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Understanding utilization of tax deductions for retirement

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Trongwut Burong

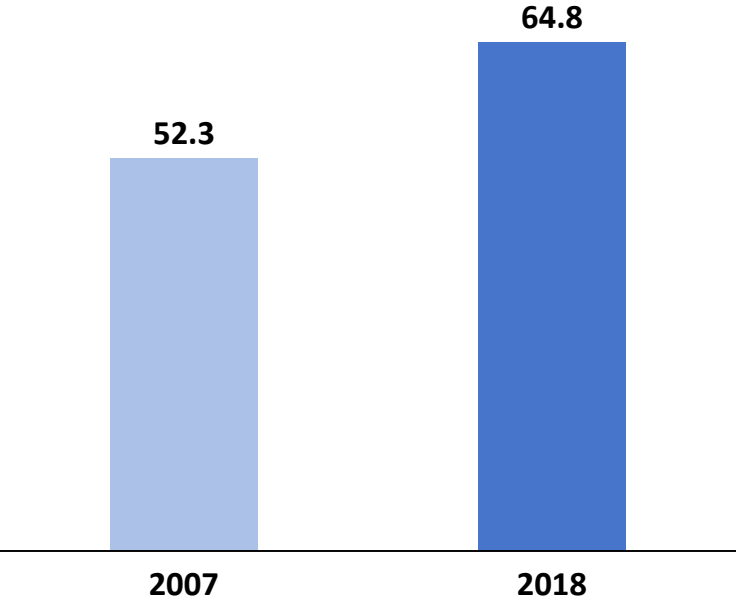
Revenue Department

Disclaimers: The views and opinions expressed here are the authors' and should not be attributed to the Revenue Department.

Encouraging long-term investment and retirement savings is a top agenda for rapidly aging Thailand

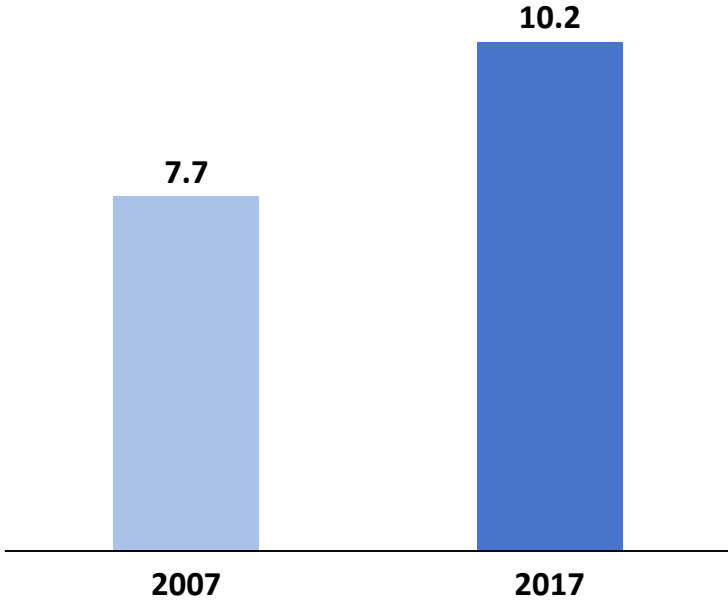
Around 64% of taxpayers use at least one deduction for savings in 2018..

Share of taxpayers with tax incentives for savings



.. with the saving rate of slightly over 10%

Deduction for savings in percent of income among those who have deduction



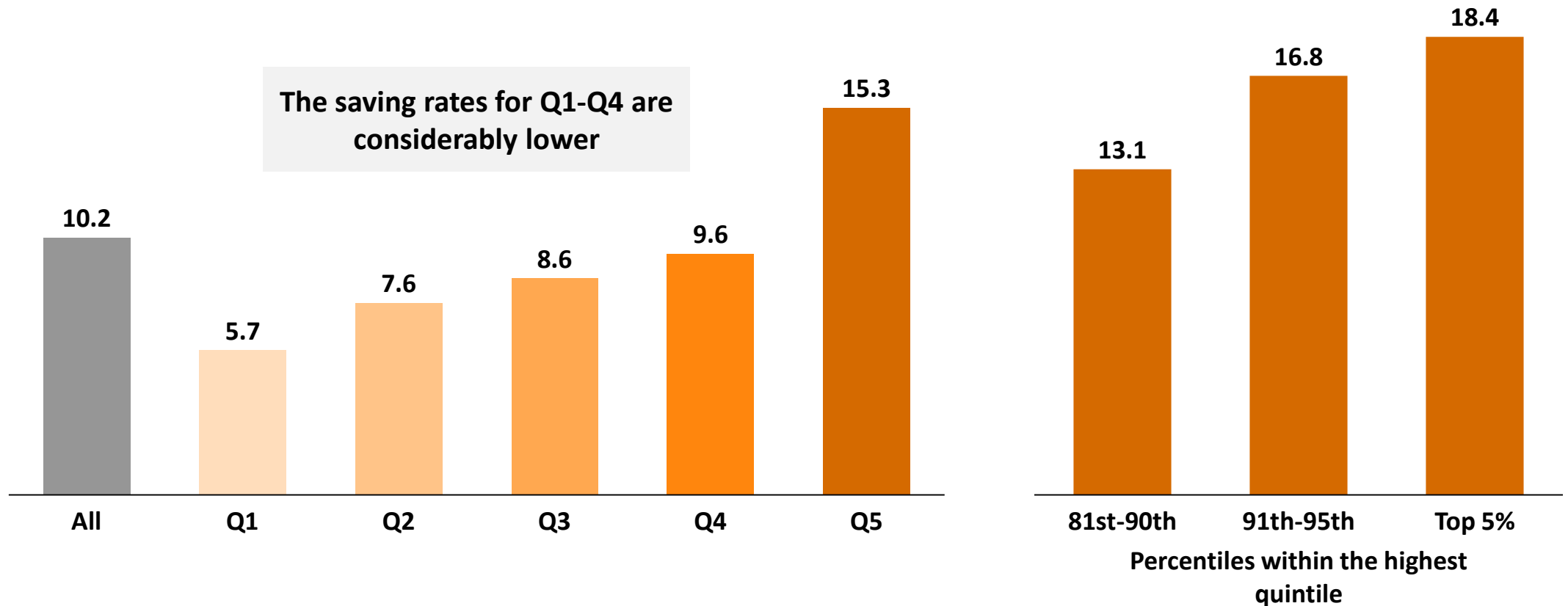
Overall uses of the tax incentives for savings are quite high and rising over the past decade



But there is an important heterogeneity across income groups

The savings rates generally rise with income but are significantly smaller for low and middle-income taxpayers

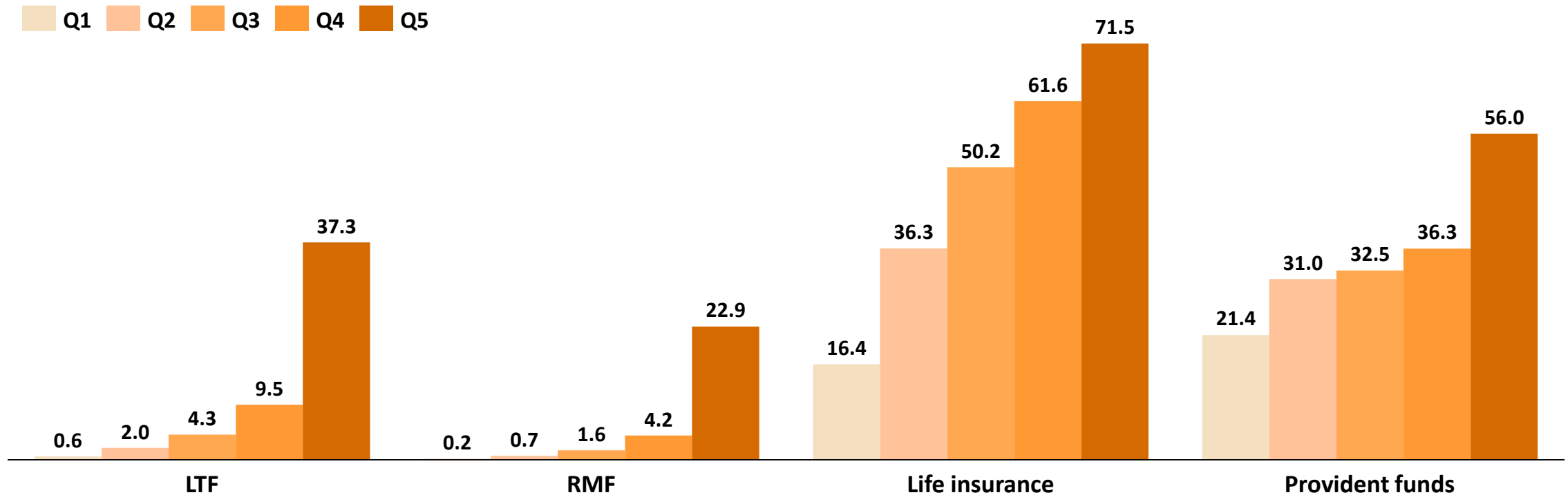
Deduction for saving in percent of income by income groups, 2018 (for only those with deductions)



Life insurance and provident funds represent the most popular tax incentives

Share of taxpayers with each type of tax incentives for saving by income groups (2017)

Unit: %



Source: Authors' calculation

Outline

1. Related studies

2. Institutional background: Thailand's personal income tax system

3. Empirical design and data

4. Findings



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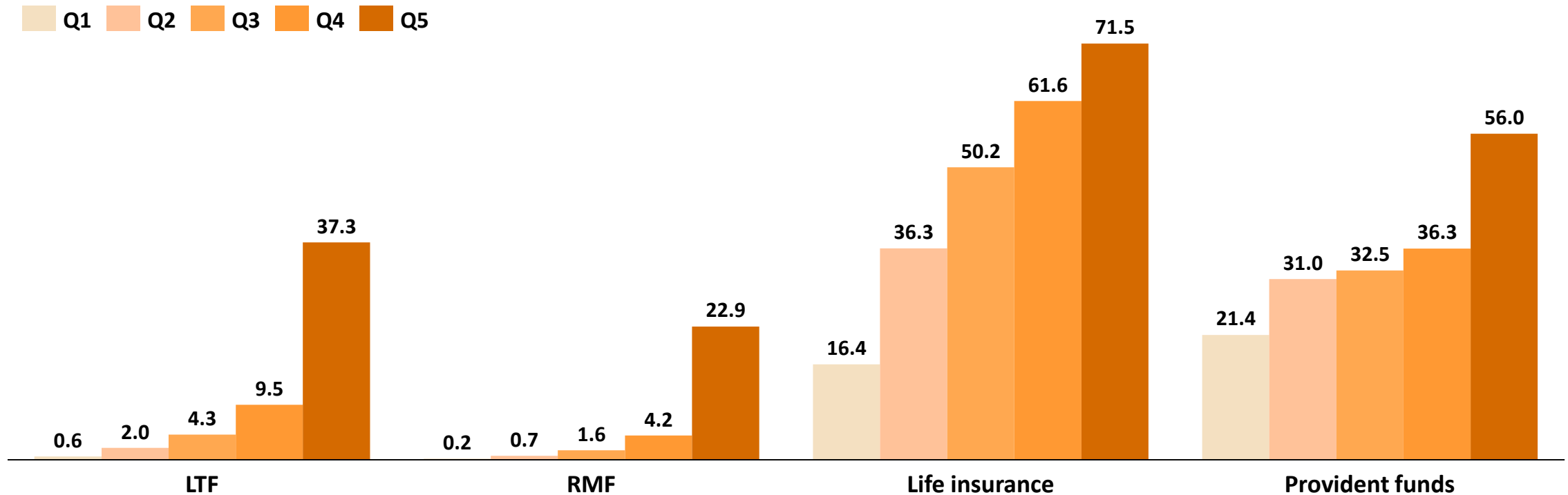
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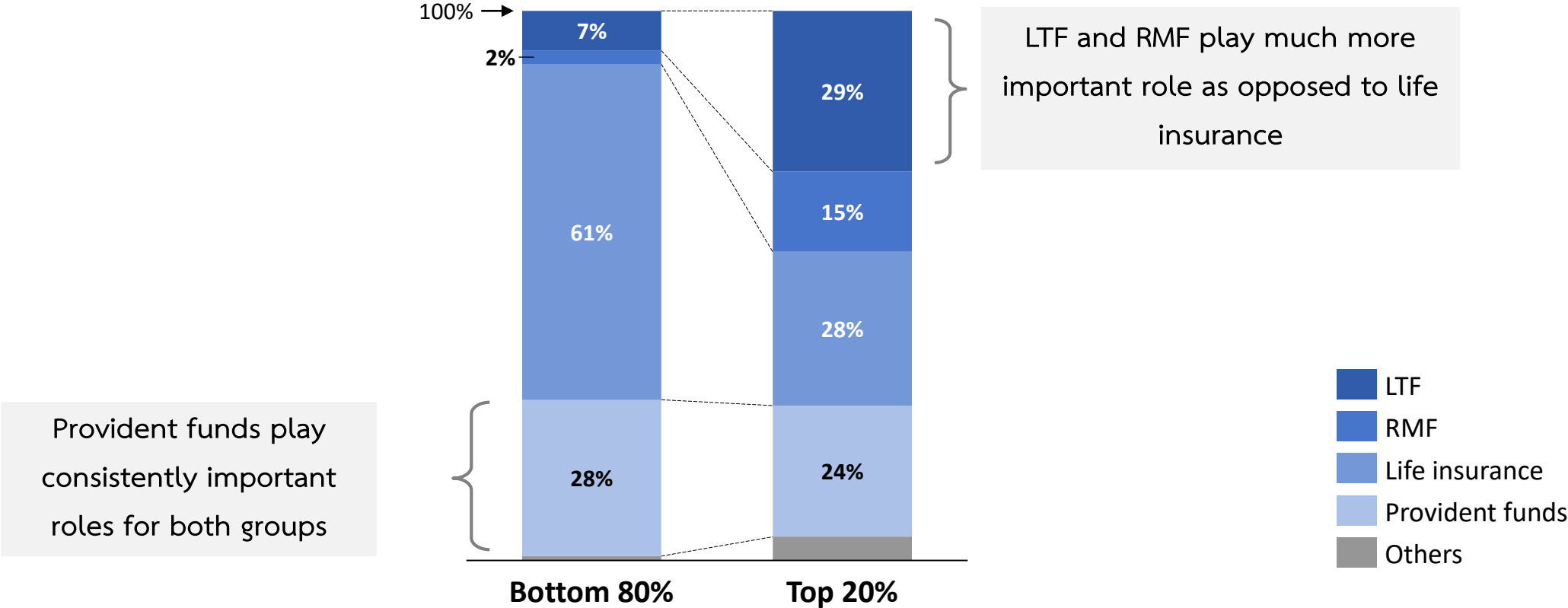


Source: Authors' calculation

Portfolio composition: The high-income taxpayers and the rest

Portfolio composition of tax deduction for savings by type, 2017

Unit: %



Source: Authors' calculation

Thailand's progressive personal income tax schedule

Annual net income	2009-2012	2013-2016
0-150,000	Exempt (0%)	Exempt (0%)
150,001-300,000	10%	5%
300,001-500,000	10%	10%
500,001-750,000	20%	15%
750,001-1,000,000	20%	20%
1,000,001-2,000,000	30%	25%
2,000,001-4,000,000	30%	30%
Above 4,000,000	37%	35%

Source: Revenue department

Thai government provides several tax deduction for retirement and long-term savings

LTF: Long-term equity fund

- Investment in mutual funds with at least 60% in domestic equity
- Holding at least 5-7 years

RMF: Retirement mutual fund

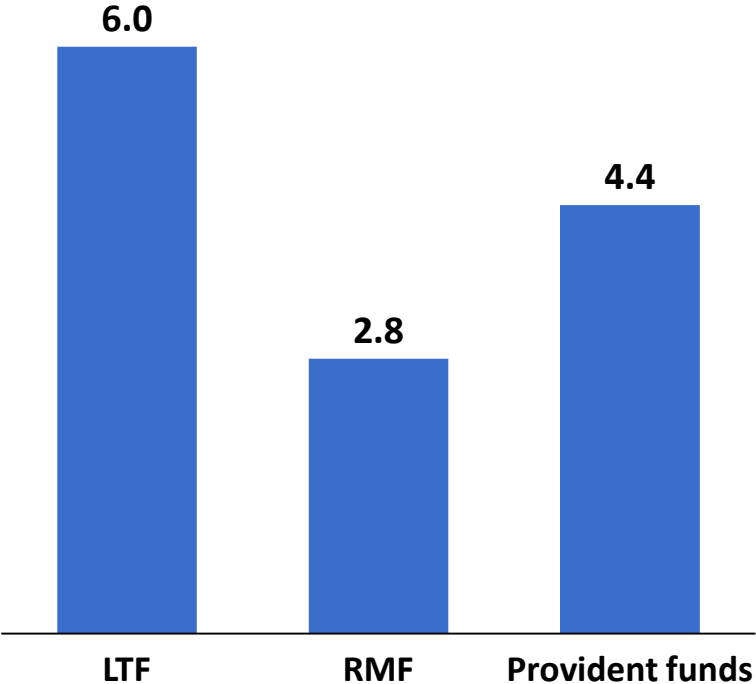
- Investment in general mutual funds
- Holding until age 55 or at least 5 years if over 55

PVD: Provident fund

- Automatic salary deduction that goes to pension fund provided by employers or government
- Holding until age 55

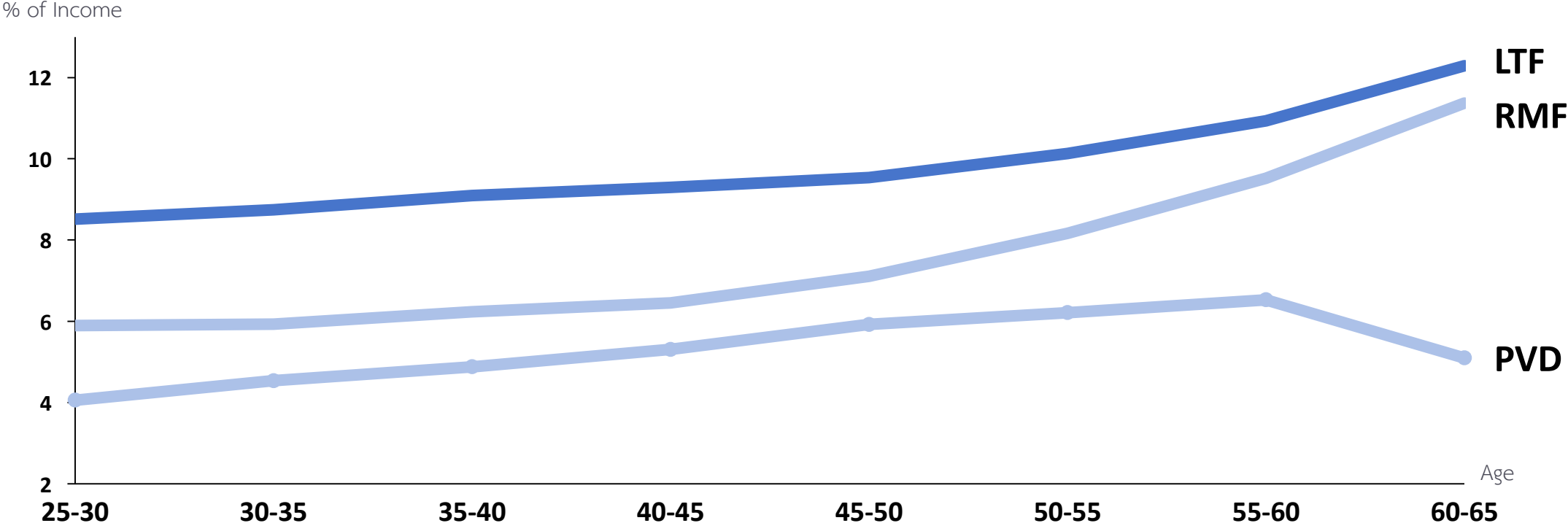
Tax expenditure associated with long-term and retirement savings (2016)

Unit: %



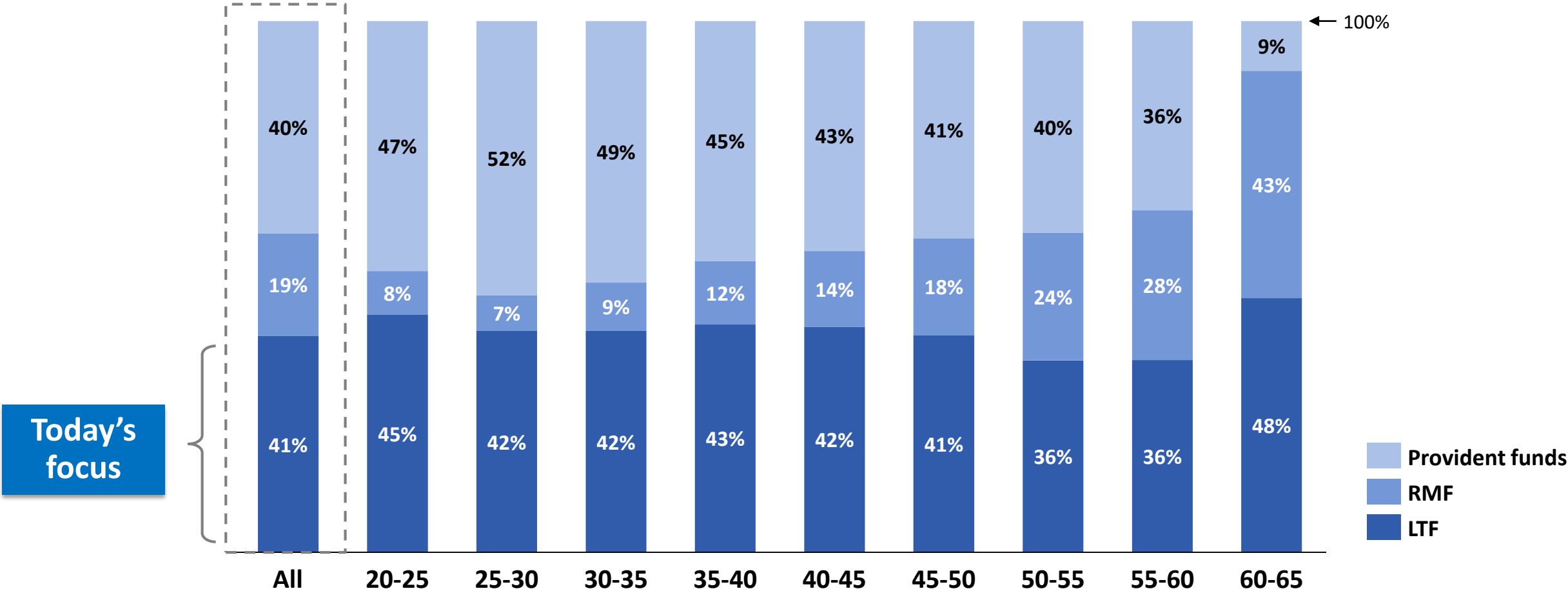
Source: Authors' calculation

Average deduction in % of income conditional on having each deduction (2018)



Source: Authors' calculation

Portfolio composition of tax deduction for long-term investment by type and age, 2018



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The 2013 tax schedule change

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Notes: 1) The 40th percentile of adjusted taxable income in 2013 = 500,000
2) The 65th percentile of adjusted taxable income in 2013 = 750,000

How do we measure savings response?



Tax deduction = Price subsidy

Example

LTF contribution

10,000 baht

Tax bracket

20%

Affected by the 2013 change

After-tax price of LTF

8,000 baht

Marginal propensity to save (MPS)

Example

MPS

0.15

Increase in income

1,000 baht


Increase in savings

150 baht

We investigate how individual's savings respond to the tax subsidy change across the entire income distribution

Illustration of the construction of treatment and control

Middle-income taxpayers: 15% around 750,000

	Annual income range	Tax subsidy Before 2013	Tax subsidy 2013 and after
 Treatment	637,500-750,000	20%	15%
Control	750,000-862,500	20%	20%

Baseline difference-in-difference estimation equation

$$\begin{aligned} Sav_{i,t} = & \beta_0 + \beta_1 Treat_{i,t} + \beta_2 Post_{i,t} + \beta_3 Treat_{i,t} * Post_{i,t} \\ & + \beta_4 Y_{i,t} + \beta_5 Treat_{i,t} * Y_{i,t} + \beta_6 Post_{i,t} * Y_{i,t} + \beta_7 Treat_{i,t} * Post_{i,t} * Y_{i,t} \\ & + \beta_8 X_{i,t} + yearFE + coffFE + yearFE * coffFE + \varepsilon_{it} \end{aligned}$$

where $Sav_{i,t}$ = LTF contribution,

$Treat_{i,t}$ = 1 for treatment group (0 for control group),

$Post_{i,t}$ = 1 for years 2013-2016 (0 for 2009-2012),

$Y_{i,t}$ = adjusted taxable income, $X_{i,t}$ = a vector of control variables, and ε_{it} = error term.

β_7 represents the causal effect of the reduction in the tax subsidy on the MPS.

Data

- ▶ Sample of de-identified tax filers (50,000 observations) from 2009-2016
- ▶ Focus on
 - ▶ Tax filers with salaried income only → 75% of all filers
 - ▶ Age 20-60
- ▶ To avoid potential endogeneity, we define:
Adjusted taxable income = Gross income net of expense and deductions related to personal characteristics (e.g. children and elderly parents)

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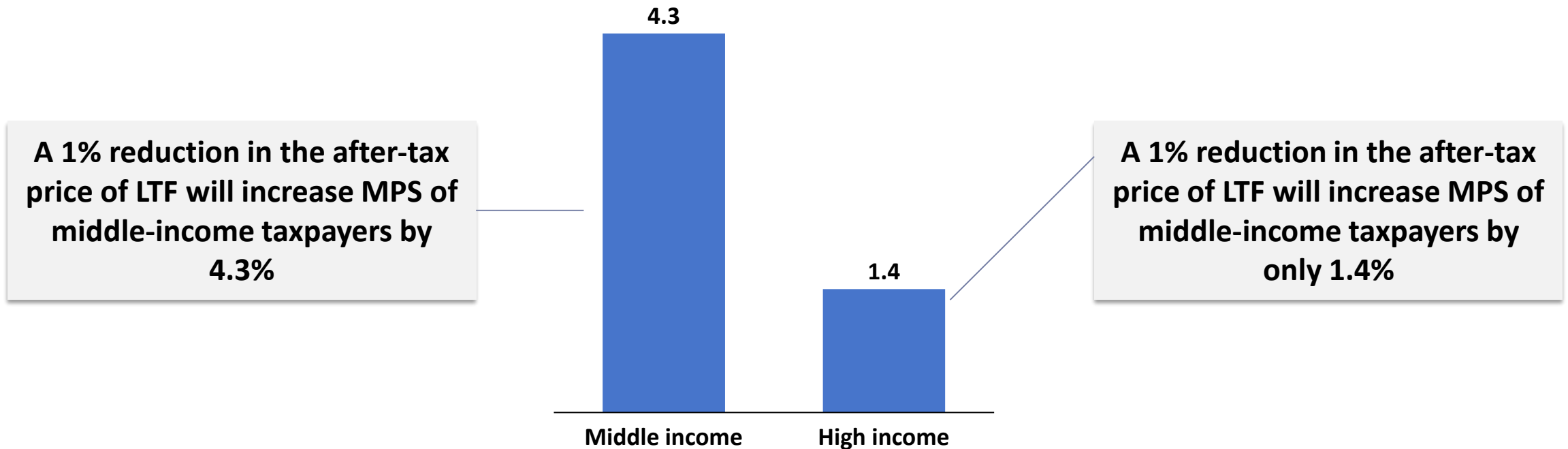
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The saving responses of middle-income taxpayers are much higher than those of high-income group

Effect of the cut in the after-tax price by 1% on the MPS in LTF

Price elasticity of MPS (% change in MPS)



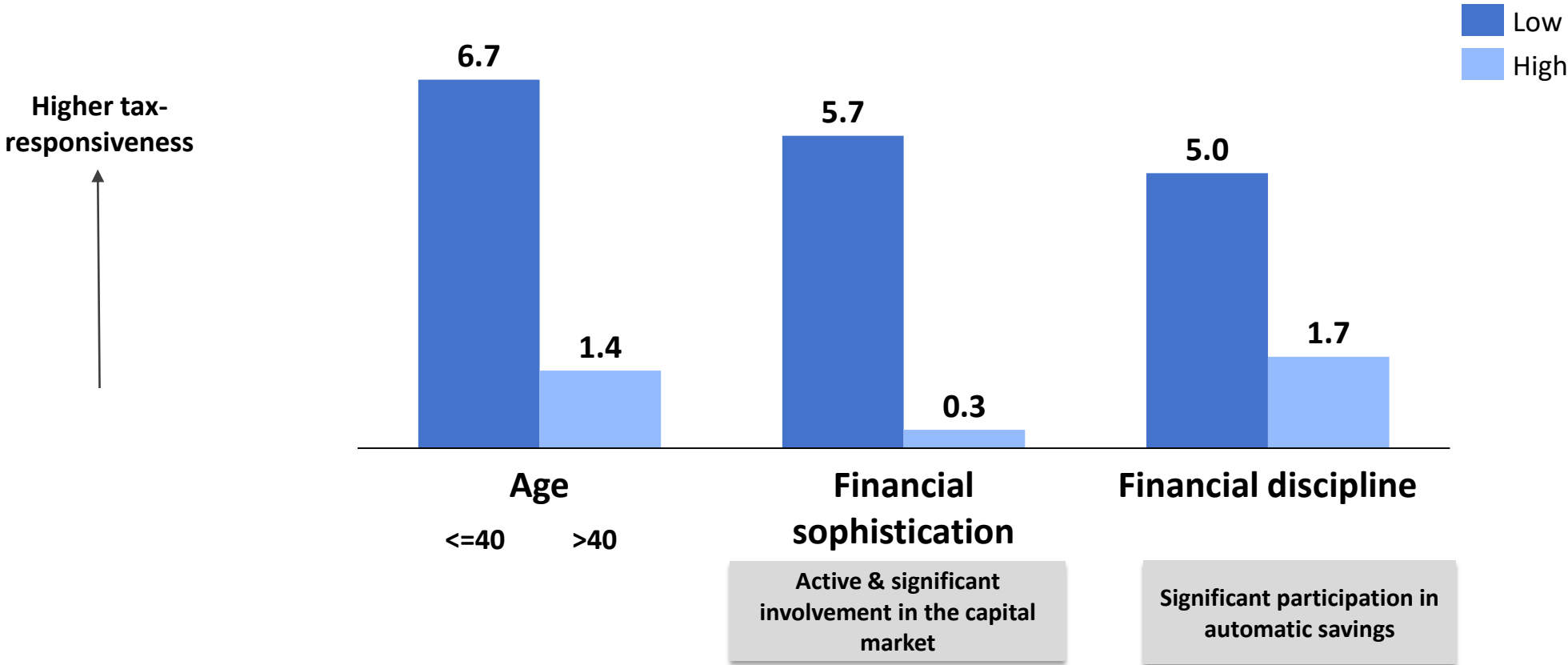
Note: Middle-income taxpayers are those with adjusted monthly income approximately: 50,000-70,000 baht. High-income taxpayers are those with adjusted monthly income: 70,000-380,000 baht.

Source: Muthitachoen and Burong (2019)

Among middle-income taxpayers, the responses are considerably larger for those younger and having lower financial literacy/discipline

Effect of the cut in the after-tax price by 1% on the MPS in LTF

Price elasticity of MPS (% change in MPS)



Key Takeaways

1

Price subsidy can be an important tool to encourage long-term savings

1

But there is an important heterogeneity in individual responses

End of Document

Reference:

Muthitacharoen, Athiphat and Burong, Trongwut (2019). Understanding utilization of tax deductions for retirement. Faculty of Economics Chulalongkorn University Working Paper.