

REPORT

OVERVIEW OF THE SOCIAL INSURANCE SYSTEM IN VIETNAM



OXFAM



Belgium
partner in development



REPORT

OVERVIEW OF THE SOCIAL INSURANCE SYSTEM IN VIETNAM

This research is under the "Decent Work and Social Protection" project, 2017-2021, implemented by Oxfam in Vietnam and Action Network for Migrant Workers (M.net). The project is funded by General Directorate for Development Cooperation of Belgium Government (DGD).

| | |
|----------------------------|---|
| Team Leader: | Assoc. Prof. Giang Thanh Long, PhD |
| Team Member: | Do Thi Thu, MA |
| Research Assistant: | Phi Manh Phong, PhD |

Hanoi, September 2021

CONTENTS

| | |
|--|-----------|
| LIST OF FIGURES | 4 |
| LIST OF TABLES | 6 |
| LIST OF ABBREVIATIONS | 6 |
| ACKNOWLEDGEMENTS | 7 |
| EXECUTIVE SUMMARY | 8 |
| PART I: INTRODUCTION | 15 |
| I. BACKGROUND | 16 |
| II. OBJECTIVES | 17 |
| 1. OVERALL OBJECTIVE | 17 |
| 2. SPECIFIC OBJECTIVES | 17 |
| III. METHODOLOGY | 18 |
| 1. DESK REVIEW METHOD | 18 |
| 2. DESCRIPTIVE STATISTICAL METHOD | 18 |
| IV. PREPARATION AND ORGANIZATION OF THE STUDY | 19 |
| 1. LITERATURE AND DATA COLLECTION | 19 |
| 2. DATA MANAGEMENT AND ANALYSES | 19 |
| 3. ETHICS IN RESEARCH | 19 |
| PART II: KEY FINDINGS OF THE STUDY | 20 |
| I. LEGAL FRAMEWORK OF SOCIAL INSURANCE: VIETNAMESE AND INTERNATIONAL STANDARDS | 21 |
| 1. LEGAL REGULATIONS OF SOCIAL INSURANCE IN VIETNAM | 21 |
| 2. A COMPARISON OF VIETNAMESE LEGAL REGULATIONS AND INTERNATIONAL STANDARDS IN SOCIAL INSURANCE | 30 |

| | |
|--|-----------|
| 3. INTERNATIONAL EXPERIENCE ON EXPANDING SOCIAL INSURANCE COVERAGE FOR INFORMAL WORKERS..... | 32 |
| II. OVERVIEW OF SOCIAL INSURANCE PARTICIPATION IN VIETNAM | 34 |
| 1. MANDATORY SOCIAL INSURANCE PARTICIPATION | 34 |
| 2. VOLUNTARY SOCIAL INSURANCE PARTICIPATION..... | 43 |
| III. FACTORS ASSOCIATED WITH PARTICIPATION IN THE SOCIAL INSURANCE SYSTEM | 58 |
| 1. DEMOGRAPHIC, SOCIO-ECONOMIC, AND EMPLOYMENT CHARACTERISTICS..... | 58 |
| 2. OTHER FACTORS..... | 62 |
| PART III: DISCUSSION AND POLICY RECOMMENDATIONS | 66 |
| I. MANDATORY SOCIAL INSURANCE..... | 67 |
| II. VOLUNTARY SOCIAL INSURANCE..... | 67 |
| III. RECOMMENDATIONS FOR THE SOCIAL INSURANCE SYSTEM..... | 68 |
| REFERENCES..... | 70 |
| ANNEXES | 73 |
| ANNEX 1: MEASUREMENTS OF EFFECTIVE COVERAGE USED IN THIS REPORT | 73 |
| ANNEX 2: A COMPARISON OF VIETNAMESE LEGAL REGULATIONS AND INTERNATIONAL STANDARDS IN SOCIAL INSURANCE | 75 |
| ANNEX 3: QUANTITATIVE ANALYSIS | 80 |

LIST OF FIGURES

| | |
|--|----|
| Figure 1. Social insurance in the social security system in Vietnam | 22 |
| Figure 2. Percentage of the labor force participating in mandatory SI by province in 2020 | 34 |
| Figure 3. Horizontal coverage of social insurance, 2008 – 2020 | 35 |
| Figure 4. Horizontal coverage of mandatory social insurance, 2007– 2020 | 35 |
| Figure 5. The rate of participation of total formal workers in mandatory SI by age groups and genders, 2016 & 2019 | 36 |
| Figure 6. The rate of participation of total formal workers in mandatory SI by age groups and living areas, 2016 & 2019 | 37 |
| Figure 7. The rate of participation of total formal workers in mandatory SI by age groups and education levels, 2016 & 2019 | 38 |
| Figure 8. The rate of participation of total formal workers in mandatory SI by age groups and employment status, 2016 & 2019 | 39 |
| Figure 9. The rate of participation of total formal workers in mandatory SI by labor contracts, 2016 & 2019 | 40 |
| Figure 10. The rate of participation of total formal workers in mandatory SI by income and genders, 2016 & 2019 | 41 |
| Figure 11. The proportion of workers with an income higher than the regional minimum wage, 2016 & 2019 | 42 |
| Figure 12. Average monthly salary paid for mandatory social insurance | 42 |
| Figure 13. Average benefit rates of employees participating in compulsory social insurance calculated by the percentage of the regional minimum salary (Region IV), 2007 – 2018 | 43 |
| Figure 14. Rate of participation in voluntary social insurance by provinces (per total labor force), 2020 | 44 |
| Figure 15. The horizontal coverage of voluntary social insurance, 2008 – 2020 | 45 |
| Figure 16. The participation rate of informal workers in voluntary social insurance by age groups and genders, 2016 & 2019 | 46 |
| Figure 17. The participation rate of informal workers in voluntary social insurance by age groups and living areas, 2016 & 2019 | 47 |
| Figure 18. The participation rate of informal workers in voluntary social insurance by age groups and education levels, 2016 & 2019 | 48 |

| | |
|---|----|
| Figure 19. The participation rate of informal workers in voluntary social insurance by education levels and gender, 2016 & 2019 | 49 |
| Figure 20. The participation rate of informal workers in voluntary social insurance by lengths of residence and living areas, 2016 & 2019 | 49 |
| Figure 21. The participation rate of informal workers in voluntary social insurance by school-age children and living areas, 2016 | 50 |
| Figure 22. The participation rate of informal workers in voluntary social insurance by age groups and employment status, 2016 & 2019 | 50 |
| Figure 23. The participation rate of informal workers in voluntary social insurance by labor contracts and living areas, 2016 & 2019 | 51 |
| Figure 24. The participation rate of informal workers in voluntary social insurance by income and genders, 2016 & 2019 | 52 |
| Figure 25. The coverage rate of informal workers with an income above the poverty line, 2016 & 2019 | 53 |
| Figure 26. The proportion of informal workers with an income above the poverty line, 2016 & 2019 | 54 |
| Figure 27. The proportion of informal workers with a disposable income above the poverty line by age groups and gender, 2016 & 2019 | 54 |
| Figure 28. The proportion of informal workers with a disposable income above the poverty line by age groups and living areas, 2016 & 2019 | 55 |
| Figure 29. The proportion of informal workers with a disposable income above the poverty line by age groups and education level, 2016 & 2019 | 55 |
| Figure 30. The proportion of informal workers with a disposable income above the poverty line by employment status, 2016 & 2019 | 56 |
| Figure 31. The proportion of informal workers with a disposable income above the poverty line by household's school-age children, 2016 | 57 |
| Figure 32. Average monthly income selected by participants in voluntary social insurance | 57 |
| Figure 33. Average amount of benefit level of workers participating in voluntary social insurance calculated by the percentage of the rural poverty line | 58 |

LIST OF TABLES

| | |
|---|----|
| Table 1. Changes of retirement regulations in mandatory social insurance since 2008 | 27 |
| Table 2. Adjusted amount (times) of monthly salary on which voluntary social insurance has been paid | 28 |
| Table 3. A comparison between mandatory and voluntary social insurance in Vietnam | 29 |

LIST OF ABBREVIATIONS

| | |
|---------------|---|
| GSO | General Statistics Office |
| ILO | International Labor Organization |
| MOLISA | Ministry of Labor, Invalids, and Social Affairs |
| NSF | National Saving Fund |
| VSS | Vietnam Social Security |
| SI | Social Insurance |
| SSO | Social Security Office |

ACKNOWLEDGEMENTS

This study is commissioned by Oxfam in Vietnam and conducted by Giang Thanh Long, Do Thi Thu, and Phi Manh Phong. We are thankful to Oxfam in Vietnam staff for their timely support in research and administrative work, given the various difficulties of the COVID-19 pandemic. Our special thanks go to Ms Lê Thúy Hạnh, Ms Nguyễn Thu Hương, and Mr Phạm Quang Tú for their insightful comments and timely support. We would also like to thank the administrative staff of Oxfam in Vietnam for facilitating our work.

We are grateful to Professor Đặng Nguyên Anh (Vietnam Academy of Social Sciences - VASS), Mr Nguyễn Hải Đạt (International Labor Organization - ILO), Mr Trần Hải Nam (Social Insurance Department, Ministry of Labor Invalids and Social Affairs - MOLISA), Ms Phạm Thị Thanh Việt (Legal Department, MOLISA) and Ms. Hilde van Regenmortel (Oxfam) for reading and giving useful and constructive comments on the report which, in turn, helped us to revise and improve its content.

This study is under the project "Decent work and Social protection" and is financed by General Directorate for Development Cooperation of Belgium Government (DGD).

We would like to express our gratitude to individuals and organizations, too numerous to list here, for providing important information and data on social insurance policies.

The views expressed in this study are those of the authors and do not necessarily reflect the views or policies of General Directorate for Development Cooperation of Belgium Government and Oxfam.

Finally, the research team bears full responsibility for the information provided in the report.



EXECUTIVE SUMMARY

The social insurance (SI) system is one of the most important pillars of social security in Vietnam. This report focuses on two SI schemes: Mandatory and voluntary SI. Of these, compulsory SI includes five benefits: Sickness, maternity, working accidents and occupational diseases, retirement, and survivorship. Meanwhile, voluntary SI includes two regimes: Retirement and survivorship.

From the results of the literature review and descriptive statistical analysis using data from the Labor Force Survey over the years, the report has some key findings as follows:

The current state of the Vietnamese SI

system: Legal regulations have increasingly improved, both in terms of participants, regulations on payment, and benefits of SI as well as communication and implementation policies. Accordingly, more legal participants of compulsory SI were added. Meanwhile, legal participants of voluntary SI were limited by job characteristics, but extended to older groups of workers. Regulations on payment and benefits of SI were made more flexible. However, some regulations remain unfavorable for participants of voluntary SI. For example, when participating in voluntary insurance, informal workers are subject to a relatively higher premium than those in mandatory SI due to the lack of contributions from employees. The regulation that the minimum income for paying voluntary insurance is the poverty line in rural areas limits a number of the rural poor (with incomes below the poverty line). While they are the most vulnerable group of workers in need of SI coverage, on top of support from poverty reduction programs, they cannot afford to participate in SI. Additionally, the voluntary SI pension scheme does not have an early retirement age. Nor does it allow retirement due to working capacity decline, as is permitted in mandatory SI. Meanwhile, the voluntary SI survivorship regime only has a one-time rather than a monthly payment. These characteristics deter people from joining voluntary SI. Furthermore, the five additional years of SI payment required to receive the maximum pension rate poses an additional barrier for employees when deciding whether or not to participate in voluntary SI.

Comparing Vietnamese legal regulations and international standards in social insurance:

Results show that Vietnamese SI framework is relatively complete compared to international standards: First, the SI system is designed to expand horizontal and vertical coverage in accordance with international standards. Second, the mandatory SI program provides full regimes of protection (maternity, illness/disease, unemployment, working accident/occupational illness, family allowance, loss of working capacity, survivorship, and retirement). However, the benefits of voluntary SI are very limited compared to international standards, only including pension and survivorship benefits. Third, the insurance system is based on the premium rate, the time of payment, and sharing amongst the participants, in which the state budget guarantees that the social pension department can secure the livelihoods of vulnerable people without a monthly pension or SI. Fourth, the system has been developed based on fairness between contributions and benefits in terms of gender inequality, income inequality, and policies for migrant and free workers.

The Chinese experience has shown that special coverage for both contributors and beneficiaries creates an incentive for vulnerable, low-income, and unstable groups of informal workers aged 16-60. The Chinese government applies match-defined contributions (MDCs) for these groups. For example, rural workers can choose one of five annual premium rates, from RMB100 to RMB500, RMB30 of which is government-sponsored. For Thailand, aside from covering parts of the insurance, child support is an important policy channel encouraging informal workers to join SI programs. By contributing 3% of their income to SI, pension funds, and child support, workers receive up to BHT400 a month in cash for every child from 2 to 6 years old in the same period.

Participation in the compulsory SI scheme:

This report found the following:

First, concerning its horizontal coverage: The growth rate in participation remains low, with uneven coverage across regions as well as educational and income levels and limited participation from retirement-age workers. The main findings regarding participation in mandatory SI are as follows:

- In the period 2007-2020, both the total number of SI participants and their proportion of the labor force increased. However, the growth rate in the number of SI participants was low (about 4% - 6% annually). Compulsory SI coverage rates varied among provinces. For formal workers, coverage was highest in those aged between 20-54 for women and 20-59 for men. The coverage rate of formal male workers is also higher than that of females, especially for those aged between 45 and 64. Notably, older participants in mandatory SI (aged 55 years and above for women and 60 and above for men) account for the majority of formal workers in the same age group. This demonstrates that it is necessary to raise the age of retirement and implement SI policies for elderly workers.
- Coverage in urban areas was higher than that in rural areas, especially in the 25 to 59 age group. The difference was not as stark for the older group. In 2019, the coverage in rural areas increased, reducing the urban-rural gap.
- Education was strongly correlated to SI coverage, with a higher level of education correlating to a higher likelihood of participation. However, education levels also affect coverage rates among formal, working-age people. The majority of laborers who had a primary, secondary, or high school education or had no primary school education received little protection from the SI system, despite having joined the formal workforce.

- In particular, the percentage of registered business owners participating in the compulsory SI system remains low, at only about 3%-17% depending on age groups. The coverage also depended largely on the form of labor contract. Workers with contracts lasting less than three months (including the form of a 1-3 month labor contract) or from three months to less than one year often did not/were not entitled to compulsory SI according to the Law on Social Insurance. Notably, some formal workers without labor contracts or written agreements still join mandatory SI. These include workers of cooperatives in formal economic zones; the owners of entities in formal economic zones; self-employed workers¹ in agricultural, forestry, and fisheries households; sole proprietorship entities; and non-state enterprises in the formal economy.
- Income had a significant impact on whether workers participated in the compulsory SI system. However, the highest income level workers (the richest) had weaker compliance than the groups of high middle and middle-income levels. The reason for the non-participation of many workers in the lowest income group was not just their inability to contribute, but also because SI is not a priority for them. Furthermore, the results also reflected the fact that many employers did not comply with the regulations on compulsory SI payment for their employees who were formal workers and had an income higher than the minimum wage.

Second, concerning potential coverage: The potential compulsory SI coverage was very large. More than 90% of formal workers with an

income higher than the minimum wage were able to participate in compulsory SI. Conversely, less than 10% of workers had an income lower than the minimum wage, often the self-employed and wage workers.

Third, concerning vertical coverage: Monthly wage contributions have increased, but mandatory SI welfare has been falling. In particular:

- The monthly wage basis used to calculate the mandatory SI premium has increased since 2007 and more rapidly since 2016.
- The welfare level of the mandatory SI benefits has decreased gradually, especially for pension funds and death benefits as well as monthly pensions in particular. This is evidence that the benefit level of the compulsory SI was not adjusted in line with inflation.

Voluntary social insurance coverage

First, regarding its horizontal coverage: Coverage remains limited and uneven across regions, with high coverage among young, well-educated, middle-income wage workers.

- Voluntary SI coverage was uneven among provinces and ecological regions: Provinces in the Northern and Central regions had significantly higher rates of participation than those in the South.
- The participants, as a percentage of the total labor force, have increased gradually since 2008, then significantly in 2019 and 2020. However, this program currently covers only 1.86% of the labor force. This is very low compared to about 78.6% of informal workers in the labor force in Vietnam.

[1] Self-employed workers join mandatory SI in two cases: (i) when retired workers become self-employed in the formal economy, (ii) when they ask business to cover for them.

- Coverage was highest in younger workers aged 20 to 34 years-old. For these age groups, female workers had a significantly higher rate of participation than their male counterparts. For example, participation rates for workers aged 25-29 were 2.8% for women and 1.8% for men.
- Coverage in urban areas was about two times higher than in rural areas for all age groups. This gap was largest for workers aged 25 to 29 years old, where coverage was 3.7% in urban areas and 1.8% in rural areas. For older groups, the rate of participation in voluntary SI gradually decreased and the difference between urban and rural areas was very small.
- Higher levels of education were associated with higher rates of participation in the voluntary SI scheme, especially for working-age groups (under 60 years old). Male workers were less likely to participate than female workers across all education levels. This gap increased for higher education level groups.
- Migrant workers with 1-5 years or less than 1 year of residence were more likely to participate than those with long-term residency (of more than 5 years). In particular, the highest coverage rate was achieved in the 1-5 years of residence group.
- Workers in households with more school-age children were less likely to participate in the voluntary SI system in both urban and rural areas.
- Wage-workers were more likely to participate in the voluntary SI scheme than owners of entities, the self-employed, and family workers.
- The coverage rate in 2019 was higher than in 2016, mostly due to workers with labor

contracts with a term of less than 3 months in both urban and rural areas and those with service contracts working mainly in urban areas.

- Middle-income informal workers were the most likely to participate in the system.
- For the informal labor force earning above the poverty line, the coverage rates of owners of entities, the self-employed, and family workers were very low. Meanwhile, wage workers and cooperative members were more likely to participate than others.

Second, regarding potential coverage: The potential coverage for voluntary SI remains large, especially for owners of entities and wage laborers. Potential coverage is largest for workers aged 15-44 and rises as they get older. In contrast, coverage is likely to be low when there are school-age children in the household.

- Nearly 100% of informal workers who were owners and wage-workers had incomes above the poverty line in Vietnam. This shows that such workers have the financial capacity to participate in voluntary SI programs. In contrast, only about 10% of family workers had incomes above the poverty line in 2016.
- Based on the disposable income of informal workers, the potential coverage was also quite high at between 60% and 90%, depending on age, gender, and living area. In particular, the potential coverage rate increased as informal workers got older for those aged 15-44 but decreased gradually for older workers. The potential participation of female workers was significantly higher than that of males and saw an upward trend in 2019 compared to 2016. Similarly, the coverage in urban areas was significantly higher than that in rural areas for all age groups in both 2016 and 2019.

- Nonetheless, the potential coverage remained quite similar across educational levels.
- The potential coverage of family workers was lowest because their income would fall under the poverty line if they used a part of it to contribute to the system.
- Workers with more school-age children in their households had a lower potential coverage rate than others. For instance, among informal workers with one child of school-age, 68.63% of workers had an income above the poverty line. This rate was lower for those with more school-age children.

Third, regarding vertical coverage: An increase in the proportion of income used for voluntary SI in 2008-2006 can be observed. The proportion gradually decreased until now. The gap between entitlement and the poverty line showed signs of expansion before 2016.

- There was an increase in the proportion of monthly income that employees contributed to the voluntary SI scheme during 2008 to 2016. This peaked at VND2.8 million per participant per month in 2016. However, this number decreased gradually from 2017 to 2020 and fell to VND1.23 million per participant per month in 2020.
- The entitlement level in the voluntary SI scheme was reflected by the ratio of average pension and death allowance levels to the poverty line of rural areas. This ratio tended to increase slightly before 2016. However, these did not illustrate the current vertical coverage of the voluntary SI scheme because this scheme has only been applied in Vietnam since 2008. Therefore, people who were entitled from 2008 to 2016 changed from the mandatory

SI scheme and many retired people received lump-sum payments.

Fourth, some policy barriers have made workers reluctant to participate in the voluntary SI system:

- The regulation in the 2014 Social Insurance Law, which will be enacted in 2022, requires workers to contribute for an additional five years to receive the highest benefit level.
- Regulations for retirement and survivorship in both mandatory and voluntary systems are similar, but there are some important differences: Participants of voluntary SI cannot take early retirement or retire due to weakened working capacity, and only have a one-off rather than a monthly survivorship benefit.

Based on the above findings, we would like to discuss and recommend some main policy recommendations as follows.

General recommendations

- Both mandatory and voluntary SI need to be more flexible (eliminating or simplifying regulations) in terms of the required minimum years of contribution to receive a monthly retirement payment.
- Increased promotion to raise awareness and special programs for rural or ethnic workers are also needed.
- Longer and more frequent promotion materials should be shown across media channels for easier access.

Regarding the mandatory SI program:

- The adjusted monthly income paid for mandatory SI participants should be increased to ensure that the purchasing power of contributions already made is adjusted for inflation.

- Many workers with a labor contract of less than 1 year have made no contribution to the mandatory SI. Hence, it is necessary to disseminate the benefit of participation for employees and encourage the corporate social responsibility of employers by contributing to the social security system.

Regarding the voluntary SI program:

- The adjusted monthly income paid for voluntary SI participants should be increased to ensure that the purchasing power of contributions already made is adjusted for inflation.
- Flexible, short-term benefit packages for voluntary SI (such as sickness, maternity, and family support) should be implemented.
- The regulation of contribution, benefits and applying various support levels to different groups of workers according to their occupational and family characteristics (such as income) should be changed.
- Different support policies for owners and

self-employed workers should be introduced, such as funding opportunities.

- Suitable information for each group of workers should be disseminated to create better opportunities to access the voluntary SI system.
- Other relevant policies: There should be more regulations on working conditions for informal workers, with a special focus on those without labor contracts or only with verbal agreements.

Policy recommendations for both SI programs:

- Both should be more flexible regulations in terms of the minimum number of years of contribution in the SI system to get a monthly pension.
- Support and subsidized policies should be disseminated more effectively in some rural and ethnic minority areas.
- The time and frequency of dissemination on all suitable channels should be increased.



Photo: Tineke D'haese / Oxfam

PART 1

INTRODUCTION

In this section, the background and objectives of the study are first outlined as a guide for the major parts of the research paper. In order to answer the research questions, the research methods, as well as the ethical and information management processes, are given next.

I. BACKGROUND

Vietnam's SI system has been formed and is gradually being completed in order to meet the overall objective of providing social security for the entire population and increasing in-depth coverage for employees. The Law on Social Insurance 2006 and the revised one in 2014 did extend constitutional coverage up to 100% for all employees in Vietnam, including formal and informal workers. According to the Law on Social Insurance 2006, since 2008, laborers in the informal sector are allowed to participate in the voluntary SI program with two benefits: The retirement and survivorship regimes. This is a notable step in broadening coverage to informal employees. These workers are more vulnerable and almost all are "forgotten/ignored" (known as "the missing middle") in social security programs.

On 23 May 2018, the Communist Party of Vietnam issued Resolution No. 28-NQ/TW about the Master Plan on Social Insurance Reform (MPSIR). This guides the upcoming reforms on policy and legal framework, as well as on enhancing institutional capacity and governing the social security system. The overall objective of the Resolution is to reform the existing SI system in order to develop a multi-layered, diversified, modern, and integrated social security system following the principles of equality, equity, sharing, and sustainability. The Government aims to achieve these goals by enhancing governance capacity, productivity, and efficiency; while also developing benefits in a rational, professional, modern, trustworthy, and transparent way. Vietnam Social Security (VSS) will be the central body of the agenda. This is in agreement with the government's Action Plan to implement Resolution 28-NQ/TW approved by the Prime Minister on 6 October 2018.

Nevertheless, the coverage of voluntary SI still

has a number of limitations. According to data published by VSS, by the end of 2020, the number of voluntary SI participants had reached 1,031,000 people. This accounted for about 6% of the total number of participants in the SI system and was very little compared to the 35 million informal employees currently eligible for voluntary SI in accordance with the law. When considering the results of SI coverage in terms of the output of the system, according to Report No. 178/BC-LDTBXH dated 30 December 2020 of MOLISA reporting on the implementation of the government's action plan to implement Resolution No. 28-NQ/TW dated 23 May 2018 of the Seventh Conference of the 12th Central Executive Committee on reforming social insurance policies in 2020: The total number of people receiving monthly pensions, SI allowance, and social retirement assistance was more than 4.94 million people, equal to 35% of total retirement-age people. It included: 2.6 million pensioners; 0.64 million people receiving monthly SI allowance; and more than 1.7 million people receiving social retirement assistance.

According to 2016 statistics from MOLISA, almost 50% of the 11.2 million elderly people are entitled to social security policies. Of these, about 2.17 million are entitled to a pension from SI, including mandatory and voluntary SI (accounting for about 19.3% of the total number of elderly people in Vietnam). Of those who join SI, only about 15,000 people are voluntary SI recipients.

In the meantime, within the context of Vietnam, the scale and proportion of informal workers are significant. According to the General Statistics Office (GSO) in 2017, the proportion of informal employees in both the agricultural and non-agricultural sectors accounted for 78.6% of the total labor force. Of these, around 60% of informal laborers live in rural areas. The proportion of trained workers is relatively low, at only 14.8% of the total informal skilled workers.

This is a vulnerable group in terms of employment and income.

This study aims to assess the achievements as well as the difficulties and challenges in expanding the coverage of SI in general, and voluntary SI for informal laborers in particular, in Vietnam. At the same time, this paper also assesses the suitability of Vietnam's SI policies compared with international standards on social security. Some policy solutions proposed are derived from the research to develop the Vietnamese SI system and ensure social security for informal employees who are not currently covered by SI as well as social protection programs.

II. OBJECTIVES

1. Overall objective

The purpose of this study is to assess the current situation of the Vietnam SI system, including mandatory and voluntary SI. In which, this report focuses on the voluntary SI program for informal workers – the “missing middle” – who were forgotten and ignored in accessing mandatory SI and social assistance programs. Besides, the report also analyzed the current situation of mandatory SI focusing on five benefits: Maternity, illness/diseases, working accidents/occupational illness, retirement, and survivorship.

2. Specific objectives

The study aims to reach the following objectives:

- (i) To assess the SI system of Vietnam, including mandatory and voluntary SI (in terms of the achievements, advantages and disadvantages, and challenges in achieving the current coverage);

- (ii) To compare the suitability of Vietnam's SI policy system in general, and voluntary SI in particular, with international standards on social security, and;
- (iii) To evaluate the results of the SI coverage in general, and voluntary SI for informal employees in particular. From that, propose some policies to expand the coverage of SI in general and voluntary SI for informal workers - the most vulnerable group of workers in Vietnam.

III. METHODOLOGY

The main research methods used in this report include: desk review, meta-analysis, and descriptive statistical methods.

1. Desk review method

The study collected the relevant information/data as follows:

- Documents related to international standards for building and developing the social security system in general and the social insurance system in particular;
- Empirical data and studies related to horizontal and vertical coverage of SI for informal workers, with a particular focus on the group with medium income who are not covered by the social protection scheme.

Based on the collected data and documents, the research was analyzed and integrated in order to obtain: (i) An overview of the SI policy system in Vietnam and the suitability of that system with international standards and the economic, political, and social context of Vietnam; (ii) An evaluation of the current state of SI coverage in Vietnam, and; (iii) An assessment of the legal coverage of social security for the "missing-middle".

2. Descriptive statistical method

Descriptive statistics is applied to evaluate the horizontal and vertical actual coverage of SI in general, and voluntary SI in particular, in Vietnam from 2008 to the present. The data used has been published by GSO and VSS while the data set is taken from the Labor - Employment Survey conducted by GSO from 2016 to 2019.

The annual Labor-Employment Survey was first conducted in 2007 to collect data about the working-age population (from 15 years old) in the labor market in Vietnam. Survey information provides quantitative data about the demographic characteristics of employees, employment characteristics, unemployment status, income, implementation of SI benefits for employees, employee's workplace, etc. However, the information about the participants in voluntary SI has only been included since 2014. Besides, the Law on Social Insurance 2014 came into force on 1 January 2016. Therefore, this study only uses the data in 2016 and 2019 to describe and compare the status of mandatory and voluntary SI coverage for informal employees in Vietnam.

The current status of mandatory and voluntary SI is described based on three dimensions: First, the SI horizontal coverage; second, the depth of SI coverage mentioned in the ILO (2013); and third, the potential coverage discussed in the ILO (2019). These concepts are presented in detail in ANNEX 1. Specifically, according to the ILO (2013), the horizontal coverage of SI reflects the subjects participating in SI. The depth of coverage of SI illustrates the level of benefits for the participants. In terms of potential coverage, this report is based on the definition of employees who are "technically able to participate in social insurance", stated in the ILO report (2019) as defined in Decision 595/2017 of VSS.

Specifically, an employee is considered “technically able to participate in social insurance” if his or her income is higher than the regional minimum wage for the potential paid employees in mandatory SI; or the Rural Poverty Line (700,000 VND/month) for potential unpaid employees in voluntary SI.

IV. PREPARATION AND ORGANIZATION OF THE STUDY

1. Literature and data collection

The literature and data were collected under the guidance and supervision of the research team leader. The team leader is responsible for organizing training for the researchers. The training contents included: Research subjects and objectives, data collection methods, data reliability verification, data management, and ethics in research. In particular, for the quantitative data from the annual Labor - Employment Survey, the team leader will guide the researchers on how to clean the data and work on STATA in order to achieve targeted research outputs.

2. Data management and analyses

For qualitative data: Qualitative information on SI policies in Vietnam and international social security standards are aggregated and classified according to specific research objectives. From that, the research team compared and analyzed the data to evaluate the suitability of SI policies in Vietnam with international standards and assess the horizontal and vertical coverage of SI for informal workers.

For quantitative data: The data was processed and analyzed based on STATA software (version 14). Analytical techniques combine descriptive statistics with the results of

mandatory and voluntary SI according to the characteristics of informal employees. These include: Personal characteristics, household characteristics, and jobs characteristics. This is done in order to assess the coverage of SI and voluntary SI by different groups of employees. The study can also define the correlation amongst these characteristics with the participation of informal SI workers in order to increase the reliability of the research results and provide a solid base to propose recommendations.

Furthermore, the report also uses quantitative research results (with explicit references), or synthesizes quantitative data from published reports directly related to mandatory and voluntary SI of employees in Vietnam.

3. Ethics in research

The process of researching and analyzing the situation of SI policies in Vietnam and comparing them with international standards is undertaken based on the full, accurate, and honest quotation of relevant documents.

Quantitative data in the descriptive statistical techniques used to assess the current state of SI coverage in Vietnam are also used honestly and accurately to ensure the reliability of the data.

Moreover, factors related to personal information, confidential information, or non-public information are also thoroughly and prudently considered under the regulations of ethics in research.

PART 2

KEY FINDINGS OF THE STUDY

This section first analyzes the social security system in general, and the SI system in Vietnam in particular. In detail, the report focuses on analyzing the legal framework of the SI system with specific regulations on participants, premiums, benefits, etc. and then compares these regulations with international conventions and standards on social security and/or SI.

The next section describes the current status of Vietnam's informal workers' participation in SI, focusing on personal and household features of employees such as their age, sex, education level, living area, etc. The final section presents an analysis of the factors affecting their ability to participate in voluntary SI. A combination of analytical information is the basis for the policy discussions in the next parts of the report.

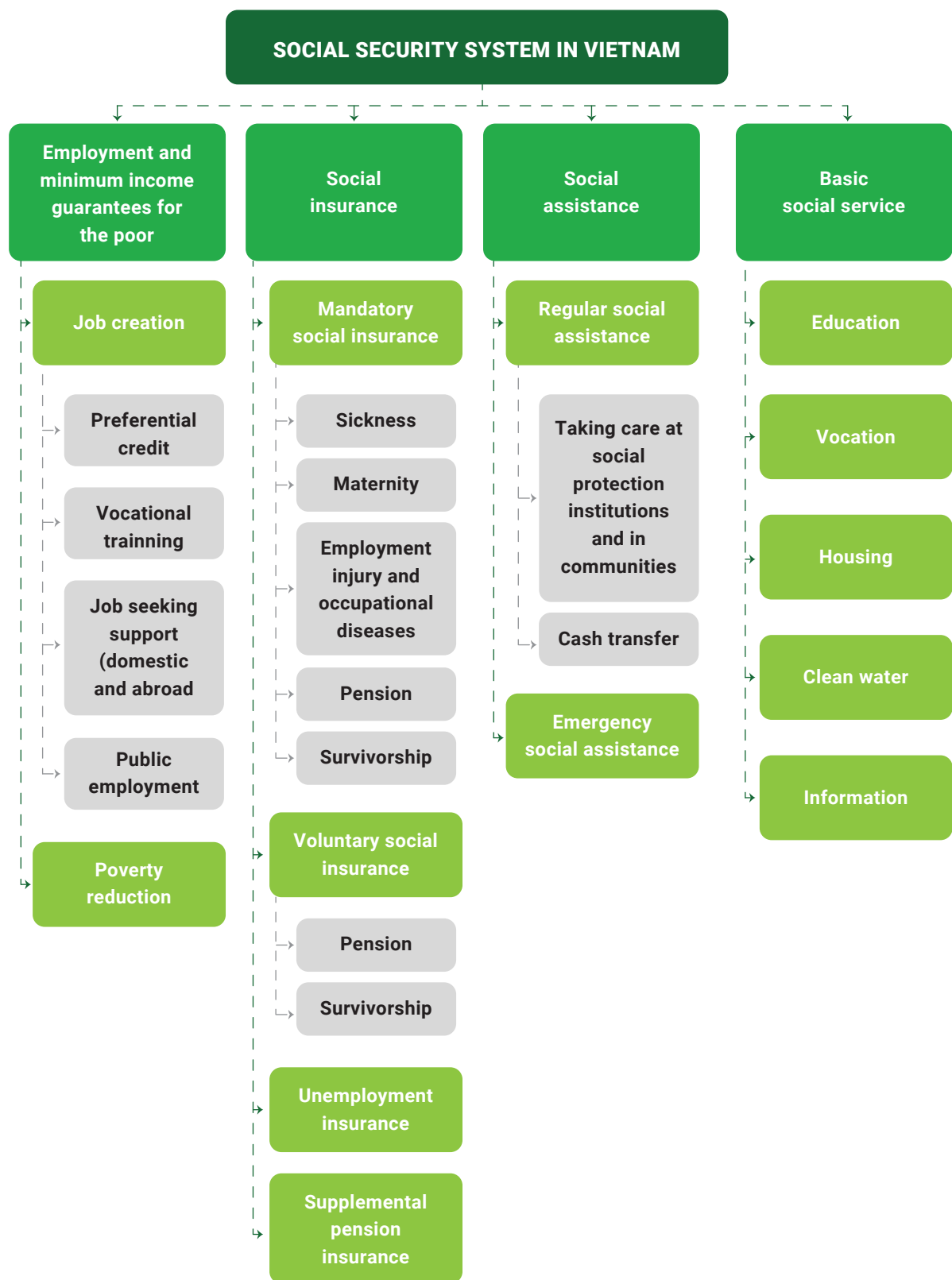
I. LEGAL FRAMEWORK OF SOCIAL INSURANCE: VIETNAMESE AND INTERNATIONAL STANDARDS

Part I clarifies the role of SI in the social security system in Vietnam and the legal provisions related to mandatory and voluntary SI in section 1. To be more specific, section 1.1 presents the legal provisions related to the mandatory SI programs in Vietnam, including: Participants, regulations on payment, regulations on mandatory SI beneficiaries, and the main differences of these provisions in the Law on Social Insurance in 2014 compared to the Law on Social Insurance in 2006. Similarly, section 1.2 clarifies some issues about the voluntary SI scheme. After that, it compares and contrasts the changes in the construction of the social security system in general and the SI system in particular, which are mentioned in Resolution 28/2018 under the Law on Social Insurance 2014, then refers to the SI system of Vietnam in relation to international standards.

1. Legal regulations of social insurance in Vietnam

This section presents the basic legal regulations of SI in Vietnam, including mandatory and voluntary SI over the period of 2006-2018. In order to clarify the position of these two schemes in the social security system of Vietnam, **Figure 1** shows the structure of the social security system over the period of 2012-2020, with a vision to 2030.

Figure 1. Social insurance in the social security system in Vietnam



Source: MOLISA (2013)

1.1. Legal framework and management of mandatory social insurance over the period of 2006-2018

1.1.1. Applicable entities

The entities participating in mandatory SI are divided into three groups specified in Article 2, Chapter I, of the Law on Social Insurance 2014. Accordingly, the applicable entities expand to four more types of workers compared to the 2006 Law, including:

- Persons working under labor contracts with a term of between one full month and less than three months;
- Vietnamese working abroad under labor contracts defined in the Law on Vietnamese Workers Working Abroad under Labor Contract who have never participated in mandatory SI.
- Salaried managers of enterprises and cooperatives;
- Part-time staff in communes, wards, and townships, and;
- Foreign citizens working in Vietnam with work permits, practice certificates, or practice licenses granted by Vietnamese authorities shall be covered by mandatory SI under government regulations.

In addition, regulations for groups who do not have to participate in mandatory SI were also specified in Clause 4, Article 2 of Decree 115/2015/ND-CP dated 11 November 2015 of the government detailing a number of articles of the Law on Social Insurance on mandatory social insurance. Employees prescribed in Points a and b of Clause 1 of this Article (domestic workers and employees that receive the following pension salaries, monthly SI allowance, and monthly allowances) shall not participate in mandatory SI:

- a) People receiving a retirement pension;
- b) People receiving a monthly allowance as prescribed in Decree No. 09/1998/ND-CP dated 23 January 1998 of the government on amendments to Decree No. 50/CP dated 26 July 1995 of the government on subsistence for officials of communes;
- c) People receiving a monthly allowance for working capacity loss;
- d) People receiving a monthly allowance as prescribed in Decision No. 91/2000/QD-TTg dated 4 August 2000 of the Prime Minister on allowance for people above the working age upon the expiration of monthly allowance for working capacity loss (hereinafter referred to as "Decision 91"); Decision No. 613/QD-TTg dated 6 May 2010 of the Prime Minister on monthly allowance for people having 15 or 20 years of working experience upon the expiration of monthly allowance for working capacity loss (hereinafter referred to as "Decision 613");
- e) Soldiers, police officers, and people working in cipher organizations receiving a monthly allowance as prescribed in Decision No. 142/2008/QD-TTg dated 27 October 2008 of the Prime Minister on policies applied to soldiers who fought in the Resistance War against the American Empire to Save the Nation with under 20 years of experience in the army and were demobilized; Decision No. 38/2010/QD-TTg dated 6 May 2010 of the Prime Minister on amendments to Decision No. 142/2008/QD-TTg dated 27 October 2008 of the Prime Minister on policies applied to soldiers who fought in the Resistance War against the American Empire to Save the Nation with under 20 years of experience in the army and were demobilized; Decision No. 53/2010/QD-TTg dated 20 August 2010 of the Prime Minister on policies applied to officials and Peoples' Public

Security soldiers who fought in the Resistance War against the American Empire to Save the Nation with under 20 years of experience in Public Security who were demobilized; and Decision No. 62/2011/QĐ-TTg dated 9 November 2011 of the Prime Minister on policies applied to people who fought in the War to Save the Nation and fulfilled international duties in Cambodia and Laos after 30 April 1975 who were demobilized or ceased work.

1.1.2. Principles of the mandatory SI premium

The monthly salary on which the SI premium is based is regulated in Article 5, Chapter I, of the Law on Social Insurance 2014. The mandatory SI premium rate shall be calculated based on an employee’s monthly salary. The monthly salary for mandatory SI payment is also specified in detail in Clause 2, Article 89 of the Law on Social Insurance 2014 and Article 17, Chapter III, of Decree 115/2015/ND-CP regarding some articles of the Law on Social Insurance as well as mandatory SI. Some notable changes are as follows:

- From 1 January 2016 to 31 December 2017, the monthly salary paid for SI is the salary and salary allowances in accordance with the labor law specified in the labor contract.
- From 1 January 2018 onwards, the monthly salary basis used to calculate the SI premium includes the salary, salary allowances, and other additional payments in accordance with the labor law specified in the labor contract.

The premium rate is specified in Clause 2 and Articles 5, 85, 86, and 89 of the Law on Social Insurance 2014. Specifically:

- Employees who have a labor contract of one full month or more; cadres, civil servants, and armed forces, pay 8% of their monthly salary into the retirement and survivorship

allowance fund. Meanwhile, employers shall make monthly payments of 18% calculated based on the salary funds on which SI premiums are based as follows:

- 3% to the sickness and maternity fund;
 - 1% to the labor accident and occupational disease fund;
 - 14% to the retirement and survivorship allowance fund.
- Part-time staff in communes, wards, and townships participating in mandatory SI of retirement and survivorship funds (implemented from 1 January 2016): Employees pay 8% of their monthly salary to the retirement and survivorship allowance fund. Meanwhile, employers contribute 14% of the monthly salary to the retirement and survivorship allowance fund for their employees.

1.1.3. Mandatory SI principles

According to Clause 1, Article 4, Chapter I of the Law on Social Insurance 2014, mandatory SI covers five benefits for employees, including three short-term regimes (sickness, maternity, and labor accidents and occupational diseases) and two long-term regimes (retirement and survivorship allowance).

Under the two long-term regimes, so far, the regulations on the conditions for enjoying the retirement benefits when participating in SI have not changed compared to the provisions in the 2006 Law. On the other hand, there has been a change in the rate of minimum pension benefits for male employees and conditions for maximum pensions for both male and female employees. These changes are summarized in Table 1. These changes are derived from the status and prediction of the pension fund's financial imbalance and are applied to both mandatory and voluntary schemes to ensure fund balance in the long term.

1.2. Legal framework and management of voluntary social insurance over the period of 2006-2018

1.2.1. Applicable entities

There is a change between the Law on Social Insurance 2014 and the Law on Social Insurance 2006. According to the provisions of the Law on Social Insurance 2006, the entities participating in voluntary SI are all Vietnamese citizens of working age and not subject to mandatory SI. Thus, it can be seen that the age of legal participants of voluntary SI is limited from 15 to 55 years old for women and up to 60 years old for men in the Law on Social Insurance 2006. The Law on Social Insurance 2014 provides similar conditions for participation, but it extends the coverage to all Vietnamese citizens aged 15 and older who are not the participants of the mandatory SI. In fact, the group of applicable entities is narrowed down under the provisions of the Law on Social Insurance 2014 compared to the Law on Social Insurance 2006. The main reason was due to the expansion of the entities of mandatory SI participation. According to the Law on Social Insurance 2006, participants in mandatory SI have labor contracts of three months or more. However, the Law on Social Insurance 2014 regulates that all employees who have signed labor contracts of one month or more are applicable entities of mandatory SI. Besides, the group of part-time staff in communes, wards, and township levels – as well as salaried managers of cooperatives – are transferred from the group of voluntary SI under the Law on Social Insurance 2006 to the group participating in mandatory SI under the Law on Social Insurance 2014. This regulation entered into force on 1 January 2016.

According to the definition of GSO (2017), an informal employee is someone with informal

employment (a job without mandatory SI and without a labor contract of at least three months). Thus, the majority of the applicable entities of voluntary SI are informal employees.

1.2.2. Voluntary SI principles

(i) Amount of salary on which voluntary SI premiums are based

Employees participating in voluntary insurance are allowed to choose the amount of monthly income paid for SI. However, there is a change in the minimum income level base for paying SI. According to the Law on Social Insurance 2006, the minimum wage paid for voluntary SI is equal to the general minimum wage. By 2014, however, the revised Social Insurance Law allowed workers to choose a lower minimum payment rate, which was the rural poverty line. This provision expands the group of beneficiaries of voluntary SI to workers whose incomes are lower than the general minimum wage but higher than the poverty line in rural areas. It is considered that the adjustment is reasonable in terms of reaching the goal of participation in SI coverage for all informal and low-income workers.

The monthly income selected by SI participants is defined according to the Law on Social Insurance 2006 and guidance in the government's Decree No. 190/2007/ND-CP dated 28 December 2007 guiding a number of articles of the Law on Social Insurance. It is determined by the common minimum salary plus (mx 50,000). This represents a jump of VND50,000 in each monthly income for which voluntary SI is paid. However, since 1 January 2016, this provision no longer exists following the 2014 Law on Social Insurance and its guiding documents (the government's Decree No. 134/2015/ND-CP dated 29 December 2015 guiding a number of articles of the Law on Social Insurance).

(ii) Voluntary SI premium rate

The voluntary insurance premium rate applicable in 2008 was 16% of the income base for paying SI. This rate was applied from 2008 to 2010. After 2010, the rate of SI contributions increased by 2 percentage points per year. From 2016 up to now, according to the revised Law on Social Insurance 2014, this rate is set to be 22% to contribute to the retirement and survivorship fund. This contribution rate is equal in comparison with the rates of the retirement and survivorship funds in the mandatory SI program. Meanwhile, the salary for paying the mandatory SI is higher than the selected minimum income of voluntary insurance participants. According to Decree 134/2015/ND-CP relating to some articles of the Law on Social Insurance on voluntary insurance, the minimum income level selected for SI payment is the poverty line in rural areas. This poverty line is determined based on the poverty standard set by MOLISA. In 2018, the rural poverty line was VND700,000/person/month. Meanwhile, the employee's income level for paying mandatory SI is the salary and allowance but not lower than the regional minimum salary. In 2018, region IV had the lowest regional minimum wage at VND2,760,000/person/month. Hence, it can be seen that informal workers are encouraged to participate in voluntary insurance by setting the minimum rate at a relatively low level compared to mandatory SI participants. However, in terms of mandatory SI, employees only have to contribute 8% out of the total 22% of contributions to the retirement and survivorship funds. Actually, informal workers – when participating in voluntary insurance – are subject to a relatively higher contributions rate compared to those in mandatory SI.

In addition, the regulation that the minimum income for paying voluntary insurance is the poverty line in rural areas limits a number of the rural poor (with incomes lower than the poverty line). This is because they cannot afford to contribute to participate in SI, even though they are the most vulnerable workers in society and should be covered by the SI system besides poverty reduction programs. According to Decree 134/2015/ND-CP on voluntary social insurance, poor households will be supported with 30% of the minimum voluntary SI contributions (equal to 30% of VND154,000/person/month or VND46,200/person/month). However, this sponsorship does not much improve the poor's ability to contribute to the voluntary SI program.

(iii) Method of payment of voluntary SI

Participants in voluntary SI have more options related to the payment methods compared to the previous regulations. Accordingly, the employees can pay monthly, quarterly, every 6 months, annually, once for many upcoming years, or once for the missing years. This regulation has created conditions for thousands of employees to receive their monthly pension according to the regulation on minimum years of contribution.

It is considered as an adjustment in the SI payment process to facilitate and limit administrative barriers to attract employees to participate in voluntary SI.

1.2.3. Voluntary SI benefits regime

Regulations on calculating the rate of pension and survivorship benefits are illustrated in **Table 1.**

Table 1. Changes of retirement regulations in mandatory social insurance since 2008

| Retirement regime | Period of 2008-2015 | Period of 2016-2017 | Period 2018 - now |
|--|--|--|--|
| Conditions for benefit entitlement | Reaching 60 years old for men, or 55 years old for women; Have paid social insurance premiums for at least the full 20 years | Reaching 60 years old for men, or 55 years old for women; Have paid social insurance premiums for at least the full 20 years | Reaching 60 years old for men, or 55 years old for women; Have paid social insurance premiums for at least the full 20 years |
| Bases for determining levels of pension | Average monthly salary on which social insurance premiums are based for the whole time of participation | Average monthly salary on which social insurance premiums are based for the whole time of participation | Average monthly salary on which social insurance premiums are based for the whole time of participation |
| Pension rate levels | 45% of the average monthly salary for 15 years | 45% of the average monthly salary for 15 years | Women: 45% of the average monthly salary for 15 years Men: 45% of the average monthly salary for the participation time increasing gradually from 16-19 years, applicable from 2018 to 2021. Men: 45% of the average monthly salary for 20 years from 2022 |
| | Men: 2% for each additional year | Men: 2% for each additional year | Men: 2% for each additional year |
| | Women: 3% for each additional year | Women: 3% for each additional year | Women: 2% for each additional year |
| | Maximum rate: 75% of average monthly salary | Maximum rate: 75% of average monthly salary | Maximum rate: 75% of average monthly salary |
| Conditions for enjoying the maximum rate | Men: Have paid social insurance premiums for a full 30 years or more Women: Have paid social insurance premiums for a full 25 years or more | Men: Have paid social insurance premiums for a full 30 years or more Women: Have paid social insurance premiums for a full 25 years or more | Men: From 2022, have paid social insurance premiums for a full 35 years or more Women: Since 2018, have paid social insurance premiums for a full 30 years or more |

Source: Law on Social Insurance (2006, 2014)

From an employee's perspective, five additional years of SI payment as a condition to receive the maximum pension rate is a barrier for employees to decide whether or not to participate in voluntary SI.

The amount of monthly income on which voluntary SI premiums are based is adjusted in Decree 134/2015/ND-CP under the following formula:

The amount of monthly salary on which voluntary social insurance premiums are based = Total monthly income paid for voluntary social insurance in each year * Adjusted monthly income paid for voluntary social insurance of the corresponding year

In which: "Adjusted monthly income" is intended to reflect the inflation index when calculating the entitlement rate for employees participating in voluntary insurance when they retire and are eligible to receive their pension, when they receive one-time SI, or their relatives receive a lump-sum survivorship allowance. The adjustment of monthly income on which SI has been paid is specified by MOLISA based on Decree 134/2008/ND-CP. For example, Circular 58/2015/TT-BLDTBXH; Circular 42/2016/TT-BLDTBXH; Circular 32/2017/TT-BLDTBXH; Circular 35/2018/TT-BLDTBXH; and Circular 35/2019/TT-BLDTBXH regulate the adjustment of salary and monthly income to pay SI premiums and the rate of adjusted monthly income on which voluntary SI has been paid as in **Table 2**.

Table 2. Adjusted amount (times) of monthly salary on which voluntary social insurance has been paid

| Year | Adjustment level applicable in 2016 | Adjustment level applicable in 2017 | Adjustment level applicable in 2018 | Adjustment level applicable in 2019 | Adjustment level applicable in 2020 |
|------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 2008 | 1.69 | 1.73 | 1.79 | 1.86 | 1.91 |
| 2009 | 1.58 | 1.62 | 1.68 | 1.74 | 1.79 |
| 2010 | 1.45 | 1.48 | 1.54 | 1.59 | 1.64 |
| 2011 | 1.22 | 1.25 | 1.30 | 1.34 | 1.38 |
| 2012 | 1.12 | 1.15 | 1.19 | 1.23 | 1.26 |
| 2013 | 1.05 | 1.08 | 1.11 | 1.15 | 1.18 |
| 2014 | 1.01 | 1.03 | 1.07 | 1.11 | 1.14 |
| 2015 | 1.00 | 1.03 | 1.06 | 1.10 | 1.13 |
| 2016 | 1.00 | 1.00 | 1.04 | 1.07 | 1.10 |
| 2017 | | 1.00 | 1.00 | 1.04 | 1.06 |
| 2018 | | | 1.00 | 1.00 | 1.03 |
| 2019 | | | | 1.00 | 1.00 |
| 2020 | | | | | 1.00 |

Source: Own compilation from MOLISA (various years)

The comparison of retirement and survivorship regimes in mandatory and voluntary SI policies shows that they are quite similar. However, there are still some differences. For instance, the pension scheme of voluntary SI does not have an early retirement age or allow retirement due to working capacity decline. Meanwhile, the survivorship regime of voluntary SI does not have a monthly survivorship regime; only a one-off payment.

Continuing the government's efforts in implementing the goal of ensuring social security through the Law on Social Insurance in 2014, Resolution 28/2018 is considered a milestone in the creation of social security policies in general and the SI system in particular in Vietnam. There are some key points that make up the highlights of Resolution 28/2018 compared to the Law on Social

Insurance 2014, including: First, social security coverage for all citizens is ensured through the completion of "Layer 1 - Social Pension Benefits". The coverage layer is an extension of the beneficiaries compared to the Law on Social Insurance 2014. This is a program for the elderly with no monthly pension or SI, funded from the state budget. Besides, the government shall call for additional social resources so that the elderly who are eligible for this program will have an increasingly improved benefits rate. Meanwhile, the government is gradually reducing the age of receiving social pension benefits on schedule. Before the implementation of Resolution 28/2018, Vietnam had a social protection subsidy program for the elderly from 80 years old or 60 years with additional conditions of being poor or disabled (Do Thi Thu, 2018).

Table 3. A comparison between mandatory and voluntary SI in Vietnam

| | MANDATORY SI | VOLUNTARY SI |
|--|--|--|
| Benefits covered | Sickness, maternity, OSH pension, survivorship | Pension, survivorship |
| Monthly income basis determining the premium | Current monthly salary (incl. additional allowances and payments), but at least the minimum wage | Monthly income of choice, but at least the poverty line of the rural area |
| Premium rate | 26% of monthly salary, of which: - 18% by employer = 3% for sickness & maternity + 1% for occupational disease + 14% for pension and survivorship - 8% by employee, for pension and survivorship | 22% of monthly salary/income, for pension and survivorship, but subsidized: - 30% if poor - 25% if near-poor - 10% for others (max 10y) |
| Regularity of contribution | Monthly | Monthly, quarterly, every 6 months, annually, or once for many upcoming years and once for missing years. |

Source: Own compilation

2. A comparison of Vietnamese legal regulations and international standards in social insurance

In order to answer the question of whether or not Vietnam has SI policies when compared with international recommendations/conventions/standards, Annex 1 gives a comparison between Vietnam's policies on SI (divided into mandatory and voluntary SI) and international recommendations/conventions/standards, specifically as follows:

- The objectives of the system (expanding coverage/increasing participant welfare):

Article 22 of the Universal Declaration of Human Rights of the United Nations recognizes that everyone - being a member of society including workers in the informal sector - has the right to receive social security through national effort and international cooperation. Meanwhile, Objective 1.3 of the United Nations Agenda for Sustainable Development affirms that the development of a social security system for all citizens is relevant to ethnic nations, comprising of multiple layers and reaching the majority of the poor and vulnerable groups of people by 2030.

In Vietnam, Resolution No. 28-NQ/TW, Session XII states the aim of: "Developing a diversified, multi-layered, modern and integrated social security system; mobilizing social resources according to the nation's tradition of mutual affection; in order to cover the entire population on schedule and suitable to socio-economic development conditions". In Resolution No. 28 NQ/TW, the government set the following target: "In 2030, reaching about 60% of the working-age labor force participating in the social insurance, of

which farmers and informal workers will account for about 5% of the working-age labor force and towards a mandatory social insurance policy for all employees having jobs and income." Besides, the target is to expand benefits for participants of voluntary SI (currently, participants are only entitled to retirement and survivorship benefits) step-by-step. In terms of social pension allowance, the Resolution states "having a policy to call for social resources to pay additionally for these entities to have higher level benefits; gradually reduce the age to enjoy the social pension in accordance with the budget's capacity".

- Providing almost full regimes of protection (maternity, illness/diseases, unemployment, working accident/occupational illness, family allowance, loss of working capacity, survivorship, and retirement):

The regimes mentioned above have been recommended in ILO conventions. Most are stated in Chapter III: Mandatory Social Insurance of Vietnam's Law on Social Insurance. The unemployment regime is specified in Chapter VI, Law on Employment, while the regime of loss of working capacity/disability is specified in Decree No. 235-HDBT, Decision No. 60-HDBT, and in Article 55 of the Law. The significant point here is that people participating in voluntary SI in Vietnam are only entitled to two regimes (retirement and survivorship), which are specified in Chapter IV of the Law on Social Insurance.

- Regulations on contributions/level of contributions (individual contributors; government sponsor):

There is no regulation on specific contributions or level of contributions in

international recommendations/ conventions/ standards. However, Recommendation R202 on Social Security Floors ILO (2012) proposed a model of social security with state budget funding to ensure basic health care and minimum income security for some target groups such as the poor, the unemployed, children, the elderly, and disabled people. In Vietnam, Article 5 of the Law on Social Insurance defines the principle of the mandatory SI premium based on the employee's monthly salary. It further defines the voluntary SI rate based on the monthly income chosen by the employee. Currently, according to Decision 959/QĐ-BHXH, for individuals participating in SI, it is required that 26% of their monthly salary be paid (8% by employees and 18% by their employers). Meanwhile, participants of voluntary SI contribute 22% of the monthly income selected by the employees. Moreover, voluntary SI participants are supported by the state at 30% of the premium rate, if they belong to a poor household; 25% of the premium rate, if they belong to a near-poor household; or 10% of the premium rate for other groups for up to 10 years.

- Regulations on level of entitlement to benefits (minimum and maximum levels):

Layer 1: The social security system (redistribution of income) of a multi-layered pension system led by the Organization for Economic Cooperation and Development (OECD) and Pillar 0 (social welfare) – a multi-pillar model proposed by the World Bank to ensure a minimum income for people. The source of this is taken from the state budget and redistributed to different groups of people. Recommendation R202 on the Social Security Floor of the ILO (2012) also proposed Layer 1 with minimum income guarantee regimes for the unemployed, the

poor, children, the elderly, the disabled, and other special groups. At the same time, this floor aimed to ensure that everyone can access basic health care services. These regimes would be paid for from the state budget. Correspondingly, Resolution 28/TW affirms the goal of building a multi-layered SI system in Vietnam, in which the state budget guarantees that the social pension department can provide benefits for the elderly without a monthly pension or SI.

On basic SI (including mandatory and voluntary), Article 5 of the Law on Social Insurance also determines the principles of the SI entitlement rate calculated based on the premium rate, the time of payment, and sharing amongst the participants. Articles 56 and 74 of the Law state that the minimum entitlement is equal to between 45% and 75% of the average monthly income paid for SI.

- Equity/equality issues in the system (fairness between contributions and benefits; gender and income inequalities in contributions and benefits, and; policies for migrant and free workers):

The issue of fairness between contributions and benefits is confirmed in Resolution 28/TW: "harmonious combination of the principles of contributions – benefits within principles of equality, equity, sharing, and sustainability" and clarified in the principle of SI entitlement in Article 5 of the Law on Social Insurance (as mentioned above). However, the issue of intergenerational fairness is challenged by a social insurance system based on the principle of pay-as-you-go (PAYG) in the context of an aging population. There is a difference in the age of pension entitlement between men and women in the Law on Social Insurance, regardless of their participation in mandatory

or voluntary SI, as well as being based on the principle of sharing amongst pensioners (between people with high incomes for people with low incomes). This will lead to weak links between contributions and benefits.

- Policies for immigrant and migrant workers are recommended in Article 68, Part XII of ILO Convention 102. Vietnamese citizens working abroad under labor contracts and foreign citizens working in Vietnam with a work permit are the adjusted subjects of the Law on Social Insurance.

Layer Two: The voluntary pension system in the multi-layered pension system proposed by the OECD allows the participation of self-employed workers. Resolution 28/ TW announces the aspiration to: "Force the process of increasing the number of employees participating in social insurance in the informal sector".

- Ensuring a sustainable social security system: As mentioned above, Resolution 28/ TW aims to: "Develop [a] flexible, diversified, multi-layered social insurance policy system". However, the long-term sustainability of the SI system in Vietnam is facing challenges because the system is built on the principle of "PAYG" and the population is aging rapidly.

3. International experience on expanding social insurance coverage for informal workers

3.1. Experience from China

The SI system, including mandatory and voluntary SI, was an important pillar of the

social security system in China. In which, the voluntary SI distinguished between rural and urban areas.

In rural areas, voluntary SI has been applied since the end of 2009 for rural workers between the ages of 16 and 60 but not legal participants of the urban SI program. Employees choose one of five premium levels ranging from RMB100 to RMB500 per year, with the government providing a subsidy of RMB30 (Chen and Turner, 2014). Groups of disabled or vulnerable people could participate in the system at a minimum contribution level with support from the local budget. To ensure a minimum pension level, the central government subsidized 100% minimum pension level for poor localities and Western regions.

The voluntary SI program in urban areas has been applied since the end of 2011 for informal workers (who are at least 16 years old and are not legal participants in mandatory SI). Participants in this program are supported by the government, both in terms of contribution rate and benefit level. The support is different among contribution levels and among areas. Regarding the level of pension, when reaching retirement age, each person will receive a monthly pension from an individual notional account and a basic pension from the state budget with a minimum of RMB55/month which is adjusted for inflation.

3.2. Experience from Thailand

In Thailand, the social insurance system is managed directly by the Social Security Office (SSO) with direction from the Ministry of Labour. The child allowance policy was one of the remarkable policies in Thailand. Workers in the private sector participating in the SI system, with a premium rate of 3% of their monthly income going to the pension fund, and their

children, will receive a cash allowance of Baht400/month for up to two children aged six and under.

The premium rate of contribution is 6% of monthly income. This is shared between employees and employers in the private SI system. This level is much lower than in other countries. Indeed, the low rate of contribution is a drawback of the SI system in Thailand. However, this could be considered an important policy direction to expand the horizontal coverage of SI. With a low contribution rate for many years, 81.7% of elderly people in Thailand received a pension in 2017 (ILO, 2017).

In addition, to increase retirement savings for informal workers, Thailand established the National Savings Fund (NSF) in 2015. This is a matching defined contribution policy for informal workers when participating in the SI

system. Accordingly, the support rate was 50% (for under-30s), 80% (for those aged 30-50), or 100% (for those aged over 50) of the contribution level for informal workers. However, the maximum support level was Baht100/month. This form of financial support was effective for low- and middle-income groups.

From the above analysis, two important lessons can be learned for Vietnam in implementing the goal of expanding SI coverage for informal workers:

(i) More short-term benefits need to be added, such as child allowance, in the voluntary SI program; (ii) it is necessary to have a policy to support the contribution rate and support the minimum benefit level according to national financial resources for the low-income group of workers, and; (iii) a low contribution rate, which was an effective policy in Thailand, is one solution to expand SI coverage.



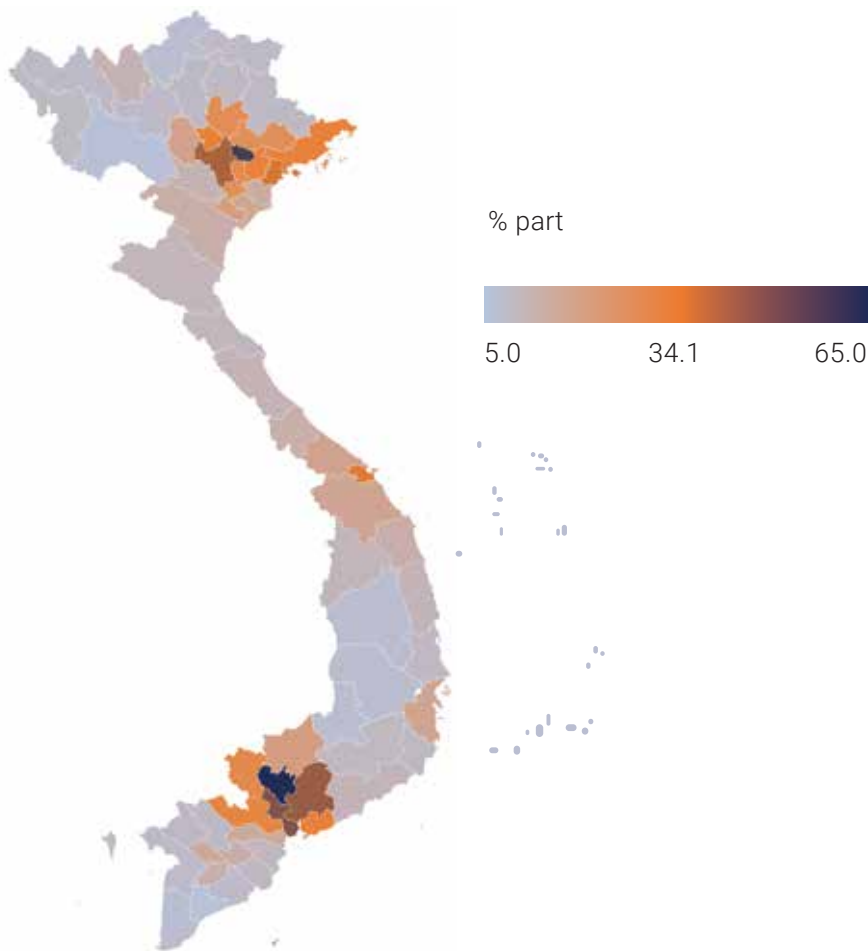
II. OVERVIEW OF SOCIAL INSURANCE PARTICIPATION IN VIETNAM

In this section, the statistical results describing the status of mandatory and voluntary SI will be presented in detail, including three dimensions: The horizontal coverage, the vertical coverage, and the potential coverage. Results of the coverage are also disaggregated by demographic characteristics (age, gender, education levels, etc.) and employment characteristics (employment status, employment contract status, income, etc.) Parts one and two will clarify the mentioned coverage issues for the mandatory and voluntary SI scheme.

1. Mandatory social insurance participation

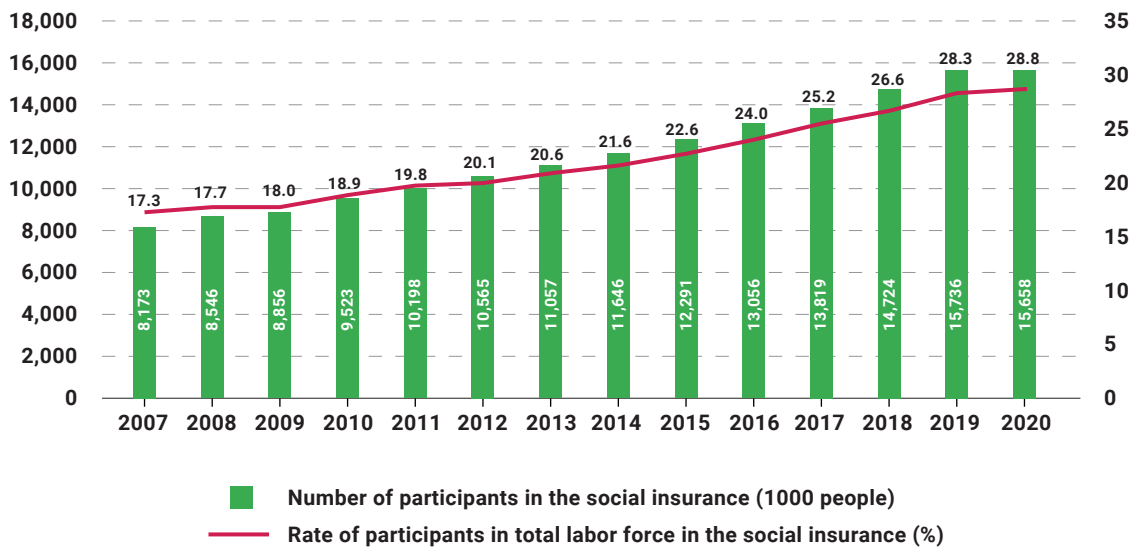
Figure 2 displays a map of mandatory SI participation by province. It can be seen that the rate of participation is quite different between the provinces in Vietnam. The rate usually ranges from 7% to over 60%. In particular, the highest participation rates in the North are in Hanoi and Bac Ninh. Meanwhile, in the South, the highest rates are in Binh Duong, Dong Nai, and Ho Chi Minh City. These areas have large numbers of employees, offices, or industrial zones with a lot of domestic enterprises and foreign direct investment.

Figure 2. % of the labor force participating in mandatory SI by province in 2020



Source: VSS (2020) & GSO (2019)

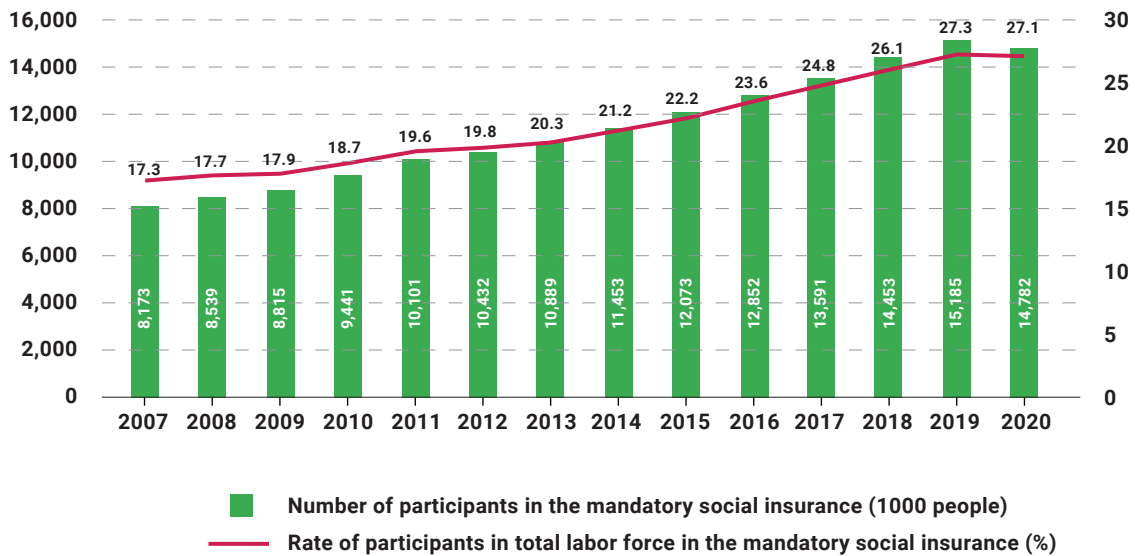
Figure 3. Horizontal coverage of social insurance, 2008 – 2020



Source: VSS reports & GSO

Figure 4 presents the horizontal coverage of mandatory SI participation between 2007 and 2020. It can be seen that the trend of expanding mandatory coverage is quite similar to the coverage of general SI.

Figure 4. Horizontal coverage of mandatory social insurance, 2007– 2020



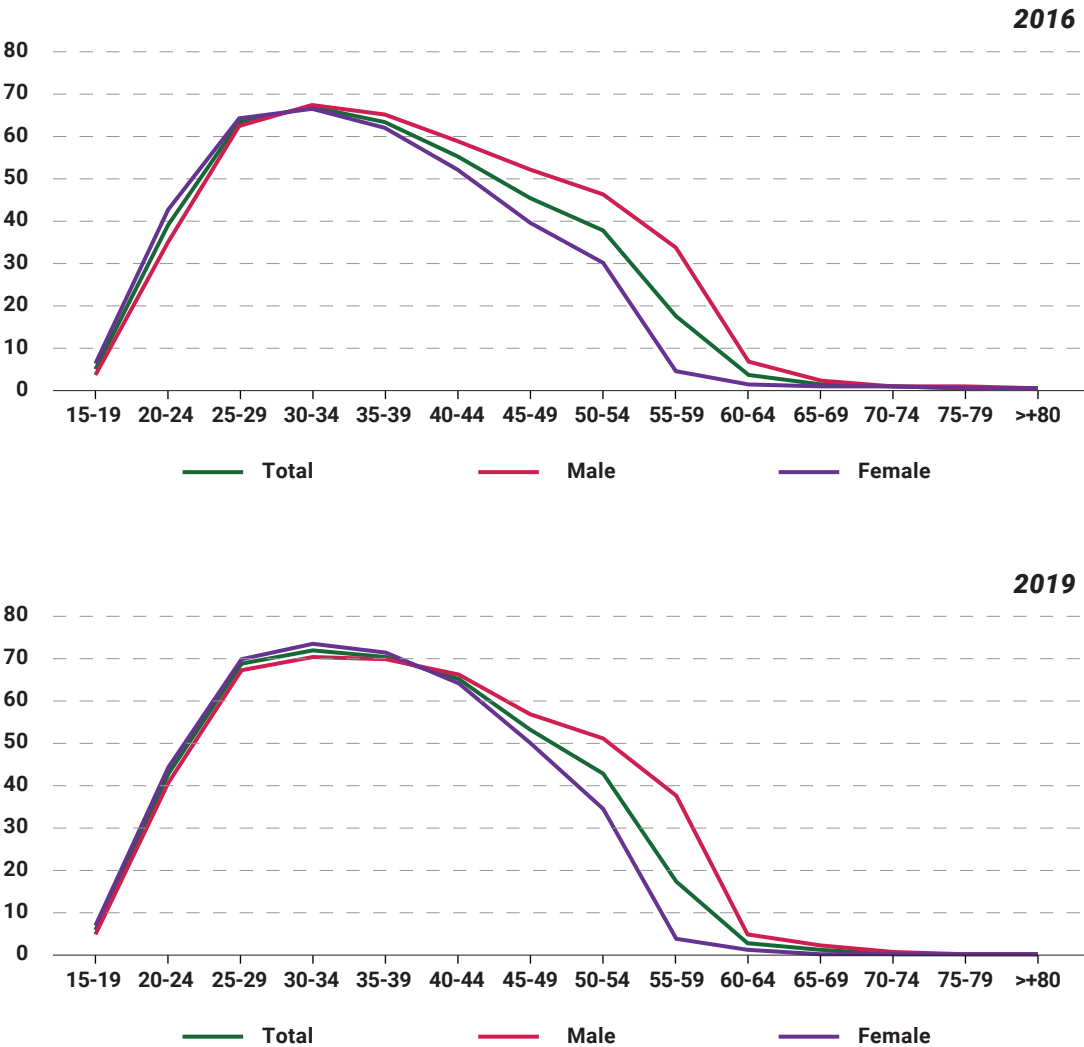
Source: Vietnam Social Insurance reports & GSO

In order to analyze the participation of specific groups of employees in mandatory SI in detail in terms of their typical features of age groups, genders, living areas, etc., data from the Labor Force Survey (LFS) in 2016 and 2019 was used.

Figure 5 shows the rate of mandatory SI participation by age groups and genders in 2016 and 2019. Amongst “formal workers” (an ILO definition stated in the GSO (2017)) – also

known as the applicable entities of mandatory SI – the rate of participation in mandatory SI ranges from less than 1% to over 70% by age. In particular, formal workers aged from 20 to 54 years old (women) and from 20 to 59 years old (men), have a high rate of participation. This rate improved significantly in 2019 compared to 2016. To be more specific, male workers are often more likely to participate than female workers. The gender difference is even more apparent in the 45-64 age bracket.

Figure 5. The rate of participation of total formal workers in mandatory SI by age groups and genders, 2016 & 2019

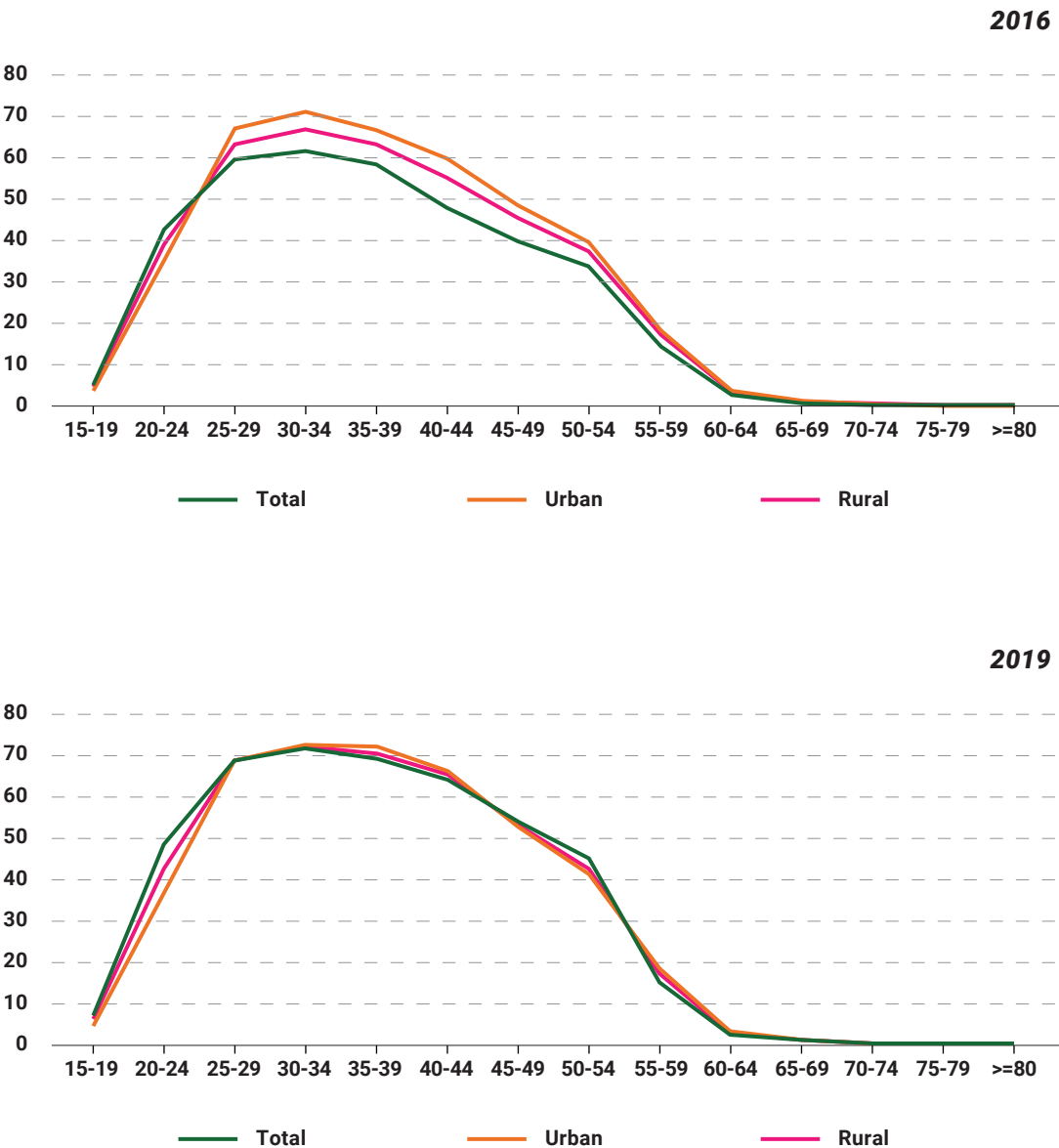


Source: Own calculations from LFS 2016 & 2019

Figure 6 illustrates the proportion of employees participating in mandatory SI by living areas. It is clear that urban workers had a significantly higher participation rate than rural workers in

2016, especially amongst those aged between 25 and 59. In 2019, this trend seems to be no longer clear.

Figure 6. The rate of participation of total formal workers in mandatory SI by age groups and living areas, 2016 & 2019

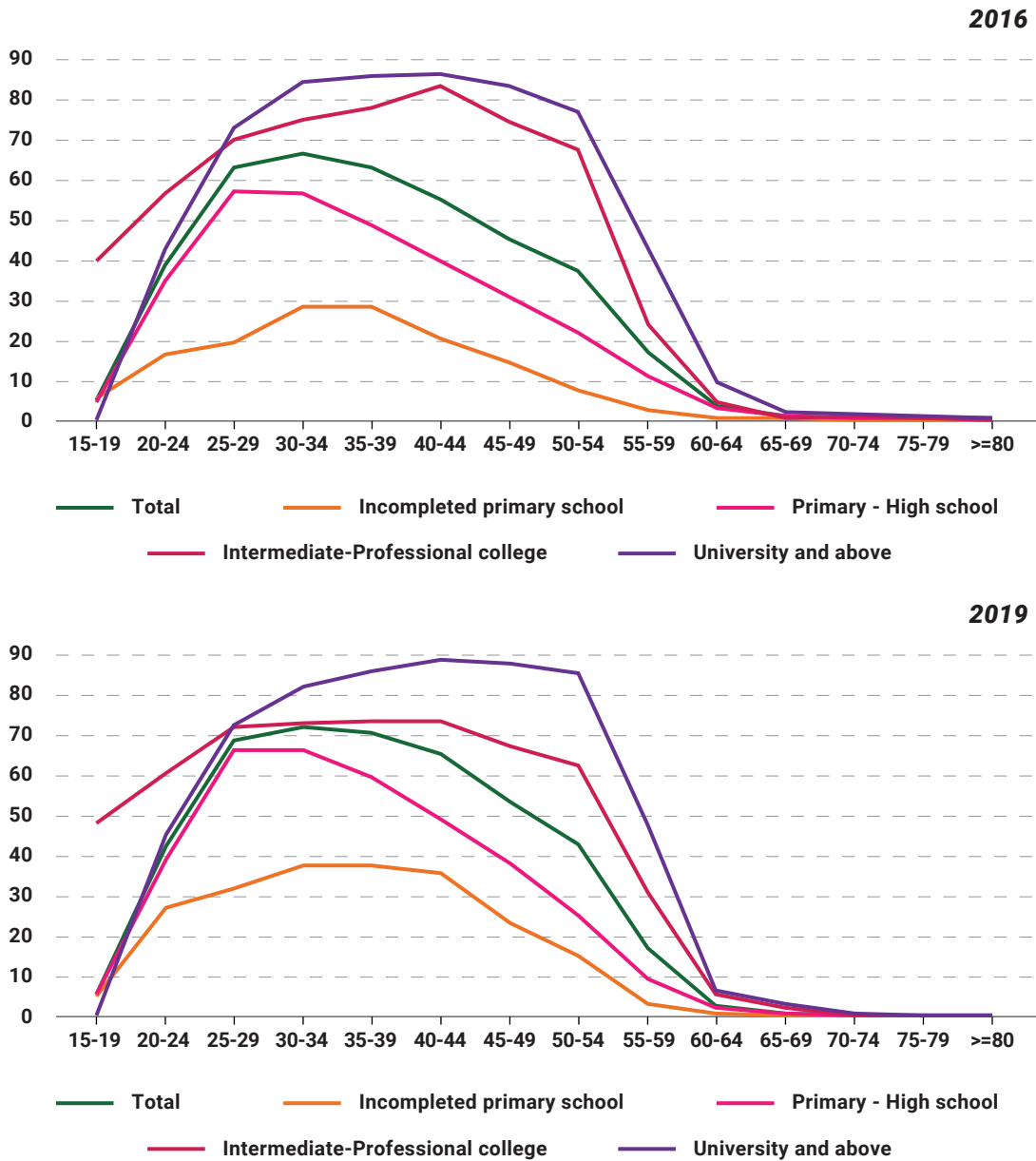


Source: Own calculations from LFS 2016 & 2019

The rate of mandatory SI participation by age groups and education levels in 2016 and 2019 is shown in **Figure 7**. There is a significant difference in the rate of mandatory SI participation of formal workers of working age (from 15 to 59 years old) by education: Higher levels of education correlate to a higher rate of participation. The results also reveal that a

large proportion of workers who have not completed primary school or who have been educated from primary to high school are seriously lacking protection from the social security system even though they are part of the formal labor force. This is a result of the lack of compliance with the mandatory SI policy in registered businesses.

Figure 7. The rate of participation of total formal workers in mandatory SI by age groups and education levels, 2016 & 2019

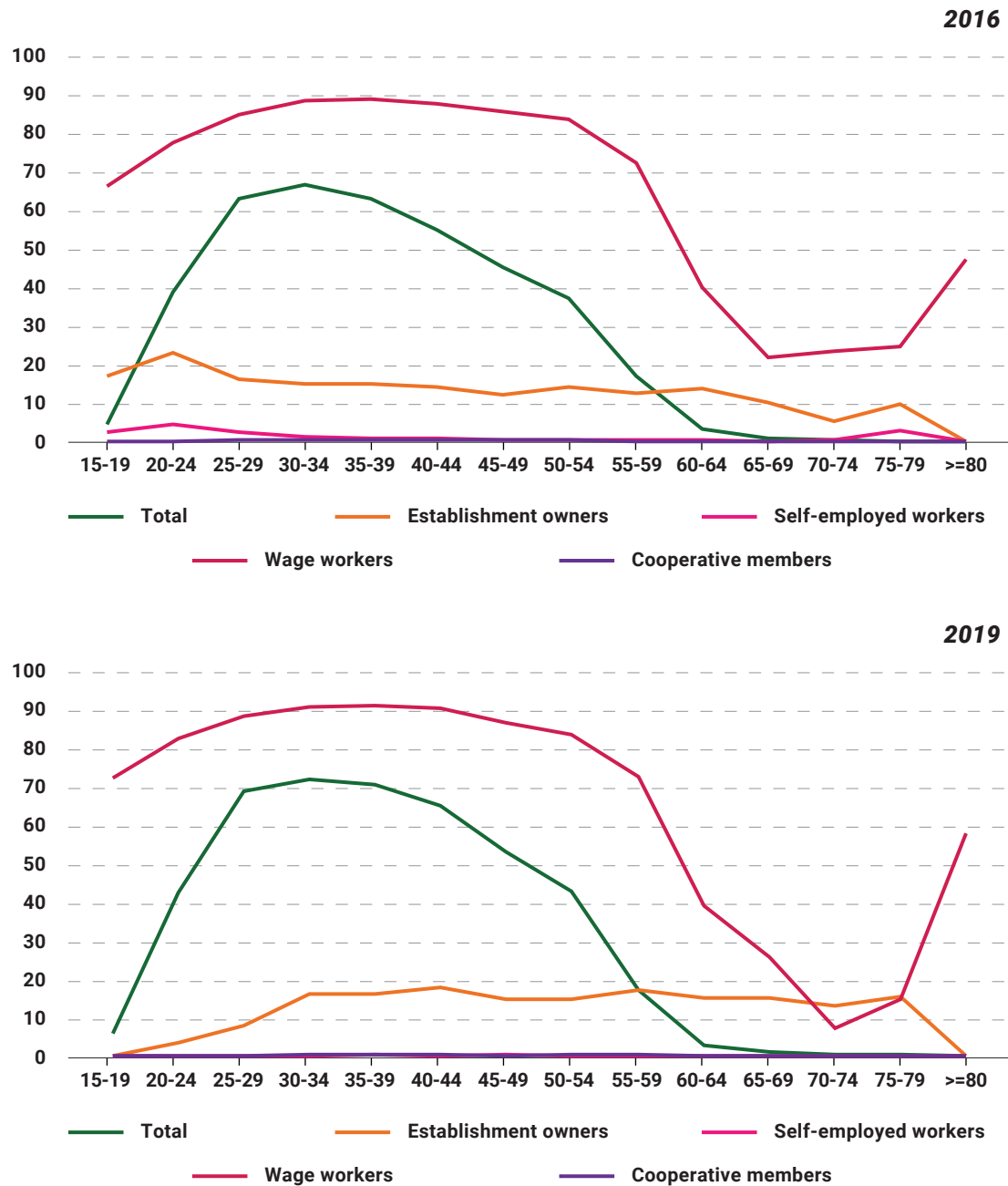


Source: Own calculations from LFS 2016 & 2019

Figure 8 displays the rate of mandatory SI participation by age groups and employment status. It shows that salaried workers have a much higher rate of participation than employers

whose firms are all registered. Hence, it indicates that owners’ compliance with the mandatory SI regulations is still limited.

Figure 8. The rate of participation of total formal workers in mandatory SI by age groups and employment status, 2016 & 2019

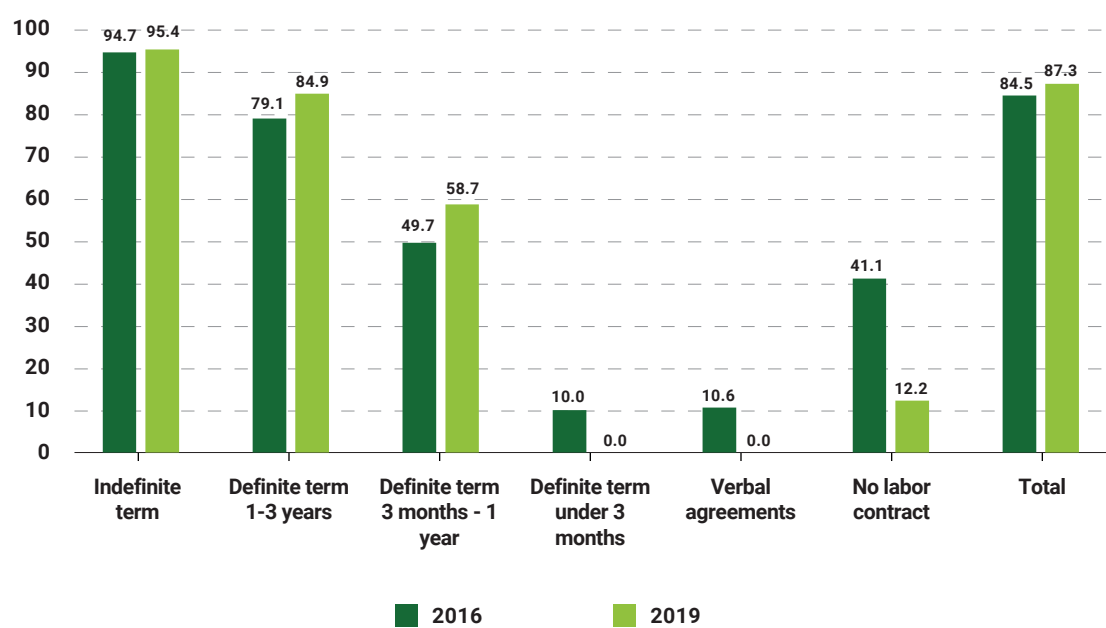


Source: Own calculations from LFS 2016 & 2019

Figure 9 describes the current status of mandatory SI participation by types of labor contract. It reveals that signing short-term labor contracts or non-labor contracts is an important reason for reducing the coverage of mandatory SI. This trend is consistent with the data in both 2016 and 2019, in which, about 95% of formal workers with indefinite-term labor contracts participated in mandatory SI. This rate slightly increased in 2019 compared to 2016. In terms of skilled workers with labor contracts from one to three years, the rate of participation also increased from over 79% in 2016 to over 84% in

2019. This proportion is even lower than that of shorter-term labor contracts. In particular, there are a number of formal employees who do not have a labor contract, or have only a verbal agreement, who also participate in mandatory SI. These are cooperative members in the formal economic sector participating in compulsory SI; or formal sector owners and parts of the workforce in agriculture, forestry and fisheries households, individual business establishments, collectives, and non-state enterprises in the formal economic sector.

Figure 9. The rate of participation of total formal workers in mandatory SI by labor contracts, 2016 & 2019



Source: Own calculations from LFS 2016 & 2019

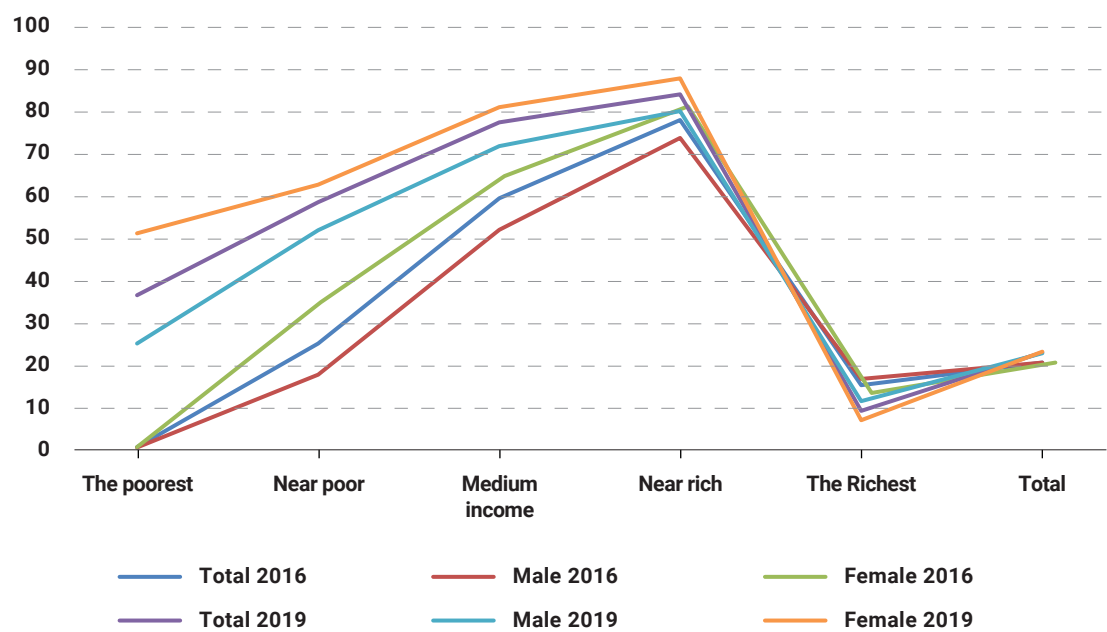
Figure 10 shows that middle-income and near-rich formal workers have the highest rate of mandatory SI participation. On the other hand, employees in the lowest and highest

income groups have lower rates of participation in mandatory SI than the others. This implies that these employees have such low incomes that they cannot prioritize participating in

mandatory SI. An alternative interpretation is that, because they are part-time workers, their income is lower than the minimum wage. As a result, it is not compulsory for them to take part in this kind of insurance. At the same time, it

can be seen that, despite their high income and ability to participate in mandatory SI, a large number of these employees are out of the insurance system. This indicates that the mandatory SI program is not attractive to them.

Figure 10. The rate of participation of total formal workers in mandatory SI by income and genders, 2016 & 2019

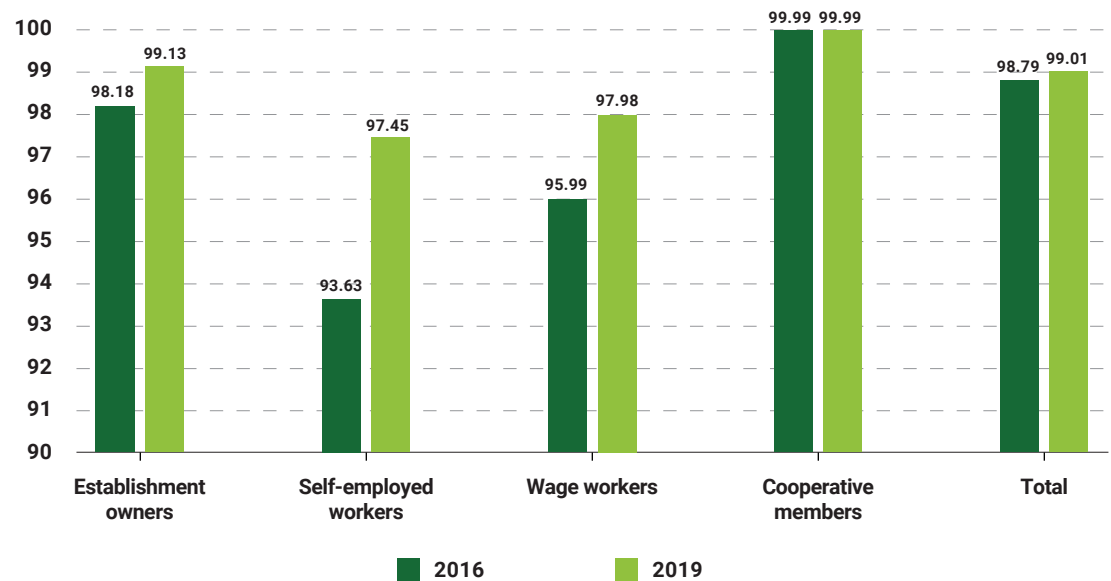


Source: Own calculations from LFS 2016 & 2019

Figure 11 further clarifies the situation of participation in mandatory SI by income. It can be seen that only a small proportion (less than 10%) of workers with incomes lower than the regional minimum wage focus on the self-employed and employees. This situation improved in 2019 compared to 2016. This is due to the fact that, while the majority of formal workers are required to participate in mandatory SI, only about 10% of informal workers have an income lower than the minimum regional wage and are, therefore, not required to participate. Linking to the results in

Figure 7, it can be seen that, even for the lowest income groups, the fact that they do not participate in mandatory SI is not entirely due to their ability to contribute. Instead, it is due to the fact that they do not consider mandatory SI to be a priority. Accordingly, this result also reflects the fact that a large number of employers have not complied with the regulations on mandatory SI payment for their employees even though they are formal laborers and have incomes higher than the regional minimum wage.

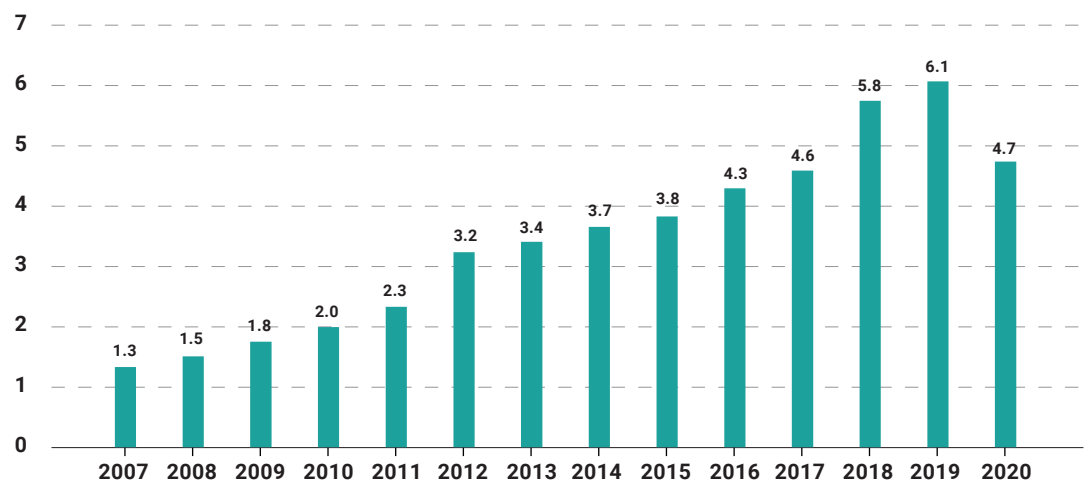
Figure 11. % of workers with incomes higher than the regional minimum wage, 2016 & 2019



Source: Own calculations from LFS 2016 & 2019

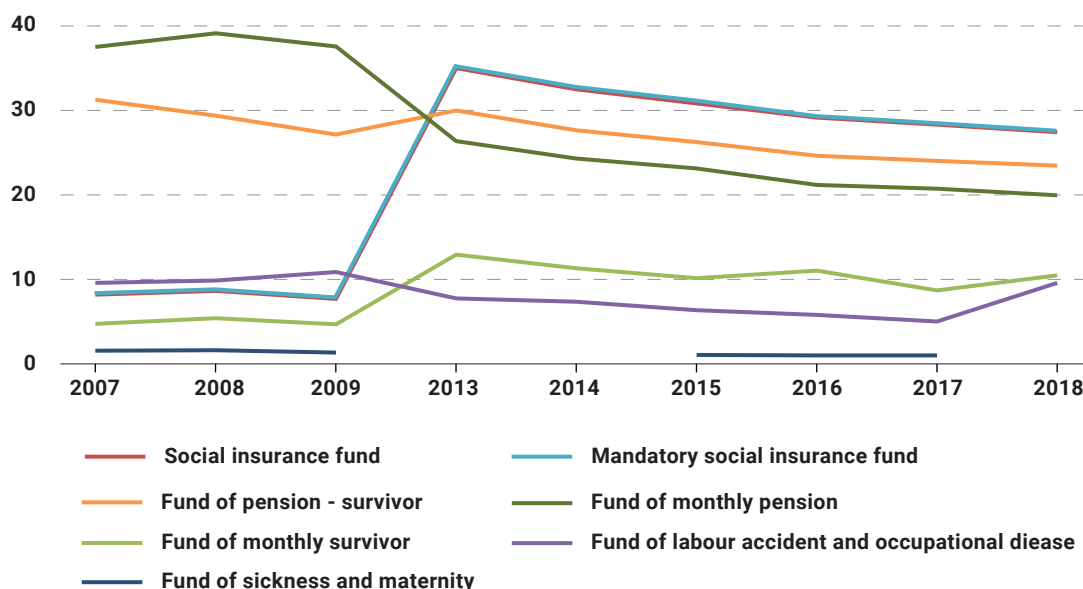
Figures 12 and 13 show the in-depth coverage of the mandatory SI scheme, which is measured by the average salary paid for SI (Figure 12) and the average percentage of benefits to the regional minimum wage (Figure 13).

Figure 12. Average monthly salary paid for mandatory SI



Source: Published reports of VSS

Figure 13. Average benefits rate of employees participating in compulsory SI calculated by the % of the regional minimum salary (Region IV), 2007 – 2018



Source: Published reports of VSS

It can be seen in Figure 12 that, in addition to the increase in the number of mandatory SI participants, the average monthly salary paid for mandatory SI has also tended to increase since 2007. It is not only derived from the change in inflation but also the result of changing regulations on the inclusion of salary-based allowance in the monthly salary paid for mandatory SI according to Decree 115/2015/ND-CP which came into effect from the beginning of 2016. Therefore, it can be seen that the average monthly salary paid for mandatory SI has tended to grow more rapidly since 2016. By 2020, due to the impact of the COVID-19 pandemic, many businesses are severely affected. This leads to falls in the income of employees and reduces the average salary of mandatory SI.

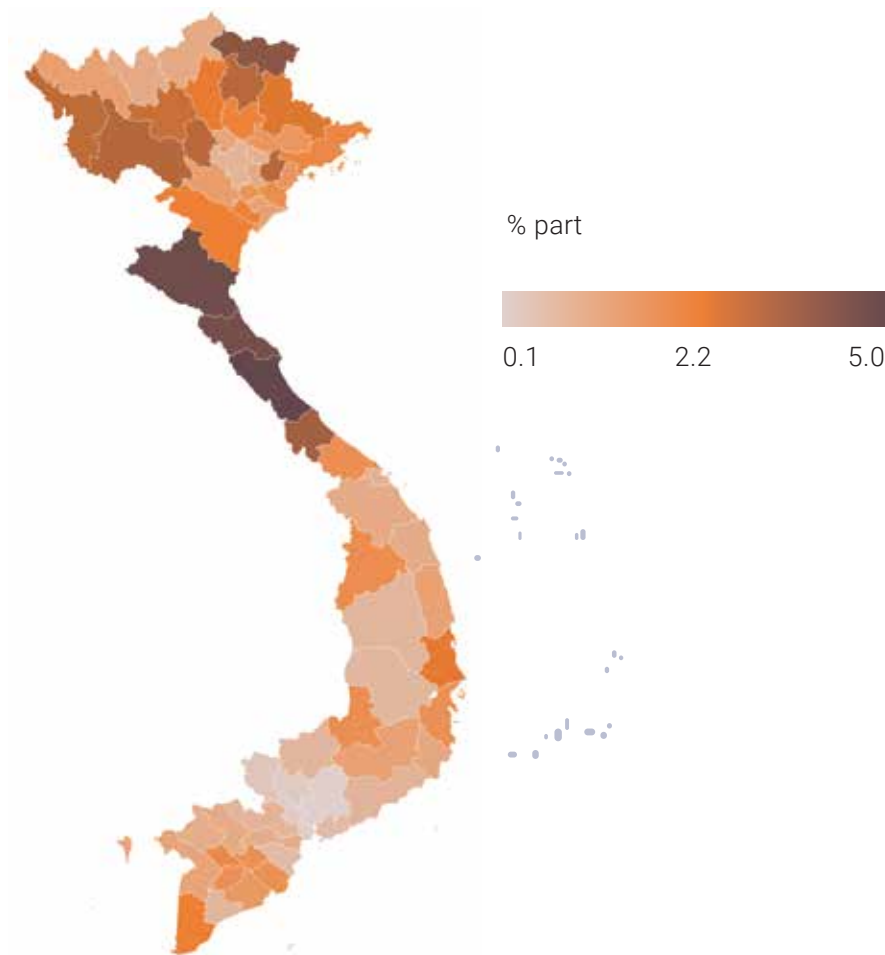
Figure 13 also shows the decreasing trend of the actual benefits of the regimes in the

mandatory SI program, especially for the pension and survivorship funds in general and the monthly pension in particular. This implies that the benefits of mandatory SI participation have not been adjusted in line with inflation.

2. Voluntary social insurance participation

Figure 14 shows the rate of voluntary SI participation by province in 2020. This rate is the number of workers in the total labor force participating in voluntary SI in each province. The rate of participation in Northern and some Central provinces is significantly higher than Southern provinces. In particular, the rate is highest in Nghe An, Ha Tinh, Quang Binh, Cao Bang, Thanh Hoa, and Hai Duong. This is considered a success of these provinces in communications programs and in the implementation of voluntary SI policies.

Figure 14. % of the labor force participating in voluntary SI by province in 2020

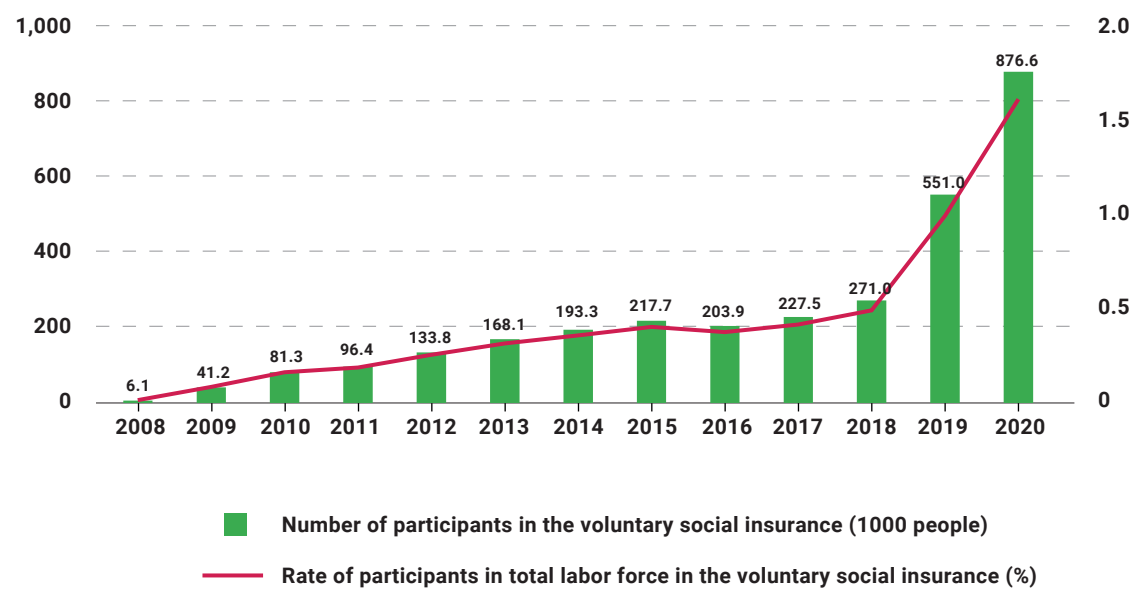


Source: Analysis data collected by VSS (2020) and GSO (2019)

Figure 15 illustrates that voluntary SI coverage tends to increase both in terms of the amount of participants and the participation rate. In particular, the horizontal coverage rate of voluntary SI increased strongly in 2019 and 2020. This is the result of many efforts of SI agencies from central to local levels in organizing, implementing, and communications campaigns on voluntary SI. However, this coverage rate is still very limited, representing only 1.86% of the labor force in 2020.

Meanwhile, the proportion of informal workers, who are policy objects of the voluntary SI program, is over 78% of the labor force.

Figure 15. The horizontal coverage of voluntary SI, 2008 – 2020



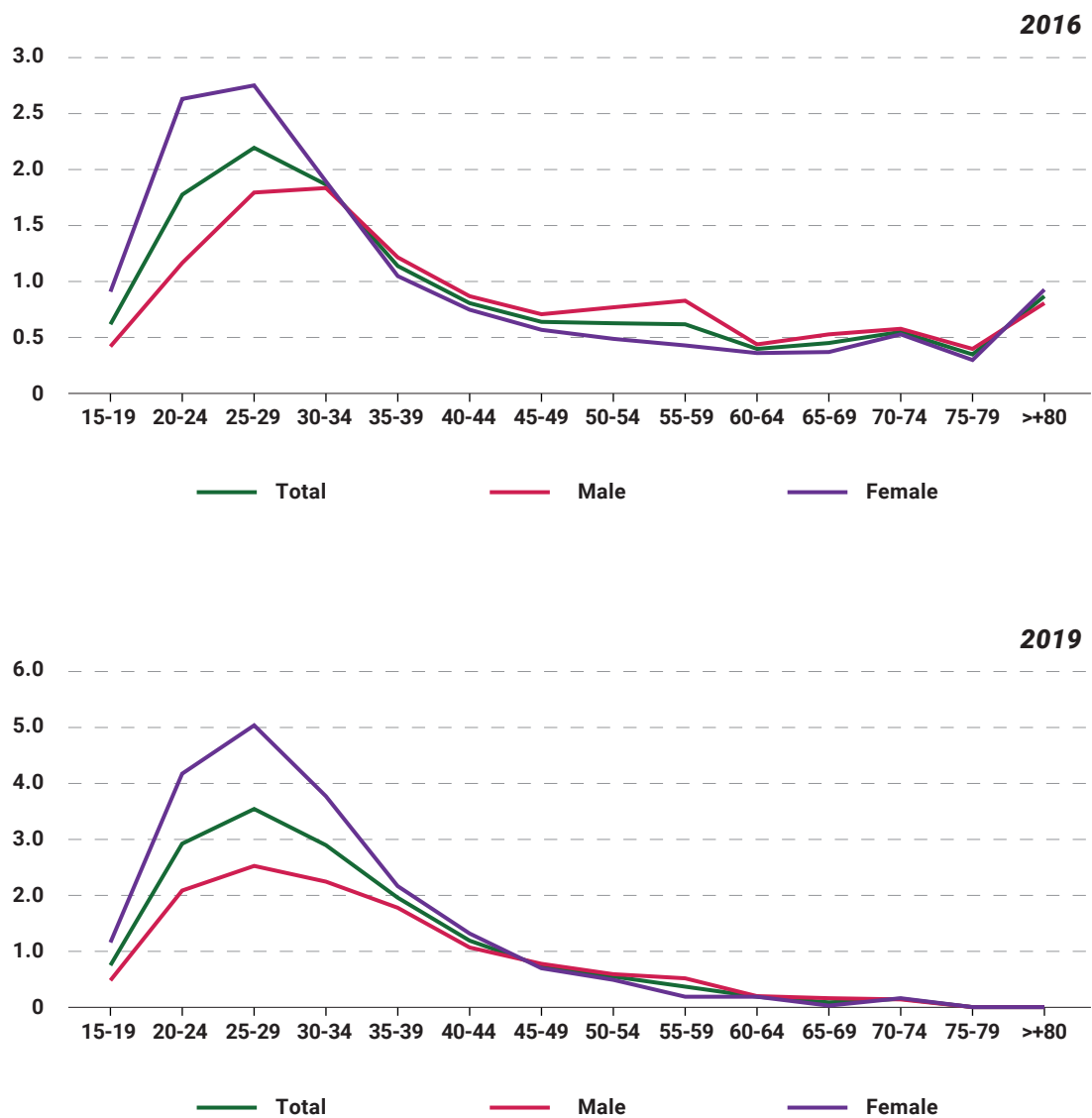
Source: Analysis data collected in VSS reports

Figure 16 shows the voluntary SI participation rate of informal workers by age groups and gender in 2016 and 2019. A clear difference with the mandatory program is that the participation rate of voluntary SI is highest in younger workers aged 20-34 and lower in older workers. In particular, in these age groups, female workers had a significantly higher coverage rate than male workers in both 2016 and 2019. However, for older workers, the coverage rate is immediately lower in all gender groups, especially women. This is a reason for the participation rate of female workers tending to be lower than male workers in groups aged 35 and over in 2016 and aged 45 and older in 2019.



Photo: Oxfam

Figure 16. The participation rate of informal workers in voluntary SI by age groups and genders, 2016 & 2019

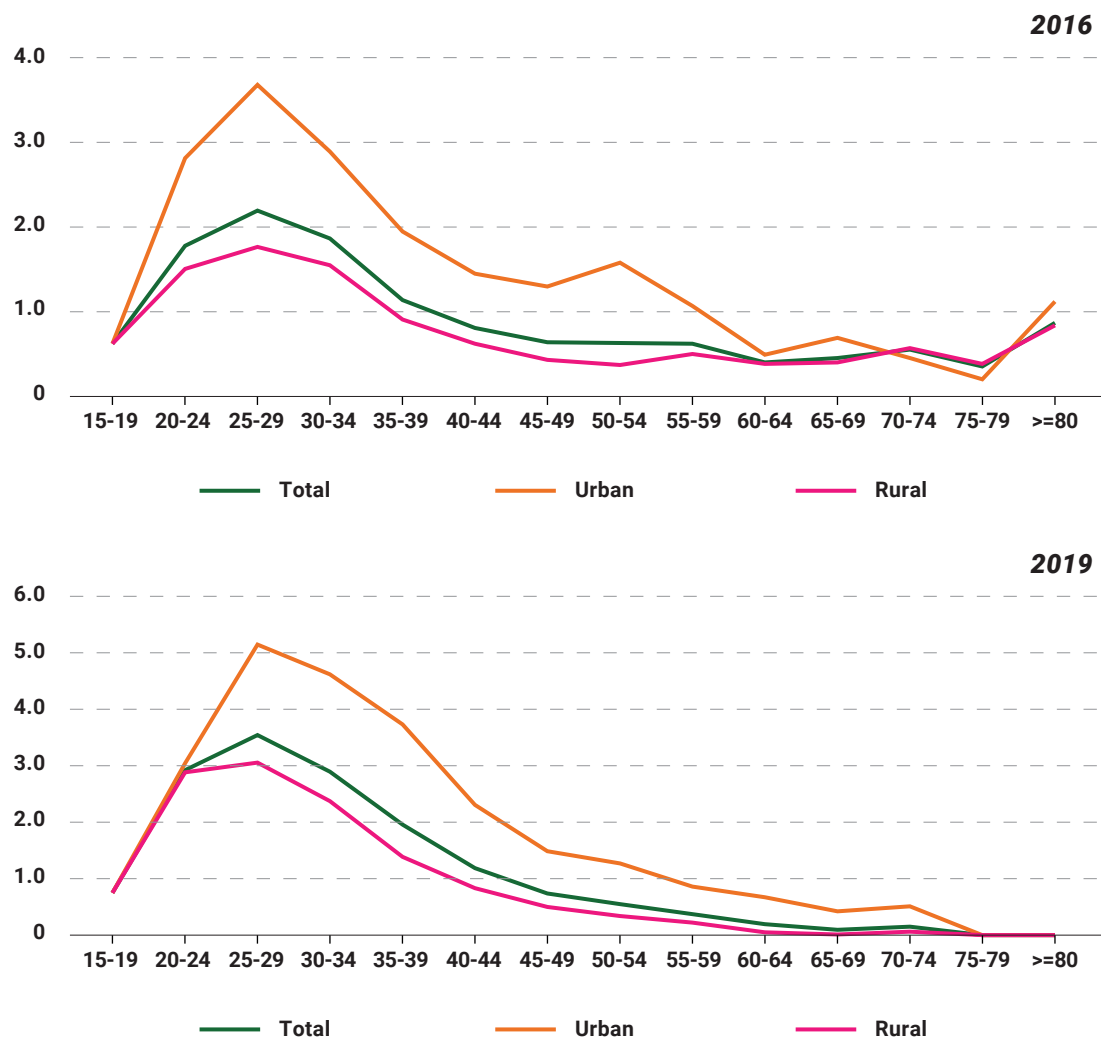


Source: Own calculations from LFS 2016 & 2019

Figure 17 shows that the participation rate of informal workers in voluntary SI in urban areas is about two times higher than in rural areas for all age groups. This gap is largest for workers aged 25 to 29. The rate is lower and lower for

older, informal workers. There is a small gap between urban and rural areas.

Figure 17. The participation rate of informal workers in voluntary SI by age groups and living areas, 2016 & 2019

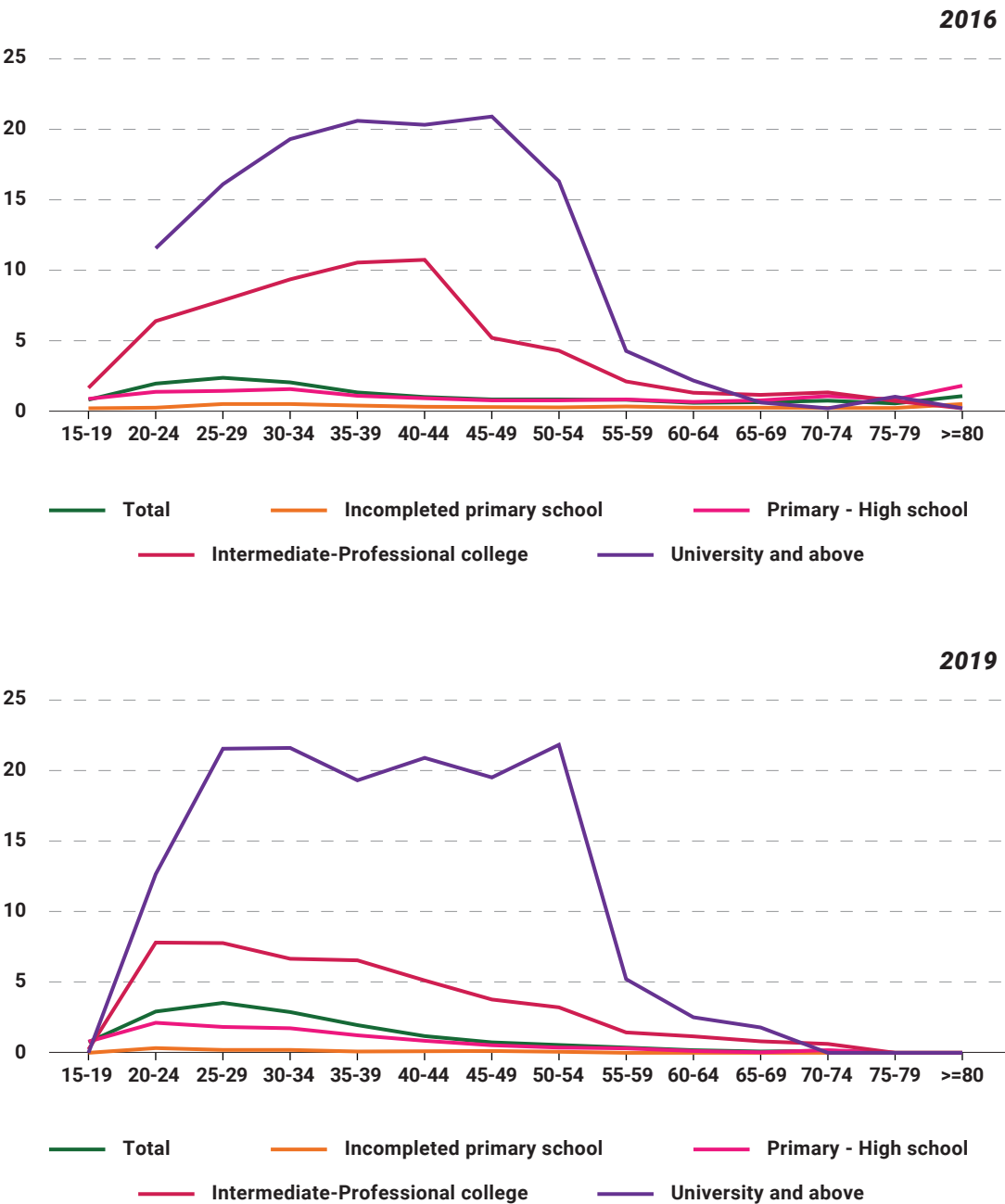


Source: Own calculations from LFS 2016 & 2019

The results in **Figure 18** show that education is correlated clearly with informal workers’ rate of participation in voluntary SI, especially for those who are still of working age (under 60 years old). Specifically, the rate of participation of informal workers with a university education or above is the highest in all age groups. It is followed by workers with an intermediate or professional college level education. This rate

is lowest in groups of incomplete primary, primary, secondary, and high school. This can be explained by the differences in information accessibility and understanding of the voluntary SI program according to education level. However, for workers aged 60 and over, education does not clearly affect the participation rate.

Figure 18. The participation rate of informal workers in voluntary SI by age groups and education levels, 2016 & 2019

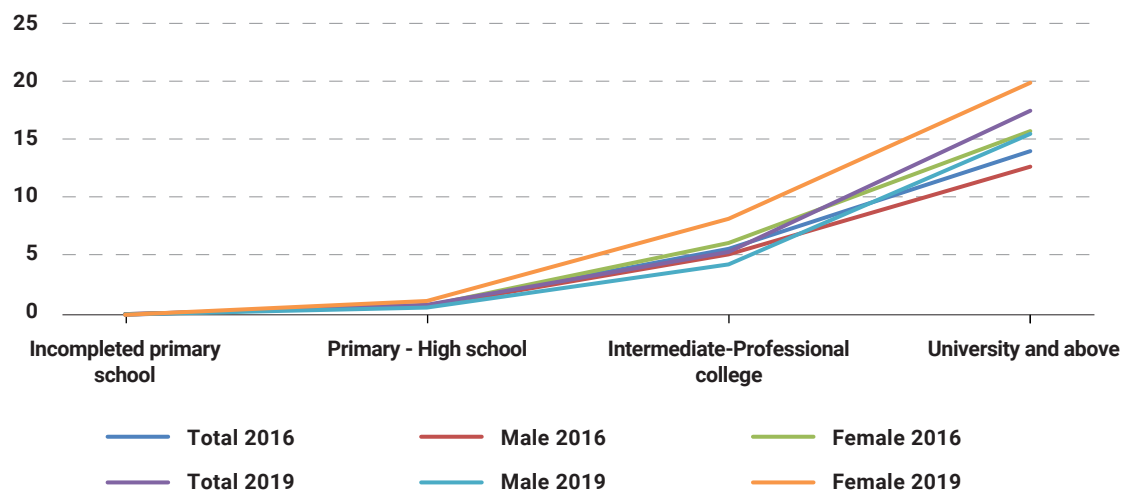


Source: Own calculations from LFS 2016 & 2019

Figure 19 shows that men are less likely to participate in voluntary SI than women across all education levels. This gender gap in participation is quite clear and tends to widen

with the higher educational level of informal workers. This trend is consistent in both 2016 and 2019.

Figure 19. The participation rate of informal workers in voluntary SI by education levels and gender, 2016 & 2019

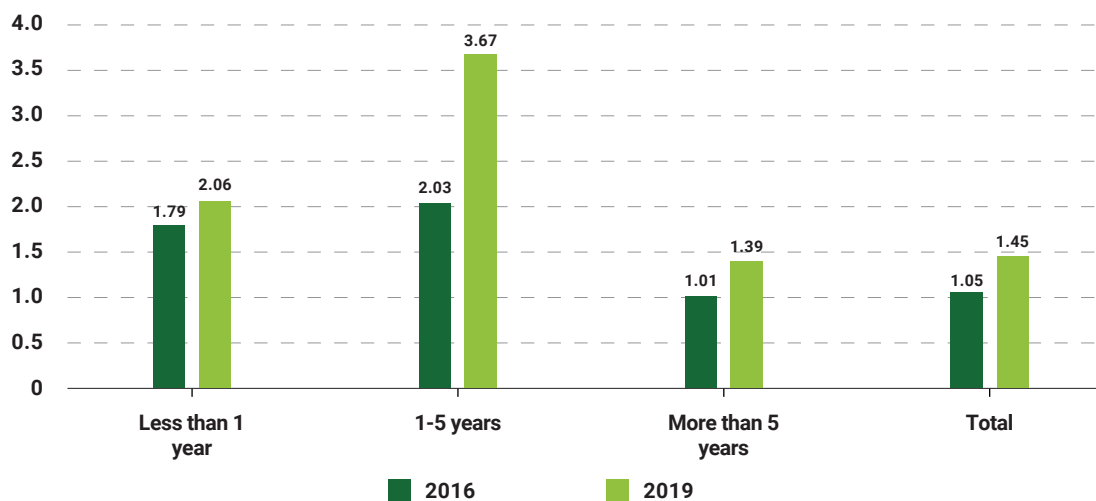


Source: Own calculations from LFS 2016 & 2019

Migration is a common characteristic of informal workers who often have to move to find employment. Therefore, their rate of voluntary SI participation is important and necessary for policymakers. The statistical data in **Figure 20** shows that migrant workers with a

residence length of one to five years or less than one year have a significantly higher rate of participation in voluntary SI than permanent residents (from five years or more). Specifically, this rate is highest for residents for one to five years up to the date of the survey.

Figure 20. The participation rate of informal workers in voluntary SI by length of residence and living areas, 2016 & 2019

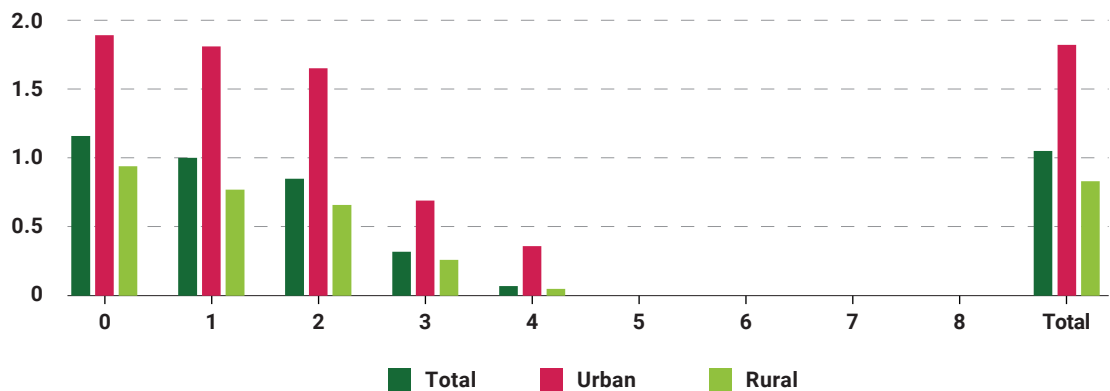


Source: Own calculations from LFS 2016 & 2019

Figure 21 shows that the rate of participation in voluntary SI is correlated negatively to the number of school-age children in a household. In particular, informal workers in a household

with more school-age children are less likely to participate in the voluntary SI scheme in both urban and rural areas.

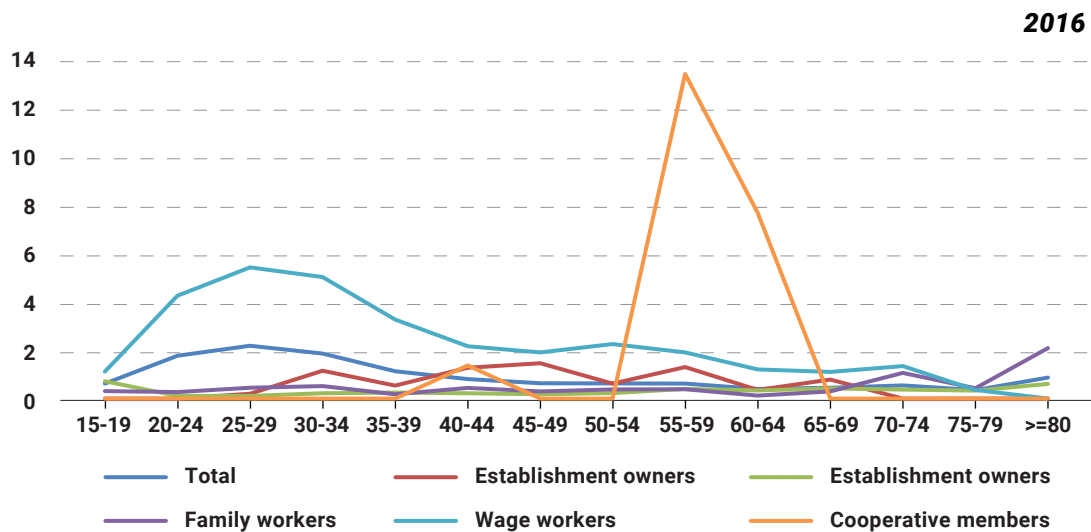
Figure 21. The participation rate of informal workers in voluntary SI by school-age children and living areas, 2016



Source: Own calculations from LFS 2016

The results in **Figure 22** in both 2016 and 2019 show that wage workers have a much higher rate of participation in voluntary SI than the self-employed and family workers.

Figure 22. The participation rate of informal workers in voluntary SI by age groups and employment status, 2016 & 2019



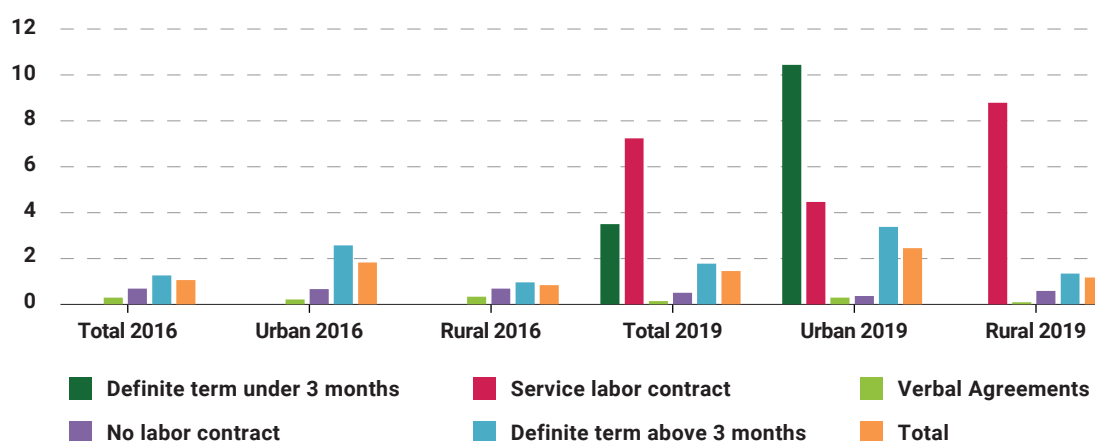


Source: Own calculations from LFS 2016 & 2019

To consider the participation in voluntary SI according to the type of labor contracts of participants in urban and rural areas, **Figure 23** shows that the participation of informal workers with all types of labor contract tended to increase from 2016 to 2019. However, similar to mandatory SI participation, a shorter

definite-term labor contract is related to a lower participation rate. In particular, these rates of participation of informal workers with verbal agreements or without labor contracts in both urban and rural areas are always very low and even decreased from 2016 to 2019.

Figure 23. The participation rate of informal workers in voluntary SI by labor contracts and living areas, 2016 & 2019

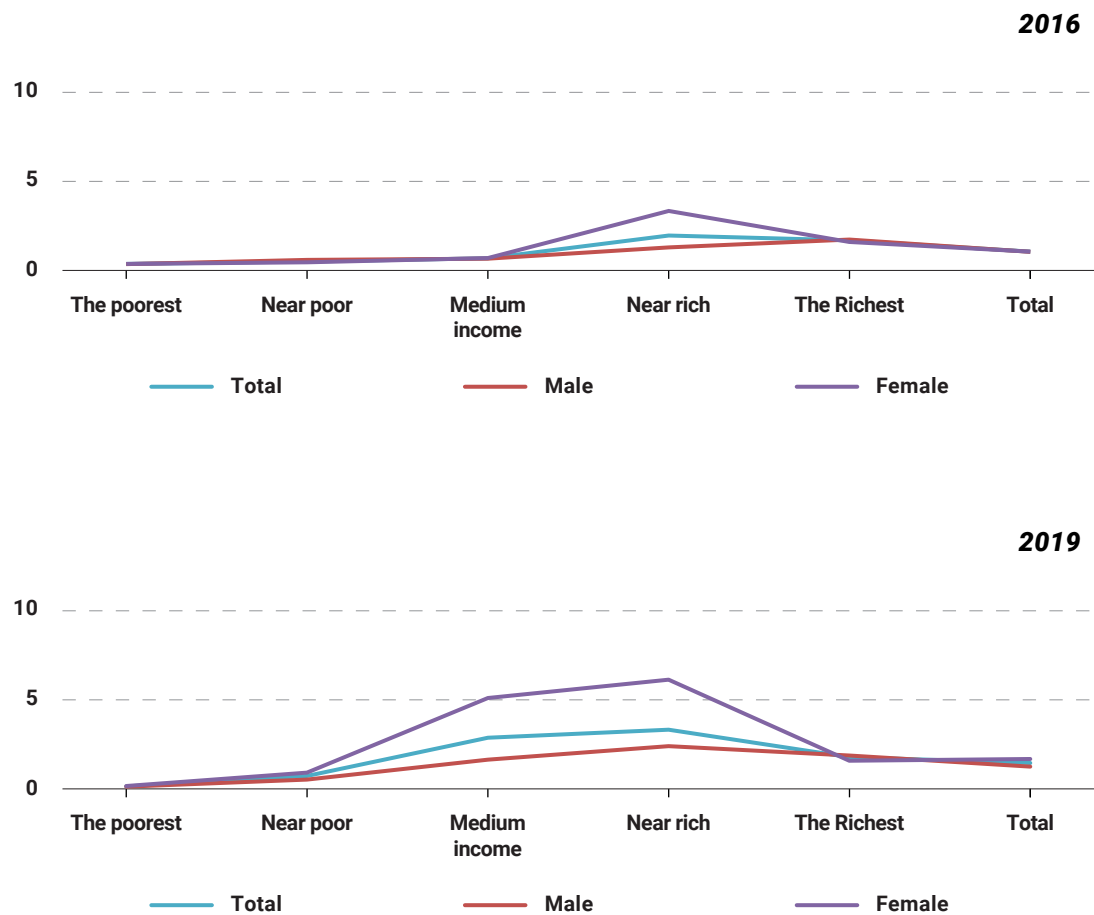


Source: Own calculations from LFS 2016 & 2019

Similar to mandatory SI, in terms of the income percentile of voluntary SI participants, **Figure 24** shows the lowest rates of participation in the poorest and near-poor groups and the highest for the near-rich. However, there are gender differences. For women, the participation rate of middle-income workers is

higher than that of the richest workers. In contrast, for men, the rate of middle-income workers is less than the highest income group. Meanwhile, for poor, near poor, or the richest workers, there seems to be no difference between male and female workers in the rate of voluntary SI participation.

Figure 24. The participation rate of informal workers in voluntary SI by income and genders, 2016 & 2019

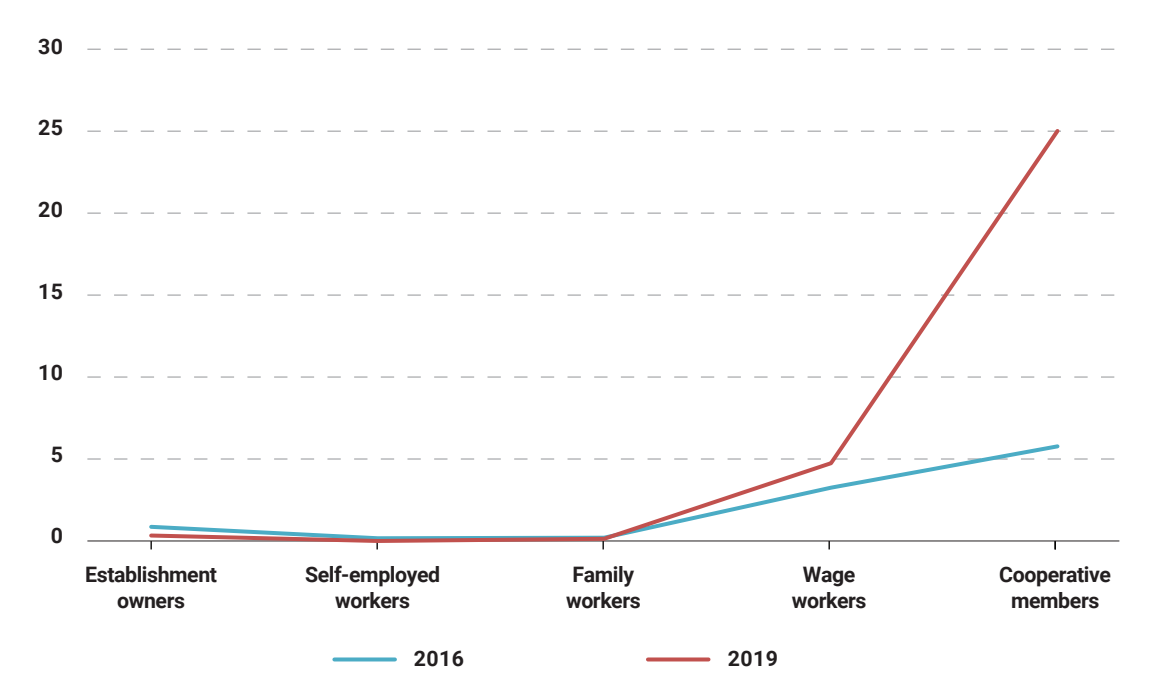


Source: Own calculations from LFS 2016 & 2019

Figure 25 shows the coverage rate of those informal workers whose income is higher than the poverty line divided by employment status. Although their income is higher than the poverty line, the rate of participation of establishment owners, the self-employed, and family workers is very low. On the other hand,

this rate is much higher for wage workers and cooperative members. Specifically, 3.31% of non-poor wage workers, who are identified based on the regulation of the poverty line in urban and rural areas, contributed to voluntary SI in 2016. This number increased to 4.8% in 2019.

Figure 25. The coverage rate of informal workers with incomes above the poverty line, 2016 & 2019

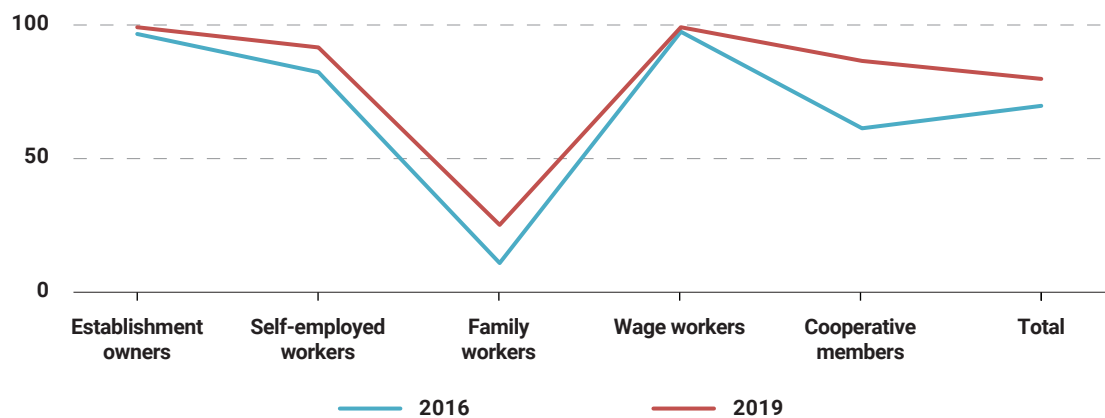


Source: Own calculations from LFS 2016 & 2019

Figure 26 reflects the potential coverage rate of the voluntary SI scheme. Around 100% of owners and wage workers have incomes higher than the poverty line. These results show strong potential for voluntary SI coverage. However, only 10% of family workers had an income above the poverty line in 2016. This increased to about 25% in 2019. However,

this still equates to a majority of family workers having low incomes and difficult lives. As a result, they are unable to participate in voluntary SI. In addition, almost 9% of self-employed workers and around 14% of cooperative members had incomes below or equal to the poverty line in 2019.

Figure 26. Proportion of informal workers with incomes above the poverty line, 2016 & 2019

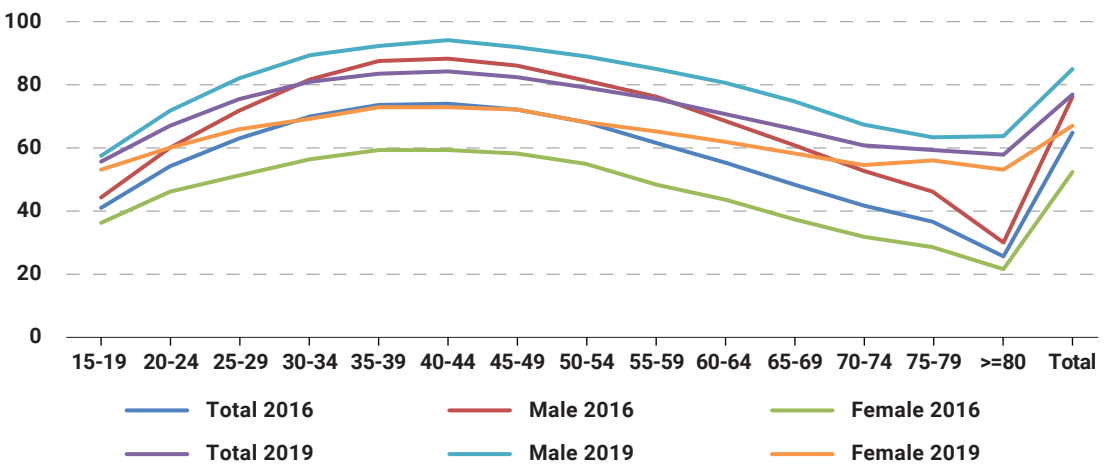


Source: Own calculations from LFS 2016 & 2019

Assuming that informal workers participate in voluntary SI and contribute according to their current income, a potential coverage rate can also be based on the disposable income of workers. This is calculated by their income minus 22% for the voluntary SI contribution. **Figure 27** shows that the potential coverage

rate of voluntary SI is higher and higher for workers aged from 15 to 44, but lower for older workers. In particular, the potential participation of female workers was significantly higher than that of male workers in both 2016 and 2019. This rate also increased from 2016 to 2019 for both male and female workers.

Figure 27. Proportion of informal workers with a higher disposable income than the poverty line by age groups and gender, 2016 & 2019

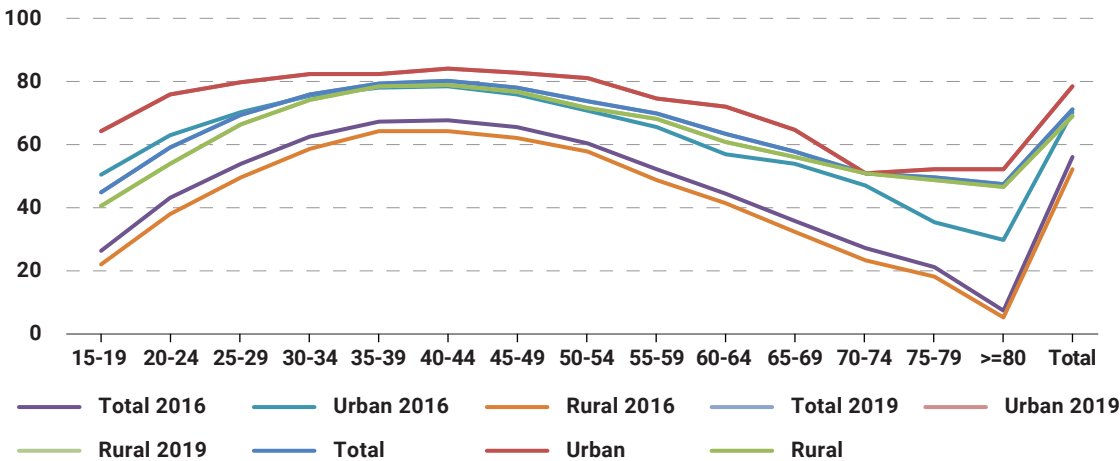


Source: Own calculations from LFS 2016 & 2019

Based on the disposable income of workers, there is a clear potential coverage disparity between urban and rural areas (**Figure 28**). The

potential coverage rate of voluntary SI in urban areas was significantly higher than that in rural areas in both 2016 and 2019 for all age groups.

Figure 28. Proportion of informal workers with disposable incomes above the poverty line by age groups and living areas, 2016 & 2019

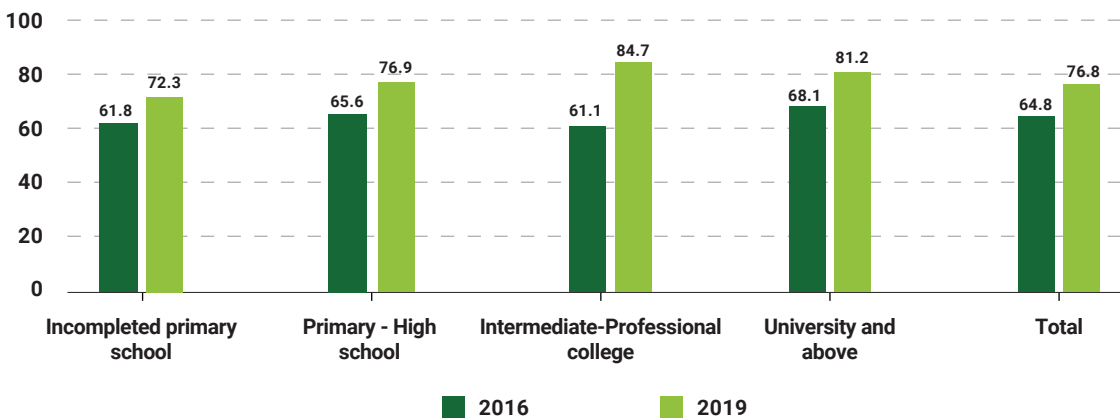


Source: Own calculations from LFS 2016 & 2019

Interestingly, **Figure 29** shows that the potential coverage of informal workers does not differ much between levels of education. This shows that, for informal workers, their disposable income does not seem to reflect their educational level. Compared to Figure 5, it can be seen that, although voluntary SI participation

increases with the level of education, this is not caused by a correlation between educational level and income. It may, instead, be caused by differences in information access and awareness of the voluntary SI program among differently-educated workers.

Figure 29. Proportion of informal workers with disposable income higher than the poverty line by age groups and education level, 2016 & 2019

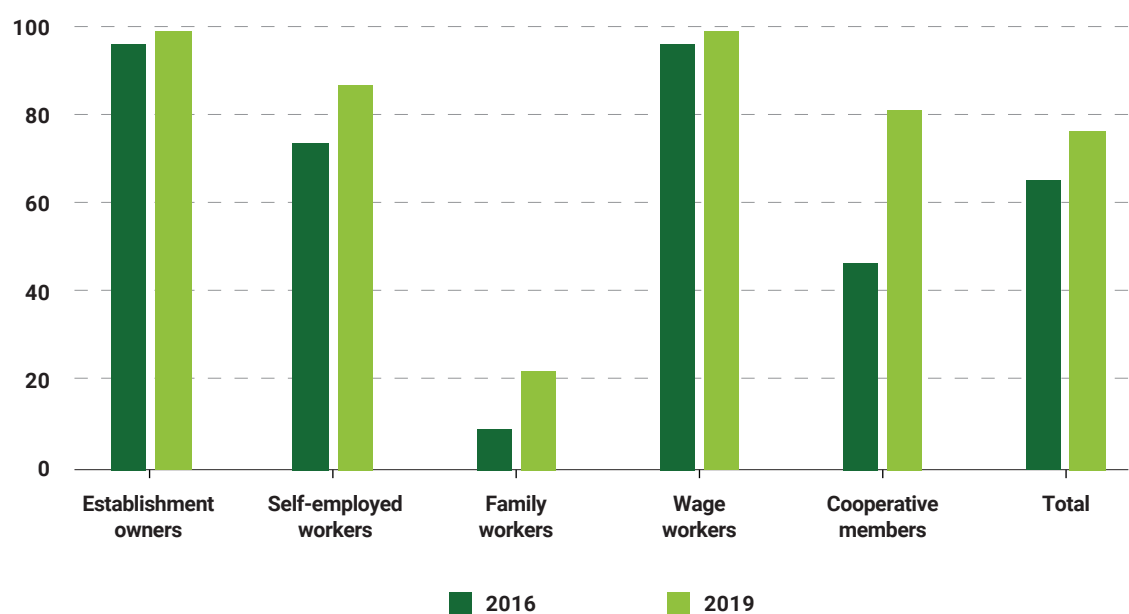


Source: Own calculations from LFS 2016 & 2019

Figure 30 reflects more clearly the potential for voluntary SI coverage by employment status. Although their income was higher than the poverty line, about 4% of establishment owners in the informal sector would have disposable incomes below the poverty line if they had participated in voluntary SI in 2016. This rate

was about 1% in 2019. It was higher for wage workers, self-employed workers, cooperative members, and the highest for family workers. Therefore, family workers are the group with the lowest potential to participate in voluntary SI, because their income would then be below the poverty line, reducing their living standards.

Figure 30. Proportion of informal workers with disposable incomes higher than the poverty line by employment status, 2016 & 2019

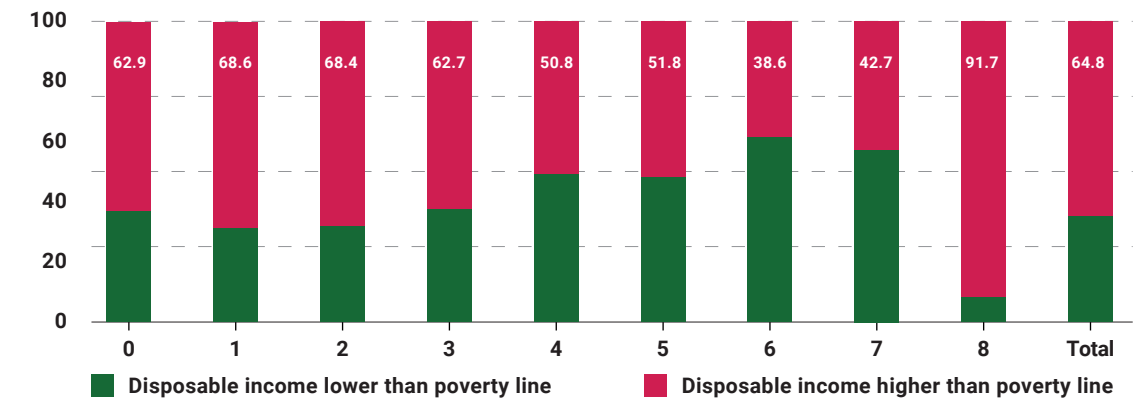


Source: Own calculations from LFS 2016 & 2019

Figure 31 shows that the highest potential for voluntary SI coverage of informal workers are households who have one or eight school-age children. With the number of school-age children ranging from two to six children, workers with more school-age children in their

household have lower potential coverage. Specifically, among informal workers whose households have one school-age child, 68.63% have disposable income above the poverty line. This rate is lower as the number of school-age children in the household is higher.

Figure 31. Proportion of informal workers with disposable income higher than the poverty line by household's school-age children, 2016

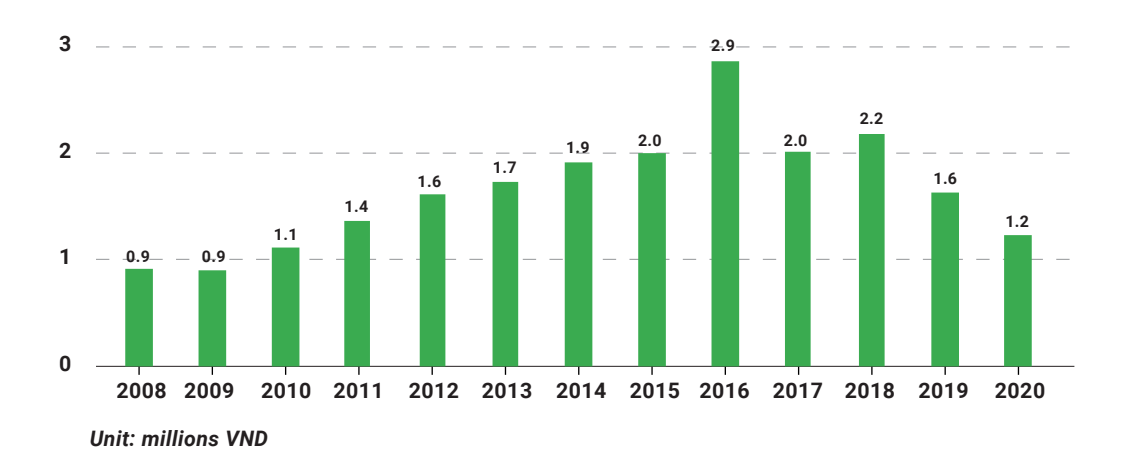


Source: Own calculations from LFS 2016 & 2019

The vertical coverage of the voluntary SI scheme is illustrated in **Figure 32** and **Figure 33**. Figure 32 shows an increase in selected monthly income of participants in voluntary SI from 2008 to 2016. This reaches around

VND2.8 million per person per month. However, this number tends to decrease gradually after that, reaching about VND1.23 million per person per month in 2020.

Figure 32. Average monthly income selected by participants in voluntary SI

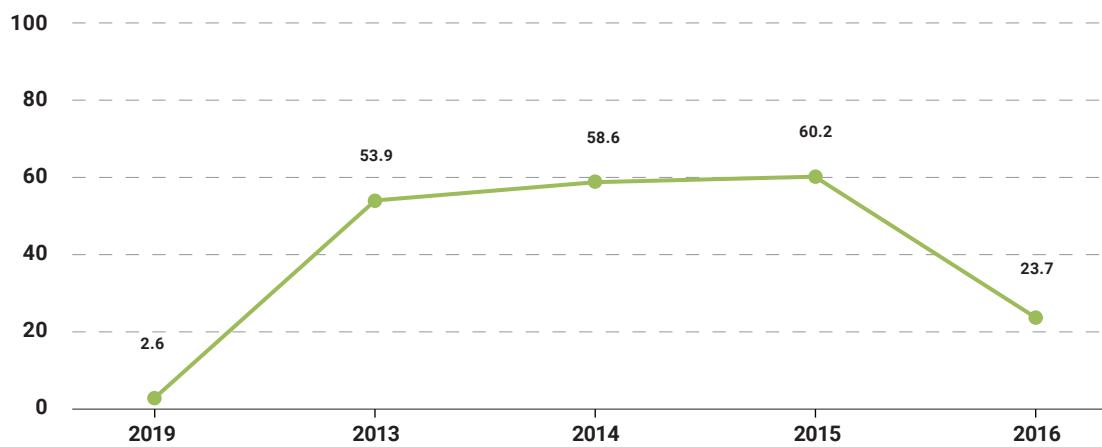


Source: Analysis data in published reports of VSS (various years)

Regarding the entitlement level of the voluntary SI program, because it has been implemented since 2008, the average entitlement level of voluntary SI has not fully reflected the vertical

coverage of the scheme. However, it can be seen that the ratio of average entitlement to the rural poverty line tended to increase slightly in a few years before 2016 (**Figure 33**).

Figure 33. Average amount of benefit level of workers participating in voluntary SI calculated by % of the rural poverty line



Source: Analysis data in published reports of VSS (various years)

III. FACTORS ASSOCIATED WITH PARTICIPATION IN THE SOCIAL INSURANCE SYSTEM

To get more empirical evidence for policy recommendations on expanding SI coverage, especially voluntary SI for informal workers, this section analyzes the factors associated with the likelihood of informal workers participating in voluntary SI by summarizing the results of previous quantitative research. At the same time, by reviewing a qualitative survey, we also discuss any factors that cannot be observed from quantitative data. Quantitative analysis is based on the research of Do Thi Thu (2021) with methods and results presented in ANNEX 4. Qualitative analysis is synthesized from reports on the implementation of the Law on Social Insurance 2014 in Vietnam.

1. Demographic, socio-economic, and employment characteristics

Regarding the effects of individual characteristics of workers: These are determinants of voluntary SI participation of all informal workers and groups of informal workers divided by employment status, as below:

- **Age of informal workers:**

The study of Do Thi Thu (2021, forthcoming) shows that the effect of age is different among the employment status of groups of informal workers. In general, the age of workers had a non-linear effect on the probability of their participation in the voluntary SI program. Older groups of workers are less likely to participate than younger groups. For instance, the probability of informal workers aged 25-34 participating was 25 percentage points higher than that of those aged 15-24. In contrast, for those aged 35 and older, the probability of participation was lower, and this tended to decrease as age increased. This effect, however, was not

completely similar among three groups of informal workers. For instance, the probability of the self-employed aged 60 and over participating was 7.6 percentage points higher than that of the reference group. This was the highest probability of participation among the self-employed in terms of age. Meanwhile, age had a negative effect on the probability of participation among wage workers in voluntary SI. Younger workers were more likely to participate than those in a higher age range. For family workers, the effect of age was non-linear with those aged 25-34 likeliest to participate. This can be explained by the number of formal workers participating in compulsory SI when they were young. At retirement age, they become self-employed and participate in the voluntary system to satisfy the minimum period of contribution to receive a monthly pension.

In addition, young self-employed workers tend to reinvest most of their profits in production and business activities, rather than contributing to social security programs. One reason is that their ability to access capital for production and business is very limited.

Another noteworthy result is that salaried workers aged 25-34 are more likely to participate in voluntary SI than those aged under 25 and over 60. From 35 years old, the probability of participation is lower for older workers.

• **Gender:**

Gender has a statistically significant effect on the probability of participating in voluntary SI. Male workers tend to participate less than female workers in the groups of wage workers, family workers, and all informal workers. Meanwhile, for the self-employed, according to Do Thi Thu (2021), men are more likely to participate than women in the

Heckman's two-step probit regression model (the intercept and marginal effects for the "male" dummy variable in the Heckman's two-step probit regression model are both positive). However, this tends to have the opposite effect if the endogenous problem is not corrected due to sample selection (odds ratio of this variable in the logistic model is less than 1). This also shows the advantage of the Heckman's two-step probit regression method.

• **Level of education:**

For the sample of all informal workers, those with higher educational levels are more likely to participate in the system (Figure 4.9). Workers educated from primary to high school are 1.47 (e0.39) times more likely to participate than those who have not completed primary school. This ratio is 1.78 (e0.577) times for workers with an intermediate or professional college level education and 1.5 (e0.403) times for those with a university or higher level education. This shows that, for lower university level, workers with higher levels of education are more likely to participate than others. In contrast, workers with university level or higher are less likely to participate than workers with an intermediate or professional college level education. Educational level also reflects the ability of workers to access information about voluntary SI and their awareness of the importance of participating in the system. Therefore, for the majority of informal workers, when they get more information and awareness on the importance of contributing, their likelihood of participation is greater.

• **Length of residence:**

This factor greatly affects the probability of participating, especially for the self-employed

and waged workers. For all informal workers, those with more than five years of residence have a significantly greater probability of participation compared to those with less than one year of residence. Meanwhile, for workers with a residence length of one to five years, the probability of participation is higher than for those with less than one year in the logistic regression results. However, this is not significant on the results of Heckman's two-step probit regression model.

For three employment status groups of informal workers, length of residence positively affects the participation of waged and family workers. In contrast, for the self-employed, the probability of participation is low for the group of long-term residents. This means that most self-employed participants are migrant workers with a residence length of less than one year in their current living area.

- **Living area:**

Where someone lives is also a determinant of participation. In general, informal workers, the self-employed, and waged workers living in urban areas are less likely to participate in the voluntary SI system than those in rural areas. According to GSO (2017), in 2016, about 60% of informal workers lived in rural areas. However, the logistic regression results show that - with the same individual, household, and employment characteristics - informal workers in general living in urban areas have a 0.379% lower probability of participating compared to those in rural areas. These marginal effects are 4.6% for the self-employed and 9.8% for waged workers. However, for family workers, those living in urban areas are more likely to participate than those in rural areas.

Regarding the effects of household characteristics:

- **The employment status of the household head:**

Workers who are the head of a household are 2.65% more likely to participate in the system than non-household heads. This result is quite consistent between the regression methods. However, this effect is not really clear for other informal groups of workers. The logistic regression results show that being the head of a household significantly impacts the probability of participating. However, the Heckman's two-step probit regression results are opposite or not statistically significant. This shows that the factor "being the head of the household" is associated with whether the informal workers are self-employed or family workers rather than directly impacting the probability of contributing.

- **Number of school-age children in the household (6–18 years old):**

This factor has a non-linear effect with high statistical significance on the probability of participating. The odds-ratio of "number of school-age children in the household" variable in the logistic model is higher than 1, but this ratio of variable "squared of number of school-age children in the household" is lower than 1. The Heckman's two-step probit regression model also showed a similar effect. This demonstrates that workers with more school-aged children in their household are more likely to participate in the scheme than others. However, if this number is too high, the probability of an informal worker participating is lower.

- **Number of household members with social insurance coverage**

This factor had a significant impact on the decision to participate in the voluntary SI program. This effect is similar for all employment status groups of informal workers. The participation probability of workers whose household has at least one participant was higher than those without any household members participating. This effect is highest for the self-employed. This is evidenced by the results of the Heckman's two-step probit regression model. One more household member participating in the SI system increases the probability of informal wage workers in that household participating by 21.1%. These marginal effects are 12.4% for family workers and 2.26% for all informal workers.

Effects of the employment characteristics of informal workers:

• Employment status:

Employment status has a significant effect on participation. Waged workers are 1.35% more likely to participate than the self-employed. This result is quite consistent with the impact of the employment sector variable on participation. Specifically, the participation probabilities of informal workers working in state, non-state and foreign organizations, and cooperatives were 1.55% and 2.15% higher than that for those working in agriculture-forestry-fishery households, freelance workers, and individual business households. In fact, in Vietnam, waged workers are often concentrated in state, non-state and foreign organizations, and cooperatives. Meanwhile, the self-employed are often found in agriculture-forestry-fishery households, freelance workers, and individual business households.

• Work experience:

Informal workers with five to 10 years of work experience were more likely to participate in the scheme than those with less than five years in their present job. Current work experience represented stability of employment and income for workers. Therefore, those with longer work experience had a higher probability of participation in the scheme. However, where work experience in a current role is longer (over 10 years), the probability of participating is not higher. Specifically, informal workers with more than 10 years of work experience have only a 0.14% higher probability of participating in the scheme than workers with less than five years. Meanwhile, this marginal effect for groups of five to 10 years of work experience is 0.381%. This effect is quite similar for all three groups of informal workers divided by employment status. In particular, according to the results of the Heckman's two-step probit regression, the impact of the work experience factor is greatest in the group of waged workers, lower for the self-employed, and lowest for family workers. Even the self-employed and family workers with more than 10 years of work experience are less likely to participate in the system than those with less than five years of work experience.

• Employment status:

Employment status has a significant impact on the likelihood of contributing to voluntary SI. In particular, employed workers have a higher probability of participation than the unemployed. This difference is highest for family workers. This result also reflects, in part, that some family workers do housework at home and are not participating in the scheme. However, regression results with a correcting sample selection in Do Thi Thu (2021, forthcoming) showed that this characteristic has no statistically significant

impact on the probability of participation for all informal worker groups.

- **Business registration status of establishments:**

The self-employed and waged workers in registered establishments are 84.8% and 13.8% more likely to participate in the scheme than others in a non-registered establishment.

- **Labor contract status:**

Informal workers without a labor contract (based on verbal agreements or no agreement at all) have a lower probability of participating in the voluntary SI scheme than workers with a definite-term labor contract of less than three months (one of the cases of labor contract status of informal workers according to GSO (2017)). Even workers with verbal agreements are less likely to participate in the scheme than workers without a labor contract. These results reflect the negative impact of working conditions of informal workers on voluntary SI participation.

- **Income:**

Income has a non-linear impact on the probability of participation in voluntary SI of most groups of informal workers.

2. Other factors

- **Information:**

Information has an impact on the awareness of workers about the SI system, such as regulation of contributions and benefits. The survey of Giang Thanh Long et al (2020), with a sample of 702 employees (including 541 participants in mandatory SI and 161 participants in voluntary SI), shows that 75.8% of participants in voluntary SI

answered correctly when asked about the state ownership of VSS. This result reflects that the majority of voluntary SI participants have a general understanding of the system.

The awareness of voluntary participants about the specific regulations on contributions and benefits of SI is shown in the fact that about 70% of respondents answered correctly when asked about the pension amount calculation method, the amendment of pension amount based on inflation, and lump-sum recipients getting less than individuals receive monthly. In particular, about 90% of voluntary SI participants have a good understanding of the minimum number of years of contribution required to receive a monthly pension, the normal retirement ages for men and women, and regulations on early retirement. These results show that employees participating in the voluntary scheme are very interested in and knowledgeable about the benefits of social insurance. In contrast, only around 45% of respondents provided incorrect answers about the contribution rate and who can receive subsidies for the voluntary SI program. This reflects the fact that some employees who have incomplete information about regulations on contribution, but have better awareness of benefits, decided to participate in voluntary SI.

Regarding information sources, employees access information about voluntary SI through many different sources. These include VSS; Vietnam Post Office; provincial and district SI agencies; collection agencies; local government organizations such as the Vietnam Women's Union and the Vietnam Trade Union; and traditional media (newspapers, television, and radio). According to MOLISA (2014), SI regulations are disseminated to employees through many sources such as: "information

transmission through the traditional media such as newspapers, radio, television, especially through the program "Law and Life" with reportages, interviews; publishing publications, panels, handing out leaflets, organizing professional training for officials of social insurance agencies, or organizing conferences with employees and local organizations." In addition, employees can access related information through a number of other channels such as colleagues, friends, family members, employers, or social media.

Survey results from Giang Thanh Long et al (2020) show that participants in voluntary SI often access information through three main sources: i) traditional media; ii) friends/colleagues/family members; and iii) local government organizations. In particular, traditional media such as television, radio, and newspapers are considered the most popular communication channels for employees. This reflects the efficiency of the mass media in disseminating information. At the same time, in terms of the reliability of information, the number of respondents reporting that "information from the local government organizations is reliable" is highest (at 29.2%). Friends/family members/colleagues; traditional media; and VSS are also considered reliable sources of information. These results show the diversity in ability to access information for different groups of workers. It also highlights the need to diversify communication and ensure accurate and consistent information about the SI program is broadcast on all channels.

- **Institutional and organizational factors in the social insurance system:**

Institutional and organizational factors in SI are reflected through the participation of stakeholders in the SI program including: i) State management agencies on SI and labor

issues; ii) employees participating in the system; iii) other technical relevant agencies in the process of implementing these policies (such as newspapers and media agencies responsible for disseminating the policies and agencies developing IT applications to manage the SI fund...); iv) experts on SI and academic institutions; and v) groups with competing benefits (such as private life insurance companies and other financial establishments).

The evaluation of MOLISA (2014) and Giang Thanh Long et al (2020) shows the following issues:

Firstly, concerning the coordination of state management agencies on SI, especially voluntary SI. Currently, the voluntary SI program is being implemented based on Resolution 102/NQ-CP of the government on assigning development targets for beneficiaries of social insurance. Accordingly, People's Committees of provinces and municipalities are required to build annual goals and plans for expanding SI participation and offering them to MOLISA for synthesis and reporting to the Prime Minister. The goals are built to ensure an annual minimum participation growth rate of 30% to 50%. After that, the goals are allocated to districts and cities under provinces. In addition, SI agencies at all levels from central to local are responsible for coordinating with local governments to implement these annual goals. Nonetheless, the assignment of these goals is only at the district, not the commune level. This is a limitation in expanding coverage. Meanwhile, commune governments can get better information about the life of local informal workers and get closer links with them.

In addition, coordination in implementing voluntary SI policies between VSS, MOLISA,

and the local governments is not unified among provinces. This limits the coverage of the voluntary SI program. Local governments are not active or regular in developing the number of participants because they consider that VSS should be responsible for this. This problem is caused by the lack of specific regulations on the coordination mechanism among SI agencies and local governments in both the Law on Social Insurance 2006 and the Law on Social Insurance 2014.

VSS is responsible for directing SI agencies in provinces and districts to coordinate with relevant local agencies in implementing the goals of developing the number of participants according to the approved goals. However, the system of VSS is currently being organized in the district level. In order to help workers participate in the voluntary scheme, the VSS agency at the district level signed contracts with the communal postal and cultural points of Vietnam Post and organized a system of agents to collect voluntary SI premiums. This helped workers easily access and register their participation in and contributions to the scheme. However, the role of this network of collection agents is limited due to "the limited number of collection agents and the limited qualifications of officials in collection agents..." (VSS, 2018).

Concerning communication about voluntary SI policies, there has been coordination between VSS and local governments, unions, and the Vietnam Post agency at different levels to raise direct awareness in each commune, even to each household. Because informal workers are highly mobile, it is difficult to directly reach them to disseminate policies. Participants in the conferences are mainly the elderly. So, in fact, the content did not directly reach working-age informal

workers, creating a "vicious circle" of coverage limitation in the voluntary SI program.

Second, media and news agencies have also actively participated in disseminating laws and policies about voluntary SI. Some radio and television channels were active participants in the communication program including "The People's Television, National Assembly Television, Vietnam News Agency Television, VTC Digital Television, VOV Television, and additional pages on the People's Newspaper" (Government, 2017) with fixed weekly television shows. This is a channel to provide regular and up-to-date information to employees. In particular, there is the active contribution of reporters and editors in charge of SI in news agencies. These journalists are trained to get full knowledge about SI schemes. These training courses are organized under the coordination of VSS with the Central Propaganda Department of the Communist Party of Vietnam to improve the quality of the content and ensure that policies are complete, accurate, and appropriate for groups of workers.

Third, the participation of informal workers is very limited as a result of the subjective reasons of employees and objective reasons coming from regulations on contributions to and benefits of the voluntary SI scheme. Regarding informal workers, low income is one of the most important issues affecting their participation. In particular, with the regulation on the minimum number of contribution years, poor and near-poor households are often unable to participate despite the government's 25% support of the poverty line.

Besides, a large proportion of informal workers still have no assessment of or knowledge about participating in voluntary SI.

They often do not care about voluntary SI or confuse it with the benefits of health insurance in retirement if they have contributed for 20 years and the voluntary health insurance program. Even if they are interested, they are not sure how to register their participation. Meanwhile, the objective reason is that regulations on contribution and benefits remain complicated. The rate of entitlement also depends on the policy which often changes annually based on inflation. As a result, people do not know exactly the amount of pension they will receive in retirement.

In addition, the limitation on the number of benefits in the voluntary SI program is also a barrier to the participation of informal workers. Currently, this program only includes two benefits (retirement and survivorship regimes). If they contribute for at least 20 years, recipients will receive health insurance benefits. However, many workers want to contribute and be entitled to short-term benefits such as sickness, maternity, or occupational accidents, because it affects their "immediate benefit". As a result, they tend to prefer participating in compulsory SI, even though they are not in this category as a rule.



Photo: Tineke D'haese / Oxfam

PART 3

DISCUSSION AND POLICY RECOMMENDATIONS

Based on the above results, there are some discussion and policy recommendations as below.

I. MANDATORY SOCIAL INSURANCE

The adjusted monthly income paid annually for mandatory SI should be raised to ensure that the pension level is increased in line with the increase in the regional minimum wage. This, in turn, would improve the attractiveness of the mandatory SI program. This policy should also be applied for voluntary SI.

At the same time, there is a majority of workers with less than one-year, definite-term labor contracts not participating in mandatory SI. Therefore, it is important to focus on communication, raising awareness about corporate social responsibility of firms and knowledge of waged workers on the benefits of compulsory SI participation.

II. VOLUNTARY SOCIAL INSURANCE

1. Promoting flexible short-term packages of voluntary social insurance

The results of quantitative analysis show that many workers are in difficult living circumstances where the majority of their income is being spent on their school-age children's education. This finding supports the direction of extending benefits of voluntary SI through flexible, short-term SI packages as outlined in Resolution No. 28-NQ/TW and Resolution No. 125/NQ-CP. Therefore, it is necessary to effectively implement packages that supplement regimes such as illness, maternity, and child allowance. For households with large numbers of children, special support policies are required.

2. Applying the different support policies for the self-employed

For owners of private establishments,

mandatory SI programs should be implemented continuously. Besides, there should be policies to support administrative procedures for both self-employed workers and establishment owners to help them easily access official capital sources. In addition, communication should be more frequent to help people understand the purpose and benefits of participating in the SI system.

3. Changing the contribution and benefits regulation and matching defined contributions for different groups of workers

There should be more flexibility on contribution policies - such as the monthly income selected by participants and available payment methods - in voluntary SI to encourage poor people to participate. Furthermore, it is necessary to change the requirement on minimum payment for poor and near-poor households. In addition, for poor and near-poor people, the rate of contribution subsidy should be reconsidered so that it is based on participants' actual monthly income level selected rather than on the minimum wage as at present. Moreover, there needs to be a ceiling for the subsidy.

It is important to apply better support policies for poor and near-poor households to encourage their participation in the system and facilitate sustainable poverty reduction during retirement. In addition, the government should consider the regulations to support the entitlement level and ensure a minimum benefit for poor people who have participated in voluntary SI. This would help to achieve retirement income equality in the medium- and long-term. However, entitlement support should be considered according to the financial sources.

Other relevant policies

It is important to clearly regulate the working

conditions and standards for waged and informal workers. In particular, MOLISA should consider international commitments on minimum labor standards to raise protection for this group of workers. Today, most informal workers have no labor contract and, therefore, are not protected by trade unions. They are also not currently protected by the Labor Code. Therefore, minimum working conditions such as working time, minimum wage, labor contracts, etc. will be some of the necessary protections for informal workers. This will also increase their income and enable them to participate in voluntary SI. In particular, the status of working without a labor contract or relying on verbal agreements is a major barrier for expanding SI coverage. Because they are more vulnerable in their relationships with employers, they do not benefit from full protection such as SI entitlements. Therefore, besides encouraging policies, it is necessary to promote compulsory regulations on the formalization of labor relations through labor contracts according to the Labor Code to extend the coverage of mandatory SI.

III. RECOMMENDATIONS FOR THE SOCIAL INSURANCE SYSTEM

1. Designing the social insurance system with more flexibility in minimum contribution periods

In Vietnam, a lot of workers aged over 40 have never participated in SI. If this situation continues, Vietnam will struggle to achieve the target SI coverage rate of 60% in 2030 considering that this figure sat at 26% in 2018. The current regulation on the minimum number of contribution years is one of the most important causes of non-participation for this demographic. Therefore, it is necessary to implement a more flexible policy. In addition, establishment owners, self-employed and

family workers are less likely to participate than waged workers. Meanwhile, they are mainly aged over 45 and mostly subjects of the voluntary SI program. Therefore, a flexible policy on the minimum number of contribution years should be considered immediately for informal workers who are establishment owners, self-employed, or family workers.

2. Organizing more communication programs which are appropriate for groups of workers to expand opportunities and the accessibility of information about voluntary social insurance policies

The long-term goal of the communication program is to focus on young workers. It aims to encourage them to save for themselves and to be active and early participants in the SI system to receive up to 75% of their average monthly salary for paying SI. In addition, the analysis results show that workers are most able to participate in voluntary SI when they are about 35 years old. Therefore, there should be awareness-raising policies focusing on workers aged 30-35 years old.

The analysis results also show that women are more likely to participate in voluntary SI than men. Therefore, it is important to help them realize the role of contributing and encourage them to promote SI amongst their household.

Communication content should be more appropriate for each group of workers according to their education. Workers with a higher level of education are more likely to participate in SI. Therefore, it is necessary to diversify information channels and specify the related policies for groups of more highly educated workers with better access to information. In addition, for less educated workers, their ability to access information through high-tech products is limited. Therefore,

it is necessary to promote direct communication in communes, villages, and hamlets. Additionally, each village and commune needs to establish a regular working group which has clear and close contact with local people. The goal is to enable people to hear, see, and want to understand more about SI, especially voluntary SI. This would also help local people to learn more, access information, and make the decision to participate in SI when they have enough disposable income.

3. Focusing on communication programs to raise the awareness of workers, especially rural and ethnic minority workers

The proportion of workers participating in mandatory and voluntary SI in rural areas is much lower than in urban areas. Therefore, policies of expanding the coverage in rural areas should be more flexible than those in urban areas. In particular, over 65% of workers in rural areas are informal workers. Therefore, improving the coverage of voluntary SI will also increase SI coverage overall. Important solutions include promoting awareness-raising programs on voluntary SI policies as well as reviewing and grouping non-participants so as to implement appropriate and flexible dissemination methods to ensure efficient communication.

4. Increasing the duration and frequency of activities on all available communication channels

The district-level VSS agency should organize more regular communication activities in all of their communes and wards to ensure everyone can access information. Beside long-term residents, it is also necessary to cover all migrants in the local area.

REFERENCES



Bảo hiểm xã hội Việt Nam (2018), Báo cáo Tình hình thực hiện chính sách, chế độ bảo hiểm xã hội, quản lý và sử dụng quỹ BHXH năm 2017, Hà Nội.

Bộ Lao động - Thương binh và Xã hội (2014), Báo cáo Tổng kết Đánh giá thi hành Luật Bảo hiểm xã hội, Hà Nội.

Chính phủ (2017), Báo cáo tình hình thực hiện chính sách, chế độ bảo hiểm xã hội, quản lý và sử dụng quỹ bảo hiểm xã hội năm 2016, Hà Nội.

Chính phủ (2015), Nghị định số 134/2015/NĐ-CP ngày 29 tháng 12 năm 2015 của Chính phủ Quy định chi tiết một số điều của Luật Bảo hiểm xã hội về bảo hiểm xã hội tự nguyện.

Chính phủ (2018), Nghị quyết số 102/NQ-CP ngày 03 tháng 8 năm 2018 của Chính phủ về việc Giao chỉ tiêu phát triển đối tượng tham gia Bảo hiểm xã hội.

Chính phủ (2018), Nghị quyết số 125/NQ-CP ngày 08 tháng 10 năm 2018 của Chính phủ Ban hành Chương trình hành động của Chính phủ thực hiện Nghị quyết số 28-NQ/TW ngày 23 tháng 5 năm 2018 của Hội nghị lần thứ bảy Ban chấp hành Trung ương khóa XII về Cải cách chính sách bảo hiểm xã hội.

Giang Thanh Long, Vu Thi Bich Ngoc, Pham Cam Anh, Do Thi Thu, Nguyen Thi Loan & Nguyen Thi Hai Yen (2020), Stock-taking report on the implementation of the Social Insurance Law between 2014 and 2018. Hanoi: ILO.

ILO. (2012). Social Protection Floors Recommendation, 2012 (No. 202).

ILO (2013), Social protection assessment based national dialogue: A good practices guide: Approaches and tools developed in East and South-East Asia from 2011 to 2013, International Labour Organization, ISBN 978-92-2-128187-0, Bangkok, Thailand.

ILO (2017), World Social Protection Report 2017-19: Universal Social Protection to Achieve the Sustainable Development Goals, International Labour Organization, ISBN 978-92-2-130015-1, Geneva, Switzerland.

ILO (2018). ILO Global Estimates on International Migrant Workers: Results and Methodology. ISBN 978-92-2-132672-4. International Labour Office, Geneva.

ISSA (2018), 10 Global challenges for social security, International Social Security Association, ISBN 978-92-843-0178-2, Geneva, Switzerland.

ISSA (2018), 10 Global challenges for social security-Asia and the Pacific, International Social Security Association, ISBN 978-92-843-0178-2, Geneva, Switzerland.

Mai Ngọc Cường (2012), 'Về xây dựng và hoàn thiện hệ thống an sinh xã hội ở nước ta những năm tới', Tạp chí Tạp chí Kinh tế và Phát triển, Số 178, tháng 04 năm 2012, Trang 36-44.

Mai Ngọc Cường (2014), 'Nhà nước với việc mở rộng phạm vi bao phủ bảo hiểm xã hội tự nguyện', Tạp chí Tạp chí Kinh tế và Phát triển, Số 208 (II), tháng 10 năm 2014, Trang 36-40.

McClanahan, Shea & Gelders, Bjorn (2019), 'Extending coverage of social insurance in Viet Nam', Kỷ yếu hội thảo: Tọa đàm “Xây dựng gói BHXH ngắn hạn linh hoạt nhằm mở rộng độ bao phủ BHXH hướng tới BHXH toàn dân”, Vụ Bảo hiểm xã hội, Bộ Lao động Thương binh và Xã hội.

MOLISA (2013), Phát triển hệ thống an sinh xã hội ở Việt Nam đến năm 2020, Hà Nội, Việt Nam.

MOLISA (2017), Proposal to reform the current social insurance system in Vietnam, Bộ Lao động Thương binh & Xã hội Việt Nam.

Nguyen Thi Lan Huong, Luu Quan Tuan, Meissner, Matthias, Bui Sy Tuan, Dang Do Quyen & Nguyen Hai Yen (2013), Social Protection for the Informal Sector and the Informally Employed in Vietnam: Literature and data review, IEE Working Papers, 3927276855.

Nguyễn Thị Lan Hương và Mai Ngọc Cường (2018), 'Phát triển bảo hiểm xã hội đa tầng để thực hiện an sinh xã hội toàn dân: Kinh nghiệm một số nước và khuyến nghị đối với Việt Nam', Tạp chí Tạp chí Kinh tế và Phát triển, Số 251, tháng 5 năm 2018, Trang: 2-9.

Nguyễn Xuân Cường, Nguyễn Xuân Thọ và Hồ Huy Tựu (2018), 'Một số nhân tố ảnh hưởng đến sự quan tâm tham gia bảo hiểm xã hội tự nguyện của người buôn bán nhỏ lẻ trên địa bàn tỉnh Nghệ An', Tạp chí Phát triển Khoa học và Công nghệ: Chuyên san Kinh tế - Luật và Quản lý, Tập 2, số 4, Trang 54-61

Quốc hội (2006), Luật Bảo hiểm xã hội (Luật số 71/2006/QH 11) ngày 29 tháng 6 năm 2006.

Quốc hội (2014), Luật Bảo hiểm xã hội (Luật số 58/2014/QH13) ngày 20 tháng 11 năm 2014.

Tổng cục Thống kê (2017), Báo cáo Lao động phi chính thức năm 2016, Tổng Cục Thống kê, ISBN 978-604-89-2814-8, Hà Nội, Việt Nam.

Thủ tướng Chính phủ (2013), Quyết định số 1215/QĐ-TTg ngày 23 tháng 7 năm 2013 của Thủ tướng Chính phủ về việc Phê duyệt Chiến lược phát triển ngành Bảo hiểm xã hội Việt Nam đến năm 2020

Thủ tướng Chính phủ (2013), Quyết định số 145/QĐ-TTg ngày 20 tháng 01 năm 2016 của Thủ tướng Chính phủ về việc Phê duyệt Chiến lược hội nhập quốc tế về lao động và xã hội đến năm 2020, tầm nhìn đến năm 2030.

Thủ tướng Chính phủ (2016), Quyết định số 146/QĐ-TTg ngày 20 tháng 01 năm 2016 của Thủ tướng Chính phủ về việc Phê duyệt Chiến lược Hội nhập quốc tế của ngành Bảo hiểm xã hội đến năm 2020, định hướng đến năm 2030.

Trương Thị Phượng và Nguyễn Thị Hiền (2013), 'Các nhân tố ảnh hưởng đến ý định tham gia BHXH tự nguyện của người lao động khu vực phi chính thức tại tỉnh Phú Yên', Tạp chí Tạp chí Khoa học - Công nghệ Thủy sản, Số 2/2013.

Trung ương (2018), Nghị quyết số 28-NQ/TW ngày 23 tháng 5 năm 2018 của Hội nghị lần thứ bảy Ban chấp hành Trung ương Khóa XII về Cải cách chính sách bảo hiểm xã hội.

ANNEXES



ANNEX 1

MEASUREMENTS OF EFFECTIVE COVERAGE USED IN THIS REPORT

To measure effective coverage from different perspectives, this report uses descriptive statistical techniques based on LFS data over the years and data collected from published annual reports of VSS. As follows:

First, horizontal coverage: Based on published annual reports of VSS and others, our research team calculated the ratio of workers participating in the SI system overall and one of the two programs, including mandatory and voluntary SI programs, to the total economically active population aged 15 and over (the labor force). These are policy objects of mandatory or voluntary SI programs.

Using LFS data in 2016 and 2019, horizontal coverage of mandatory and voluntary SI schemes were calculated using their respective percentages of SI participation in the total formal workforce. Formal and informal workers are defined in GSO (2017). This coverage was statistically analyzed by the demographic and employment characteristics of workers. In particular, the horizontal coverage of voluntary SI was also analyzed for non-poor workers (whose income is higher than the poverty line). This is an important measurement reflecting horizontal coverage of the “missing-middle” group of workers who are not covered by any poverty reduction programs and also not protected through any SI program.

Second, vertical coverage: Vertical coverage of mandatory and voluntary SI schemes is illustrated using data collected from the published annual reports of VSS and government reports submitted to the National Assembly of Vietnam on SI regulations and management of SI funds.

- The vertical coverage rate of mandatory SI was calculated by the ratio of the mandatory SI benefit level to the regional monthly minimum wage of Region IV - the lowest regional minimum wage.
- The vertical coverage rate of voluntary SI was measured by the ratio of pension benefit level to rural poverty line.

Third, potential coverage: This was measured using the LFS data over two years with specific measurement criteria as follows:

- The potential coverage rate of mandatory SI: This is the ratio of workers with an income higher than the regional minimum wage in Region IV to the total number of formal workers aged over 15 years old. Specifically, the regional minimum wage was VND2.4 million in 2016 and VND2.92 million in 2019. Using the Region IV minimum wage caused a limitation in LFS data which is not feasible in determining which economic region workers belong to.
- The potential coverage of voluntary SI: This is the ratio of workers with an income higher than the poverty line of urban or rural areas to the total number of informal workers aged 15 and over. Specifically, the regulated poverty line level in 2016 and 2019 were the same, at VND800,000 for rural areas and VND1 million for urban areas.

In addition, the potential coverage of voluntary SI is also described through the proportion of workers with disposable income higher than the poverty line in urban or rural areas in total informal workers aged 15 and over. In which, disposable income is calculated by total income minus the voluntary SI premium rate which is 22% of monthly income selected by workers.

To have more evidence to recommend policies, the two SI schemes were analysed by the demographic and employment characteristics of workers. These characteristics include age, gender, education level, length of residence, living area, number of school-age children in each household, employment status, labor contract status, income, and the disposable income of workers.

ANNEX 2

A COMPARISON OF VIETNAMESE LEGAL REGULATIONS AND INTERNATIONAL STANDARDS IN SOCIAL INSURANCE

| Criteria | Recommendation/ Convention/ International standards | Mandatory social insurance | | Voluntary social insurance | |
|---|---|--|--|--|---|
| | | Yes/Not available | Conditions | Yes/Not available | Conditions |
| Objectives of the social insurance system | | | | | |
| Expanding the number of covered employees | 1. Article 22 of the Universal Declaration of Human Rights 2. Sustainable Development Goal 1.3, part of the United Nations Agenda 2030 | Resolution 28/NQ-TW , 34% - 42,5% - 55% total labor force in 2021, 2025, 2030, respectively => objects are all workers with a job and an income | Depending on socio-economic development | Resolution 28/NQ-TW , 1% - 2,5% - 5% total labor force in 2021, 2025, 2030, respectively. "Promoting process of expanding social insurance coverage in informal sector" | Depending on socio-economic development |
| | | | | | |
| Improving benefit for employees | The multi-pillars social security model proposed by the WB, and the multi-layer pension system proposed by the OECD | Resolution 28/NQ-TW Reducing the minimum number of contribution years to receive pension entitlement; increasing the benefit level; decreasing allowances retirement age; adjusting accumulative rate to receive a maximum pension rate based on international standards; supplementary social insurance (Resolution 88/2016/ND-CP) | Depending on the status of the government budget | Resolution 28/NQ-TW Pension, survivorship benefit => expand gradually to other benefits; reducing the minimum number of contribution years to receive pension entitlement. | |

| Criteria | Recommendation/ Convention/ International standards | Mandatory social insurance | | Voluntary social insurance | |
|---|---|--|--|---|--|
| | | Yes/Not available | Conditions | Yes/Not available | Conditions |
| Protection benefits | | | | | |
| Maternity | Convention 102 ILO (1952), Convention 183 ILO (2000) | Section 2 Chapter III, Law on Social Insurance | Article 31 | Not available | |
| Sickness/disease | Convention 102 ILO, Convention 130 ILO (1969) | Section 1, Chapter III, Law on Social Insurance | Article 25 | Not available | |
| Unemployment | Convention 102 ILO, Convention 168 ILO (1988) | Chapter VI, Law on Employment | Clause 1, Article 47; Article 49 | Not available | |
| Labor accident and occupational disease | Convention 102 ILO, C Convention 121 ILO (1964, 1980) | Section 3, Chapter III, Law on Social Insurance | Article 43 and 44 | Not available | |
| Child and family benefits | Convention 102 ILO, Convention 183 ILO (2000) | Integrating maternity entitlement; sickness/disease (Section 1 & 2, Law on Social Insurance) | Point 2, Article 25; Point e, Clause 1, Article 31 | Not available | |
| Labor force loss (disability) | Convention 102 ILO, Convention 128 ILO (1967) | Decree No. 236/HDBT/Decision No. 60-HDBT, Article 55, Law on Social Insurance | Article 14, Decree 236/HDBT and Articles 1, 2 Decision 60/HDBT | Not available | |
| Main sponsor dies (survivorship) | Convention 102 ILO, Convention 128 ILO (1967) | Section 5, Chapter III, Law on Social Insurance | Articles 66 and 67 | Section 2, Chapter IV Law on Social Insurance | Point 1 and Point 3 of Article 80 and Article 81 |

| Criteria | Recommendation/ Convention/ International standards | Mandatory social insurance | | Voluntary social insurance | |
|--|---|---|---|---|---|
| | | Yes/Not available | Conditions | Yes/Not available | Conditions |
| Retirement age (pension) | Convention 102 ILO, Convention 128 ILO (1967) | Section 4, Chapter III, Law on Social Insurance | Article 54, Law on Social Insurance; Article 4,5,6 Decree 135 CP/2020 | Section 1, Chapter IV Law on Social Insurance | Article 73, Law on Social Insurance; Article 4,5,6 Decree 135 CP/2020 |
| Regulation on benefits | | | | | |
| Minimum pension benefit | Layer 1 – social security in the multi-layer pension system proposed by the OECD/Pillar 0 – the multi-pillar social security model proposed by the WB | <p>1. Social pension allowances (Resolution 28/NQ-TW)</p> <p>2. Article 56, Law on Social Insurance regulates that pension benefit level is equal to 45% of average premium rate contributing in the social insurance system.</p> | 15 years of contribution | Article 74, Law on Social Insurance , 45% of the voluntary social insurance average premium rate selected by employees | 15 years of contribution |
| Maximum pension benefit | | Article 56, Law on Social Insurance , 75% of average premium rate contributing in the social insurance system | | Article 74, Law on Social Insurance , 75% of the voluntary social insurance average premium rate selected by employees | |
| Equity and equality in the social insurance system | | | | | |
| Equity in contribution and benefits regulation of social insurance | | Clause 1, Article 5, Law on Social Insurance , Resolution 28/NQ-TW Inequity in contribution and benefits among generations because of PAYG mechanism | | Clause 1, Article 5, Law on Social Insurance , Resolution 28/NQ-TW | |

| Criteria | Recommendation/ Convention/ International standards | Mandatory social insurance | | Voluntary social insurance | |
|---|---|---|---------------|---|---------------|
| | | Yes/Not available | Conditions | Yes/Not available | Conditions |
| Gender equality in contribution and benefits regulation of social insurance | | Law on Social Insurance , differences in retirement ages, and the pension benefit level increases differently between male and female workers for each additional year of contribution | | Law on Social Insurance , differences in retirement ages, and the pension benefit level increases differently between male and female workers for each additional year of contribution | |
| Income equality in contribution and benefits regulation of social insurance | | Resolution 28/NQ-TW , "sharing among high income and low income workers to close gap of income among pensioners" | | | |
| Social insurance policies for migrants | Article 68, Part XII, Convention 102 | Point 1.7 Clause 1, Clause 2 Article 4, Law on Social Insurance | | | |
| Social insurance policies for self-employed workers | Layer 3 – voluntary pension system in the multi-layer pension system proposed by the OECD | | | Resolution 28/NQ-TW "Increasing number of employees in informal economic sector participating in social insurance system" | |
| Social insurance policies for ethnic minority areas | Not available | Not available | Not available | Not available | Not available |

| Criteria | Recommendation/ Convention/ International standards | Mandatory social insurance | | Voluntary social insurance | |
|--|---|---|------------|----------------------------|------------|
| | | Yes/Not available | Conditions | Yes/Not available | Conditions |
| Conditions for achieving a sustainable social protection system | | | | | |
| Adequacy of benefits | | Resolution 28/NQ-TW "Building the multi-layer social insurance", Law on Social Insurance ...cover most benefits (maternity/sickness/occupational disease...) | | | |
| Sustainability (ability to maintain the pension system in the medium and long term) | | Financial problems: the Vietnamese pension system is unsustainable because of the PAYG mechanism and an aging population... | | | |
| Integrity (assessing whether a pension system is well controlled to ensure responsible action of stakeholders) | | Resolution 28/NQ-TW (Developing a social insurance system which is streamlined, professional, effective, modernized...) | | | |

ANNEX 3

QUANTITATIVE ANALYSIS

1. Factors associated with the probability of voluntary social insurance

Demographic characteristics including:

- *Age*: Informal workers are divided into fourteen 5-year age groups.
- *Gender*: Informal workers were divided into two groups by gender including male and female workers.
- *Education level*: Informal workers were divided into four groups in terms of the highest educational attainment level, including those with no schooling or an incomplete primary education; workers who completed primary, secondary, or high school; workers with an intermediate or professional college level education; and workers with a university or higher level education.
- *Length of residence*: There were three groups of informal workers regarding length of residence: Less than 1 year, 1-5 years, and more than 5 years. Length of residence reflects the migrant status of workers.
- *Living area*: Includes urban and rural areas.
- *Number of school-age children in household*: This is measured by the total number of school-age children in each household aged from 6 to 18 years old. This factor reflects the expenditure of households on their children's education which has increased a lot in the current period. Therefore, workers in households with a lot of school-age children will prioritize their income to spend on their children's education and are less likely to participate in SI. Besides, for children under 6 years old, the government of Vietnam has many policies to support them in terms of health care and education. Accordingly, this report focuses only on children aged 6-18 years old. Specifically, the

"number of school-age children in household" is counted by the total of members aged from 6 to 18 years old in each household. This information is only possible with the data in LFS (2016).

Employment characteristics, including:

- *Employment status*: There are four groups including establishment owners, self-employed workers, family workers, waged workers, and cooperative members.
- *Labour contract status*: According to the ILO definition of informal workers, an informal worker could be in one of three types of labor contract: A definite-term labor contract of under three months, verbal contracts, and no labor contract.
- *Income*: This is the total income of each worker, including their salary and other allowances. Five quintile income groups of workers include poor, near-poor, middle-income, near-rich, and rich workers.
- *Disposable income*: This is equal to the income of each worker minus the voluntary SI premium rate which is 22% of the monthly income selected by workers, assuming that their selected monthly income is equal to their actual total income.

2. Quantitative models

The logistic model estimates the probability of voluntary social insurance participation

To estimate the impact of factors on probability of participation in the voluntary SI scheme in Vietnam, a logistic regression model has been applied. The research model is as follows:

$$\ln[P(Y = 1)/P(Y = 0)] = \beta_0 + \beta_i X_i \quad (1)$$

Where:

- $P(Y=1)$: is the probability of a worker participating in the voluntary social insurance scheme;
- $P(Y=0)$: is the probability of a worker not participating in the voluntary social insurance scheme;
- X_i : is a vector of independent variables.

To clarify the difference in voluntary SI participation among different groups of informal workers by employment status (including: the self-employed,

waged workers, and family workers), this logistic regression model is applied for four samples of worker groups: Group 1 (all informal workers); Group 2 (the self-employed); Group 3 (waged workers), and; Group 4 (family workers).

The regression process includes three steps as follows:

- Step 1: Fitting the model is done by gradually adding the variables and comparing those regression results based on statistical criteria: Statistical significance level of coefficients (β), Log likelihood value, the value of Pseudo R², and the Log likelihood ratio test (LR) to choose the best model.
- Step 2: A Chow test between the self-employed group and group of other informal workers is conducted to examine the difference in the impact of socio-economic characteristics on the voluntary SI participation between these two groups.
- Step 3: Four logistic equations are regressed with selected variables for four samples including: all informal workers, self-employed, waged workers, and family-workers.

A probit two-step Heckman's

Endogenous Switching (ES) and Sample Selection (SS) are the most common problems in socio-economics and statistics. ES is an important problem when a binary dependent variable is correlated to other factors that are not observed in the model. In addition, the problem of SS should also be considered when a regression is conducted with a conditionally selected sample. Heckman (1979) is one of the first studies to mention SS bias. He argued that OLS estimating a wage function using a sample of only employed and received wage workers, but not unemployed workers, would be biased and inconsistent. Heckman named it SS bias.

ES and SS should be adjusted in order to increase the reliability of estimation results. These two problems can be handled through Heckman's two-step regression model (Heckman, 1979). However, this model is only applied to a continuous dependent variable. Miranda & Rabe-Hesketh (2006) showed that if the dependent variable is binary, the model of Heckman (1979) is not reliable because the OLS regression technique is not suitable for a non-linear model (De Ven and Praag, 1981).

In this study, applying the logistic regression method, we estimated the factors affecting voluntary SI participation for four samples including total informal workers, the self-employed, waged and family workers. Because these samples are conditionally selected based on the definitions in GSO (2017), there may be an endogenous problem in the model due to sample selection. To examine and adjust possible endogenous problems in the

logistic regression models, this study uses Heckman's Two-Step Probit Selection Model developed by Van de Ven and Van Pragg (1981) and applied in Morrissey et al (2016).

In this model, the dependent variable is whether or not a worker participated in voluntary SI. The dependent variable receives a value of 1 if the worker participated, and 0 if they did not participate in the scheme at the time of the survey. The two-step Probit regression model is represented by two equations: the Outcome equation and the Selection equation.

The output probit equation is as below:

$$Y_i^* = \beta X_i + \varepsilon_i, \quad (2)$$

Where: Y_i^* is an unobserved latent variable which reflects the individual's utility of participation in voluntary SI. It also determines the probability of participation. This utility level depends on vector of independent variables X_i and random factors in the model ε_i . If it is less than 0, the probability of the participation of a worker equals 0, and vice versa. It means that: $Y_i = 1$ if $Y_i^* > 0$ and $Y_i = 0$ if $Y_i^* \leq 0$.

In addition, a worker is self-employed, a waged worker, or a family worker depending on independent variables expressed through the correction equation. According to Greene (1995, 2000), the correction function is a probit equation. It is regressed by using the maximum likelihood estimation method as below:

$$S_i^* = \alpha X_i + \phi Z_i + \mu_i \text{ with } S_i = 1 \text{ if } S_i^* > 0; S_i = 0 \text{ if } S_i^* \leq 0 \text{ and } Y_i \text{ is observed in this equation if } S_i = 1 \quad (3)$$

Where: S_i^* is an unobserved latent variable. It determines that worker i is formal or informal, self-employed or waged workers or family workers. S_i^* depends on vector of independent variables X_i in the output equation and may be other variables Z_i – are factors which affect S_i^* but which do not affect Y_i^* and error term μ_i .

It is noticable that the correction equation must be a probit model but not a logit model. Although both logit and probit methods show the impact of factors on voluntary SI participation. But the logit equation is based on an assumption of a logistic distribution, while it is normal distribution for both the probit equation and Heckman's correction equation. Therefore, a correction equation must be a probit equation but not a logistic equation (Morrissey et. al, 2016).

The error terms ε_i and μ_i are assumed to be normally distributed and their correlated coefficient is $\text{Corr}(\varepsilon_i, \mu_i) = \rho$

If $S_i = 1$, Y_i is observed and a log likelihood equation of the corrected probit equation is as below:

$$\begin{aligned} \ln L = & \sum_{\substack{i \in S \\ Y_i \neq 0}} w_i \ln \{ \Phi_2 (\beta X_i + \text{offset}_i^\beta, \phi Z_i + \text{offset}_i^\phi, \rho) \} + \sum_{\substack{i \in S \\ Y_i = 0}} w_i \ln \{ \Phi_2 (-\beta X_i \\ & + \text{offset}_i^\beta, \phi Z_i + \text{offset}_i^\phi, -\rho) \} + \sum_{i \in S} w_i \ln \{ 1 - \Phi (\phi Z_i + \text{offset}_i^\phi) \}, \end{aligned}$$

(4)

Where: S is a set of observations where Y_i is observed. Φ_2 is the cumulative binary normal distribution function with expectation equal to 0. $\Phi(\cdot)$ is a cumulative normal distribution function.

In the estimation results of the maximum likelihood equation, ρ (rho) is not directly estimated, but is estimated through a "atanh ρ " as follows:

$$\text{atanh } \rho = \frac{1}{2} \ln \left(\frac{1+\rho}{1-\rho} \right)$$

(5)

The value of ρ is in the range of -1 to 1. If $\rho = 0$, the likelihood equation of the corrected probit model is equal to the sum of the probit equation Y and the corrected equation. It means that there is no problem of sample selection bias. LR test can be done by comparing the probability of the full model with the total probability of the output probit model and the correction model. According to Morrissey et al (2016), a negative value of ρ reflects that the observed group of workers is less likely to participate in the voluntary SI scheme than others. In contrast, a positive value of ρ reflects that the group of workers currently not observed is more likely to participate in the scheme than others. A smaller value of ρ indicates a less serious problem of sample selection bias in the model.

To increase the reliability of the results, this study also used a robust estimation option in the two-step probit regression model. Besides, this study also estimated a Heckman's two-step probit regression with bootstrap option. This option allows an estimation of standard deviation and confidence intervals of the regression results according to the recovered sampling method from a finite sample. The bootstrap option usually gives the smallest standard deviation and more accurate confidence interval than conventional regression results.

ANNEX 4

FACTORS AFFECTING THE PROBABILITY OF VOLUNTARY SOCIAL INSURANCE PARTICIPATION

| FACTORS | | LOGISTIC REGRESSION | | HECKMAN'S TWO-STEP PROBIT REGRESSION (ROBUST) | | | HECKMAN'S TWO-STEP PROBIT REGRESSION (BOOTSTRAP METHOD) | | |
|--|---------------------|----------------------------|-----------------------|---|----------------------------|-----------------------|---|----------------------------|--|
| VARIABLES | | ODDS RATIO | COEFFICIENTS | | MARGINAL EFFECTS (DY/DX) | COEFFICIENTS | | MARGINAL EFFECTS (DY/DX) | |
| DEPENDENT VARIABLES | D_VOLUNTARY_SI | PARTICIPATING VOLUNTARY SI | | INFORMAL WORKERS | PARTICIPATING VOLUNTARY SI | | INFORMAL WORKERS | PARTICIPATING VOLUNTARY SI | |
| PR(D_VOLUNTARY_SI=1) (PREDICT) | | | | | | | | | |
| AGE GROUPS 15-24 (REF) | 25-34 | 1.250*** (0.0103) | 0.0248 (0.0515) | -0.216*** (0.0128) | 0.00034 (0.000719) | 0.00318 (0.0468) | -0.267*** (0.0129) | 3.95E-05 (0.000582) | |
| | 35-49 | 0.904*** (0.00860) | -0.100* (0.0569) | -0.198*** (0.0131) | -0.00131* (0.000728) | -0.101* (0.0551) | -0.294*** (0.0115) | -0.00121* (0.000630) | |
| | 50-59 | 0.488*** (0.00538) | -0.338*** (0.0723) | -0.178*** (0.0163) | -0.00351*** (0.000624) | -0.352*** (0.0657) | -0.272*** (0.0133) | -0.00331*** (0.000484) | |
| | 60+ | 0.703*** (0.00925) | -0.222** (0.0951) | -0.00027 (0.0253) | -0.00236*** (0.000799) | -0.394*** (0.0744) | -0.115*** (0.0212) | -0.00322*** (0.000337) | |
| | MALE | 0.601*** (0.00325) | -0.190*** (0.0370) | 0.223*** (0.00884) | -0.00262*** (0.000627) | -0.112*** (0.0258) | 0.217*** (0.00760) | -0.00141*** (0.000368) | |
| MARITAL STATUS (SINGLE. REF) | MARRIED | 0.870*** (0.00637) | -0.0406 (0.0440) | | -0.000564 (0.000633) | -0.0238 (0.0348) | | -0.000299 (0.000452) | |
| | OTHER | 0.938*** (0.0122) | 0.0803 (0.0798) | | 0.00119 (0.00129) | 0.123* (0.0654) | | 0.00175 (0.00107) | |
| | | 3.560*** (0.0448) | 0.390*** (0.0701) | | 0.00446*** (0.000793) | 0.283*** (0.0666) | | 0.00314*** (0.000750) | |
| EDUCATION LEVEL (INCOMPLETE PRIMARY (REF)) | PRIMARY-HIGH SCHOOL | | | | | | | | |
| | PROFESSIONAL | 7.067*** (0.0990) | 0.577*** (0.0901) | | 0.0152*** (0.00438) | 0.430*** (0.0860) | | 0.00872*** (0.00290) | |

| FACTORS | DEPENDENT VARIABLES | VARIABLES | LOGISTIC REGRESSION | | HECKMAN'S TWO-STEP PROBIT REGRESSION (ROBUST) | | HECKMAN'S TWO-STEP PROBIT REGRESSION (BOOTSTRAP METHOD) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------|---------------------|----------------|---------------------|--|---|------------------|---|------------------|--------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | ODDS RATIO | | COEFFICIENTS | | COEFFICIENTS | | MARGINAL EFFECTS (DY/DX) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | PARTICIPATING VOLUNTARY SI | INFORMAL WORKERS | PARTICIPATING VOLUNTARY SI | INFORMAL WORKERS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | D_VOLUNTARY_SI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| FACTORS | VARIABLES | LOGISTIC REGRESSION | | HECKMAN'S TWO-STEP PROBIT REGRESSION (ROBUST) | | HECKMAN'S TWO-STEP PROBIT REGRESSION (BOOTSTRAP METHOD) | |
|--|---|-------------------------|----------------------------|---|----------------------------|---|----------------------------|
| | | ODDS RATIO | COEFFICIENTS | MARGINAL EFFECTS (DY/DX) | COEFFICIENTS | MARGINAL EFFECTS (DY/DX) | |
| | | | | | | | |
| DEPENDENT VARIABLES | D_VOLUNTARY_SI | | PARTICIPATING VOLUNTARY SI | INFORMAL WORKERS | PARTICIPATING VOLUNTARY SI | INFORMAL WORKERS | PARTICIPATING VOLUNTARY SI |
| WORK EXPERIENCE (UNDER 5 YEARS (REF)) | 5-10 YEARS | 1.661*** (0.00996) | 0.239*** (0.0382) | 0.00381*** (0.000815) | 0.183*** (0.0301) | | 0.00257*** (0.000505) |
| | 10 YEARS + | 1.384*** (0.00951) | 0.0819* (0.0430) | 0.00114* (0.000630) | 0.117*** (0.0273) | | 0.00150*** (0.000374) |
| | WAGE WORKERS | 6.448*** (0.0584) | 0.823*** (0.0534) | 0.0135*** (0.00157) | 0.806*** (0.0411) | | 0.0125*** (0.00115) |
| EMPLOYMENT STATUS (SELF-EMPLOYED(REF)) | FAMILY WORKERS | 0.593*** (0.00927) | -0.00134 (0.0949) | -1.81E-05 (0.00128) | -0.00886 (0.0898) | | -0.000109 (0.00109) |
| TYPE OF ESTABLISHMENT (AGRI, FREELANCE (REF)) | COOPERATIVE ESTABLISHMENTS | 3.713*** (0.115) | 0.505*** (0.185) | 0.0133 (0.00813) | 0.764*** (0.125) | | 0.0263*** (0.00891) |
| | STATE, PRIVATE AND FOREIGN ESTABLISHMENTS | 7.792*** (0.0576) | 0.890*** (0.0481) | 0.0215*** (0.00268) | 0.889*** (0.0392) | | 0.0203*** (0.00201) |
| | DEFINITE-TERM UNDER 3 MONTHS | | -5.692*** (0.148) | -0.00505*** (0.000440) | -5.098*** (0.519) | | -0.00452*** (0.000310) |
| LABOR CONTRACT | VERBAL AGREEMENT | 0.0399*** (0.000343) | -1.299*** (0.0532) | -0.00807*** (0.000688) | -1.382*** (0.0444) | | -0.00760*** (0.000497) |
| REGISTRATION OF ESTABLISHMENT (NON-REGISTERED ESTABLISHMENT=0) | | 2.915*** (0.0250) | -0.0144 (0.0735) | -2.745*** (0.0136) | -0.0231 (0.0558) | -2.816*** (0.0110) | -0.000284 (0.000680) |
| | 5 QUINTILES BY INCOME (POOREST (REF)) | 1.090*** (0.0206) | 0.00628 (0.158) | 8.53E-05 (0.00216) | -0.153 (0.155) | | -0.00156 (0.00129) |

| FACTORS | VARIABLES | LOGISTIC REGRESSION | | HECKMAN'S TWO-STEP PROBIT REGRESSION (ROBUST) | | | HECKMAN'S TWO-STEP PROBIT REGRESSION (BOOTSTRAP METHOD) | | |
|---------------------------------------|--------------------------|--------------------------------|----------------------------|---|-------------------------|--------------------------|---|------------------------|----------------------------|
| | | ODDS RATIO | | COEFFICIENTS | | MARGINAL EFFECTS (DY/DX) | COEFFICIENTS | | MARGINAL EFFECTS (DY/DX) |
| DEPENDENT VARIABLES | D_VOLUNTARY_SI | | PARTICIPATING VOLUNTARY SI | INFORMAL WORKERS | | | PARTICIPATING VOLUNTARY SI | INFORMAL WORKERS | PARTICIPATING VOLUNTARY SI |
| 5 QUINTILES BY INCOME (POOREST (REF)) | 3 RD QUINTILE | 0.761*** (0.0124) | 0.0712 (0.0974) | | 0.001 (0.00143) | | 0.0285 (0.0827) | | 0.000359 (0.00106) |
| | 4 TH QUINTILE | 1.069*** (0.0171) | 0.237** (0.0953) | | 0.00361** (0.00165) | | 0.246*** (0.0848) | | 0.00348** (0.00137) |
| | RICHEST | 1.318*** (0.0207) | 0.366*** (0.0937) | | 0.00641*** (0.00212) | | 0.405*** (0.0785) | | 0.00672*** (0.00175) |
| | EDUCATION LEVEL | | | -0.601*** (0.00647) | 0 0 | | | -0.614*** (0.00672) | 0 0 |
| | WORKING LOCATION | | | 0.256*** (0.00396) | 0 0 | | | 0.242*** (0.00309) | 0 0 |
| CONSTANT | | 9.01E-05*** (0.00) | -4.222*** (0.245) | 3.287*** (0.0248) | | | -4.151*** (0.222) | 3.478*** (0.0206) | |
| | RHO | | 0.479*** (0.06579) | | | | 0.567*** (0.04493) | | |
| OBSERVATIONS | | 329,396 | 400,583 | 400,583 | 400,583 | | 400,583 | 400,583 | 400,583 |
| STANDARD ERRORS IN PARENTHESES | | *** P<0.01, ** P<0.05, * P<0.1 | | | | | | | |

Source: Do Thi Thu (2021), using LFS 2016



Oxfam is a global movement of people who are fighting inequality to end poverty and injustice. There are currently 21 member organizations working in 70 countries, who coordinate and lead this fight via the Oxfam International Secretariat.

Oxfam in Vietnam believes that a reduction in poverty, injustice, and inequality will occur through the interaction between active citizens, accountable states and responsible private sector and that it is fundamental to Vietnam's development.