scale (FIES) module. The poverty and FIES modules were included in rounds 2, 5, and 8. A sufficient gap was left between rounds to allow the survey to detect changes in the levels of poverty and food insecurity.
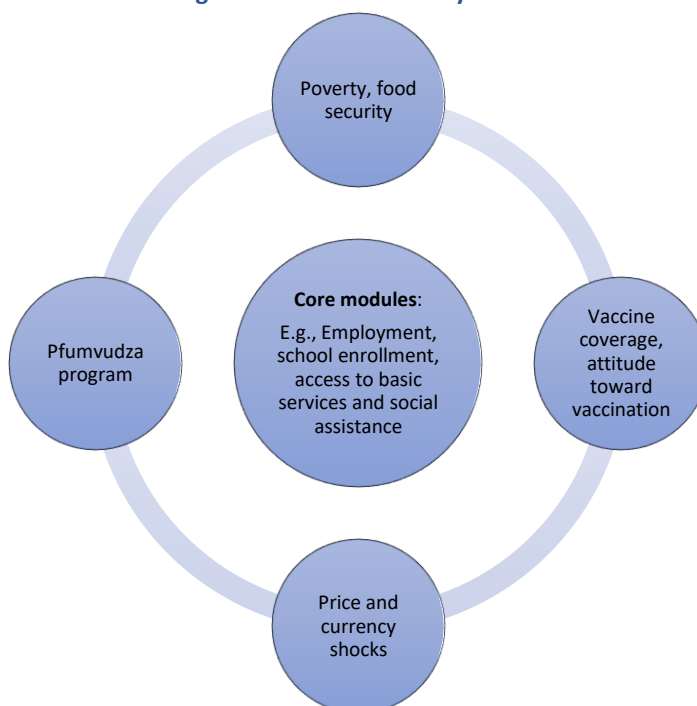
The Pfumvudza module was modified according to the timing of the survey to capture relevant information on the implementation of the climate-smart agriculture program. In surveys fielded before the planting season, the module asked if the household was participating in the program and if it was preparing the plots according to the program requirements. In surveys done soon after the planting season, the question shifted to asking if the farmers received the inputs and complementary services such as extension support and plot demonstration on time. Soon after harvest, respondents were asked if their yields increased due to the climate-smart agriculture practices and if they would participate in it again. This adaptive structure gave insight into the behavior and attitudes of households before, during, and after the main agricultural season.

Some modules were added to capture the trend in other indicators as well. For example, with the national currency rapidly losing value, questions on currency usage were introduced to gauge the extent to which the economy had *de facto* dollarized. Questions on vaccine coverage and perceived fairness of vaccine distribution were introduced after the vaccine rollout. In this manner, the survey served as a vehicle to introduce topical questions to provide just-in-time information both to shape policies and to evaluate their impact.

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[11] We use the SWIFT (Survey of Instant and Frequent Tracking) methodology to estimate poverty using proxy indicators of consumption.

Figure 15: Modular survey structure

Poverty, food security

Pfumvudza program

Core modules:
E.g., Employment, school enrollment, access to basic services and social assistance

Vaccine coverage, attitude toward vaccination

Price and currency shocks

Once the fixed costs of designing the questionnaire, selecting a sample, and training the enumerators are incurred, the variable cost of adding or changing questions is small. This model is promising for the sustainability of the survey. It can be implemented as an omnibus instrument, where, for a small fee, and without digressing too far from its original objectives, the instrument can be the platform for MDAs or development agencies to add questions or modules to collect urgent information. This model can help the survey sustain itself beyond the financing that may be available from the government or development partners.

c.   Cost-effectiveness

The marginal variable cost of the phone survey was small. As mentioned earlier, ZIMSTAT used the interviewers in its payroll to conduct the surveys. Excluding the interviewers' salaries, it cost approximately US$27,000 for nine rounds of survey, or approximately US$3000 per survey. Most of the spending was on airtime, and they do not include the value of staff time for analyzing the data, writing the report, and disseminating the findings. Nevertheless, at US$2 - $3 per interview, the cost of data collection is an order of magnitude lower than that of face-to-face surveys (see Dabalen et al., 2016 for a comparative analysis of the costs across different surveys in Malawi).

Another strategy that helped minimize the cost is drawing the phone survey sample from a recent nationally representative face-to-face survey. If a fresh sample had to be selected using the regular procedure, i.e., selection of a new sample of EAs, household listing, and second-stage selection of households, the costs would have been higher. An opportunity to use the existing survey as a sampling frame for the phone survey is available again with ZIMSTAT's implementation of the household budget survey (HBS) in 2024-25. The HBS is a large-scale household survey representative at the district level. This provides a ready pool of sample to draw from for subsequent high-frequency surveys. So, with careful planning and an efficient use of existing resources, high-frequency monitoring can be done without

onerous financial burden to the implementing agency. Further, as discussed above, the costs can be recouped by "selling" the omnibus service.

This exercise also demonstrated that a fully equipped and staffed call center is not necessary for continuous monitoring. The interviews were done by enumerators using their mobile phones, with the early rounds done from home since the offices were closed because of the lockdown. If the resources permit, having a dedicated call center would allow better supervision (it is easier to observe how enumerators are working) and data quality control (assignments can be made and data problems can be addressed more quickly). However, it is not a prerequisite for frequent monitoring.

Phone surveys are not a perfect substitute for face-to-face surveys. Interviews over the phone must be kept brief, which precludes the collection of individual level-information or detailed data on household consumption. Face-to-face surveys must be conducted periodically to provide an independent validation of the trends and set a new baseline. But in the interim, rapid monitoring surveys can provide high frequency data at a fraction of the cost.

III.   The institutional arrangement

To ensure its longevity and relevance, the institutional arrangement of the monitoring system must be developed with especial care. Overall guidance and strategic direction should be provided by a high-level Steering Committee (SC) comprised of representatives from key entities such as the Office of the President and Cabinet (OPC), Ministry of Finance (MoF), and the relevant MDAs. The SC will also provide guidance on the topics to be included in the core and rotating modules that caters to the policymakers' needs. The participation of representatives from a wide swath of sectors will be necessary improve coordination, consensus, and use of evidence in policymaking.

Guided by the Steering Committee, a Technical Committee (TC) comprised of subject-matter and survey experts from different MDAs should provide technical recommendations on questionnaire design, sample selection, data analysis, and interpretation of results. The TC will be responsible for overall technical assurance and quality control, from data collection to analysis, production and dissemination of reports, and the release of data for public use. Given its mandate to produce, curate, and disseminate official statistics, the surveys should be implemented by ZIMSTAT under the strategic and technical guidance of the Steering and Technical Committees.

The Steering Committee should meet frequently (e.g., quarterly or semi-annually), with the provision of calling ad hoc meetings on special occasions, to study the socioeconomic trends, deliberate on their causes, and discuss policy strategies. In this role, the committee will serve as a multisectoral platform for a crossflow of ideas between data producers and policymakers. It forms a forum to discuss the policies to achieve inclusive economic growth and broad-based improvement in living standards, as well as examine progress in the implementation of policies, programs, and projects.

To maximize its efficacy and relevance, the monitoring system must be aligned with the national, regional, and global development goals. For Zimbabwe, the guideposts for the design of data collection and analysis will be the National Development Plan 2021-2025 (NDP I), Agenda 2063, SADC Vision 2050, and Sustainable Development Goals (SDGs). The survey will be of value if it fills existing data gaps for the monitoring and evaluation of the development goals.

Development partners, including the World Bank, also have a role in supporting the process. The Technical Committee can benefit from technical inputs and assistance for survey design and data analysis from experts in the international agencies, as well as on data governance to ensure the quality, transparency, and public availability of data. Partners can facilitate knowledge transfer from other settings where similar systems have been successfully implemented. The use of the phone survey data by partners across many sectors will help build the coalition and encourage the use of the data by partners who may otherwise miss the opportunity. Not least, development partners may provide complementary funding for the set up and operation of continuous welfare monitoring.

While the specifics may vary, the critical factor for the longevity and sustainability of the real-time monitoring activity is its integration into ZIMSTAT's existing institutional mechanisms.

IV.   Conclusion

The exigencies of the pandemic forced ZIMSTAT to adopt innovative data collection approaches. This note argues that that experience revealed a continuous welfare monitoring to be both *necessary* and *feasible* in Zimbabwe.

The findings on the coverage of social assistance programs offer a good illustration of why a rapid monitoring system is necessary. In May 2020, the government announced the COVID-19 Economic Recovery and Stimulus Package totaling $18 billion.[12] The package comprised multiple components, including an expansion of existing social safety nets and an emergency grant to vulnerable groups. About one million households identified through the Social Welfare Department were to benefit from approximately $600 million. The support was to be distributed through i) a universal emergency cash transfer to all urban households; ii) a transfer to households employed in the informal sector; and iii) a transfer to informal sector vendors organized through their associations (World Bank, 2020).[13]

Consistent with the expansion of emergency cash assistance in urban areas by the government and development partners, the phone survey detected a higher share of urban households receiving cash transfers. But the coverage was far from the government's stated target of universal coverage. Such timely feedback allows the implementing agencies to follow-up on the bottlenecks to the implementation of the program.

The use of phones for survey preceded the pandemic due to their speed, frequency, and cost advantage. An added value of the phone surveys during the pandemic was that they could be implemented during lockdowns and social distancing. Once the infrastructure is in place and the interviewers are trained, data can be collected through phones in a matter of days, and new modules or questionnaires can be prepared and fielded in a matter of weeks. Such speed is of essence during shocks and when the government is keen on receiving citizen feedback on policy changes as close to "real time" as possible. The surveys require small variable costs, assuming the interviews are done by the existing cadre of salaried enumerators. If traditional data collection occurs every five years, high frequency survey would fill the

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[12] The details on the 2020 COVID-19 Economic Recovery and Stimulus Package are available here: https://www.veritaszim.net/sites/veritas_d/files/Details%20on%20the%20COVID-19%20Economic%20Recovery%20and%20Stimulus%20Package.pdf

[13] https://documents1.worldbank.org/curated/en/110221643895832724/pdf/Social-Protection-and-Jobs-Responses-to-COVID-19-A-Real-Time-Review-of-Country-Measures.pdf.

gap between the surveys, representing a major improvement in how often evidence is available for policymaking.

This is an appropriate time to institute a continuous welfare monitoring system in Zimbabwe. The country is considering deep economic and structural reforms like eliminating quasi-fiscal spending, increasing domestic revenue collections, and improving business climate to boost economic growth. Frequent data collection can provide evidence of the net economic gains that the reforms are expected to generate in the aggregate, as well as keep track of the distributional consequences on the pockets of constituents who may lose out in the short term. Representative surveys that occur once every five years are not suited to provide the feedback needed in weeks or months after the policy changes are introduced.

An excellent example of the use of frequent surveys to monitor the well-being and views of the people during a period of transformative changes is the Listening to the Citizens of Uzbekistan (L2CU) survey. Starting in 2018, Uzbekistan embarked on ambitious social and economic reforms with far-reaching consequences affecting businesses and citizens. The potential benefits of reforms were immense, but so was the concern that a small group of at-risk populations would lose out. As the reformed were introduced, L2CU started tracking the welfare and opinions of a representative sample of people. The same households were interviewed every month for a period, forming a panel sample. This permitted an evaluation of the change in outcomes and perceptions among the same households. The survey found, for example, lack of jobs was perceived as the most pressing challenge for the country and creating good jobs was a top priority. These and other findings help built the momentum for reform of the restrictive Soviet-era registration system that restricted labor mobility by tying them to their place of origin.

The increasing frequency of climate shocks such as droughts, cyclones, and floods in Zimbabwe is another reason why it is opportune to initiate high frequency monitoring. A good example of such a system for climate impact monitoring comes from Malawi. Following Cyclone Idai in 2016, a frequent monitoring system called Rapid Feedback Monitoring System (RFMS) was developed to monitor poverty level, food security, livelihoods, and coping mechanisms in rural southern Malawi. The system proved its usefulness after tropical storm Ana in 2022 and cyclone Freddy in 2023 as it could nimbly assess the impact of the natural disasters in the survey areas. It found that the poverty incidence did not change much immediately after the event, but the impact became visible after a lag. Social assistance and humanitarian support increased significantly immediately after Tropical Storm Ana, yet the government's contribution to this increase was limited. The main source of assistance was family members and NGOs.

The Establishment of a continuous monitoring system is aligned with the general trend as it is taking root in other countries in the region as well. For example, the latest National Statistics Development Strategy (NSDS) of Kenya and Tanzania calls for the establishment of rapid response data centers. The centers will have the capacity to deploy rapid phone surveys and big data analytics to monitor and respond to emerging crises in real time. The countries are financing the data centers through loans from the World Bank.

High frequency monitoring of labor force indicators has a precedence in the Zimbabwe statistical system as well. The last comprehensive face-to-face Labor Force Survey (LFS) was conducted in 2019. The Quarterly Labor Force Survey (QLFS) was started in 2021 to measure labor market statistics at high frequency. Since then, the QLFS has supplied labor market statistics every quarter. The household welfare monitoring survey could follow the same approach, with the quarterly welfare surveys using the face-to-face HBS 2024-25 as the baseline. Owing to ZIMSTAT's competing obligations, high frequency household

survey was not done at a regular interval. The institutionalization of continuous monitoring would allow data collection at a regular schedule.

ZIMSTAT's implementation of high frequency household survey to meet the demand for real time data after the outbreak of COVID-19 helped establish the proof of concept. Now, with creative and innovative thinking, there is an opportunity to integrate continuous household welfare monitoring in the national statistical system. This will ensure a steady flow of timely, relevant, and credible data for use by policymakers and citizens for a fact-based policy debate.

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