

Financial Literacy – Can it be measured and can it be taught? And if so, how?

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Relevance

Increasing complexity of financial decisions:

“Finance is a part of everyday life (...), as they near the end of compulsory education, students will face complex and challenging financial choices.”

OECD 2014

Problem statement

However, many are not up to the challenge:

„financial illiteracy is widespread”
A. Lusardi & O. Mitchell 2011

“financial literacy is thus an essential life skill,
and high on the global policy agenda.”

OECD 2014

Four Main Questions

01

**What is
financial
literacy?**

02

**Does
financial
literacy make
a difference?**

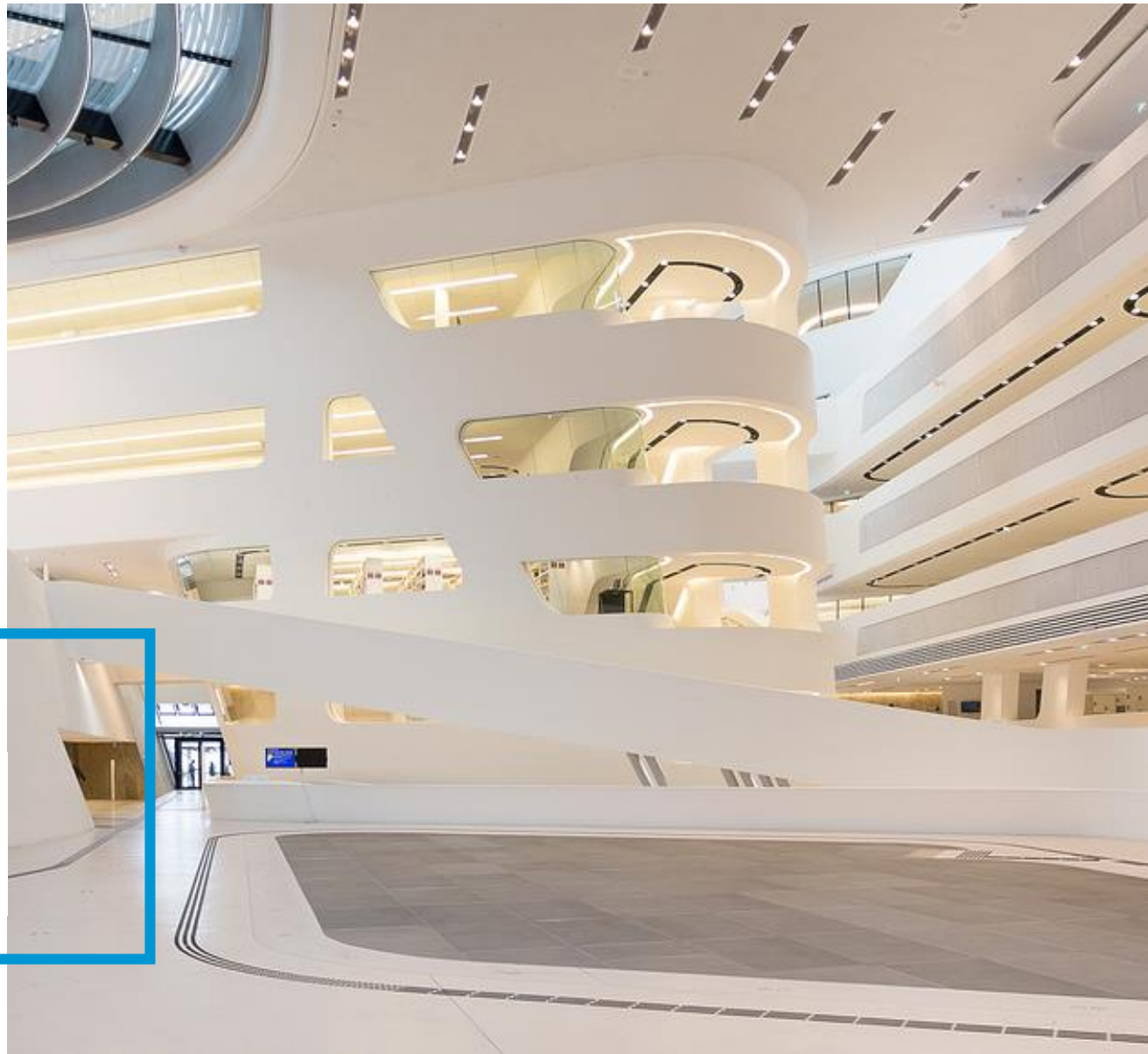
03

**Can financial
literacy be
measured?**

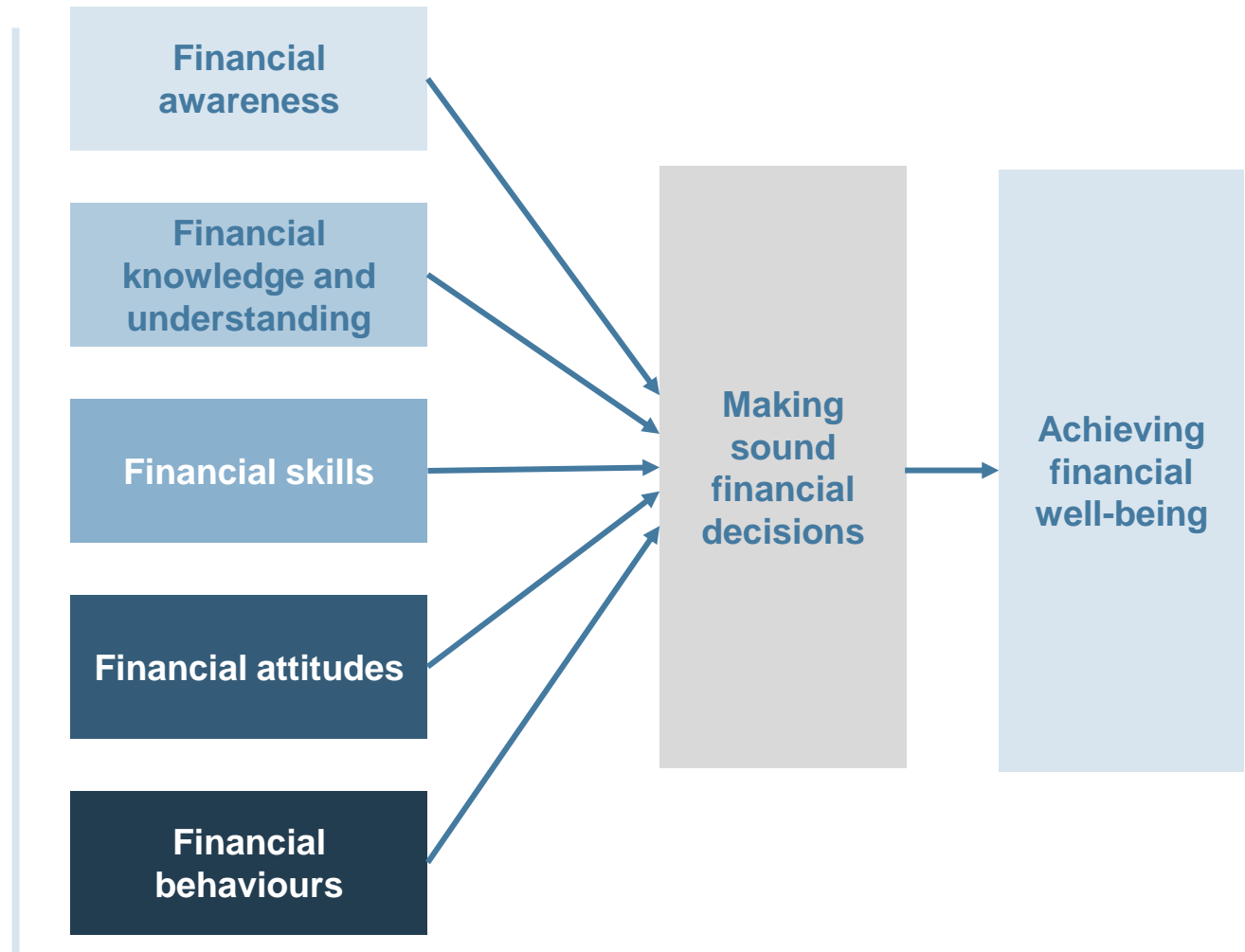
04

**Can
financial
literacy be
taught?**

What is financial literacy ?



The OECD- Approach: One Definition of Financial Literacy



(Atkinson & Messy 2012, OECD 2005, 2014, 2017)

Attitudes and Behavior are interrelated: Theory of Planned Behavior (Ajzen, 1991)

- **Attitudes** by Eagly & Chaiken (1993, p. 1): “psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor”

Attitudes towards
behavior x

- **Subjective norm:** Ajzen (1991, p. 188): “perceived social pressure to perform or not to perform the behavior”

Subjective norms
towards behavior x

Behavioral intentions
towards behavior x

Behavior x

- **Perceived behavioral control:** the self-evaluation concerning one’s ability to perform a certain behavior (Ajzen, 2005a, p. 93)

Perceived behavioral
control towards
behavior x

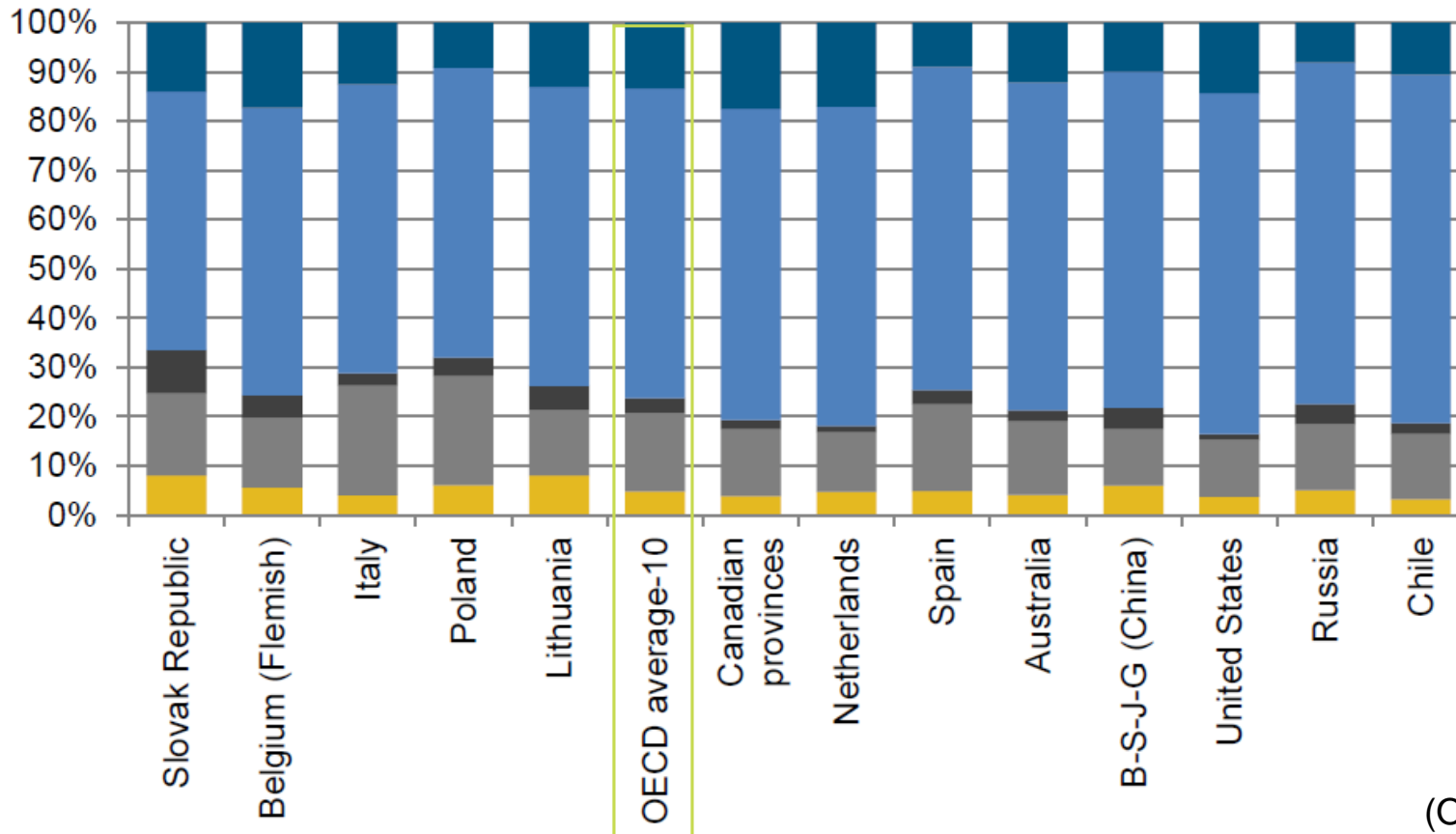
Does financial literacy make a difference?



OECD PISA question

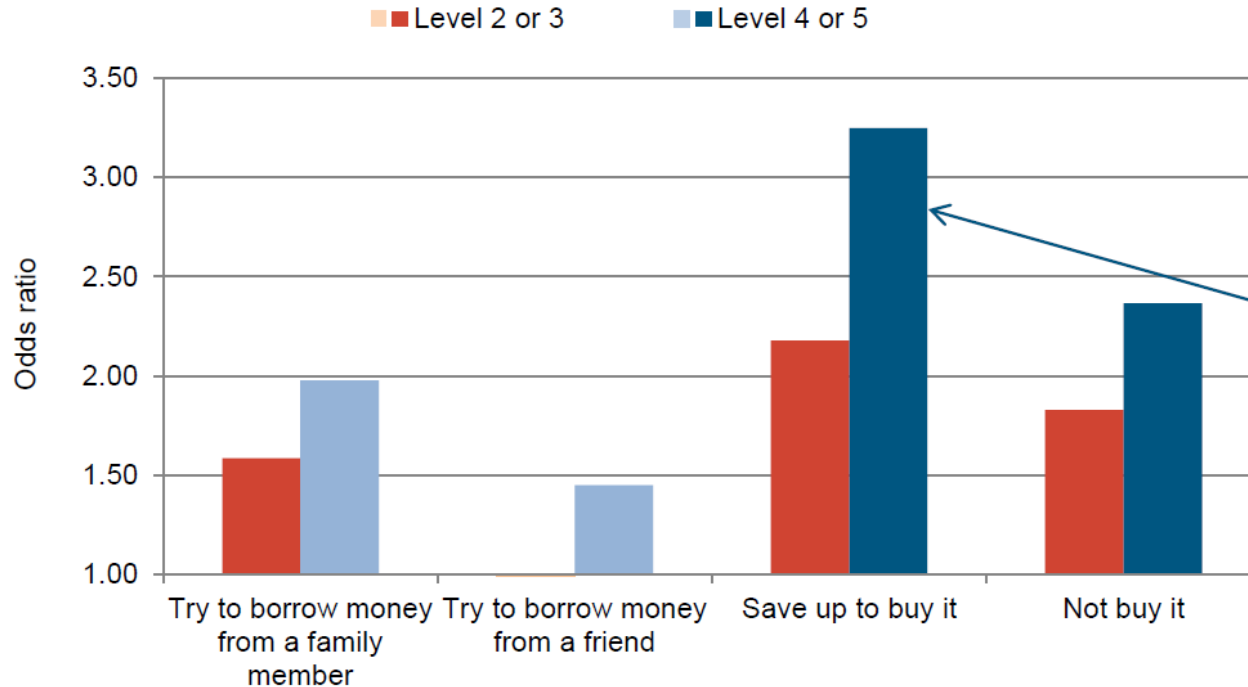
„If you do not have enough money to buy something you really want what are you most likely to do?“

- Not buy it
- Save up to buy it
- Try to borrow money from a friend
- Try to borrow money from a family member
- Buy it with money that really should be used for something else



(OECD 2017)

High performers are more likely to save



High performing students are more than twice as likely as low-performing students in financial literacy to choose the statement "Save up to buy it" rather than "Buy it with money that really should be used for something else", after accounting for performance in mathematics and reading and other characteristics.

Research on the relationships between money attitudes and financial behaviours

(Greimel-Fuhrmann & Grohs-Müller, 2017)

OBJECTIVE

Identify the relationships between a number of money attitudes and consumption as well saving

METHOD

Quantitative research,
Paper-and-pencil-questionnaire

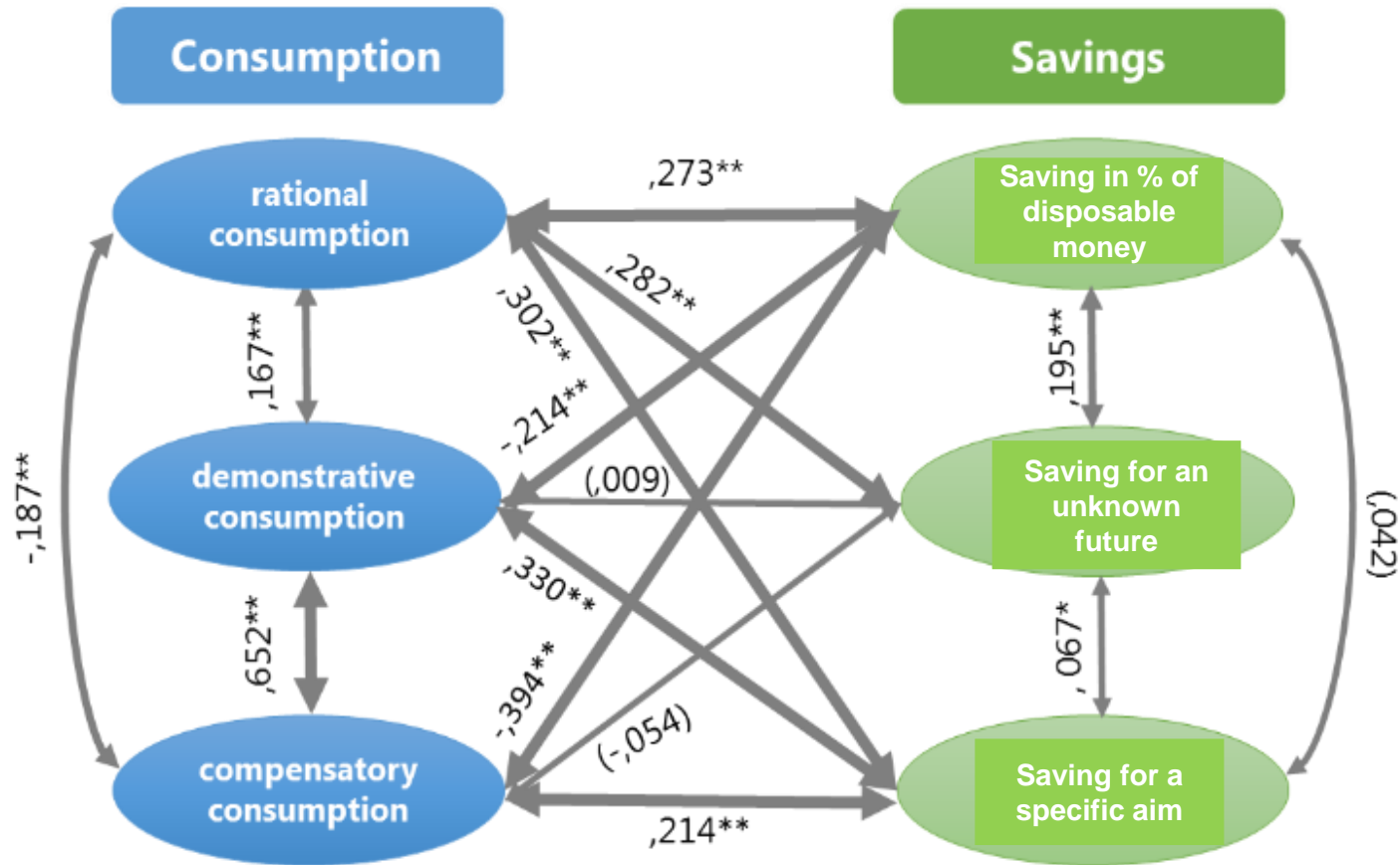
SAMPLE

1,343 students,
aged 13 to 15,
in the 8th grade of
schooling

EVALUATION

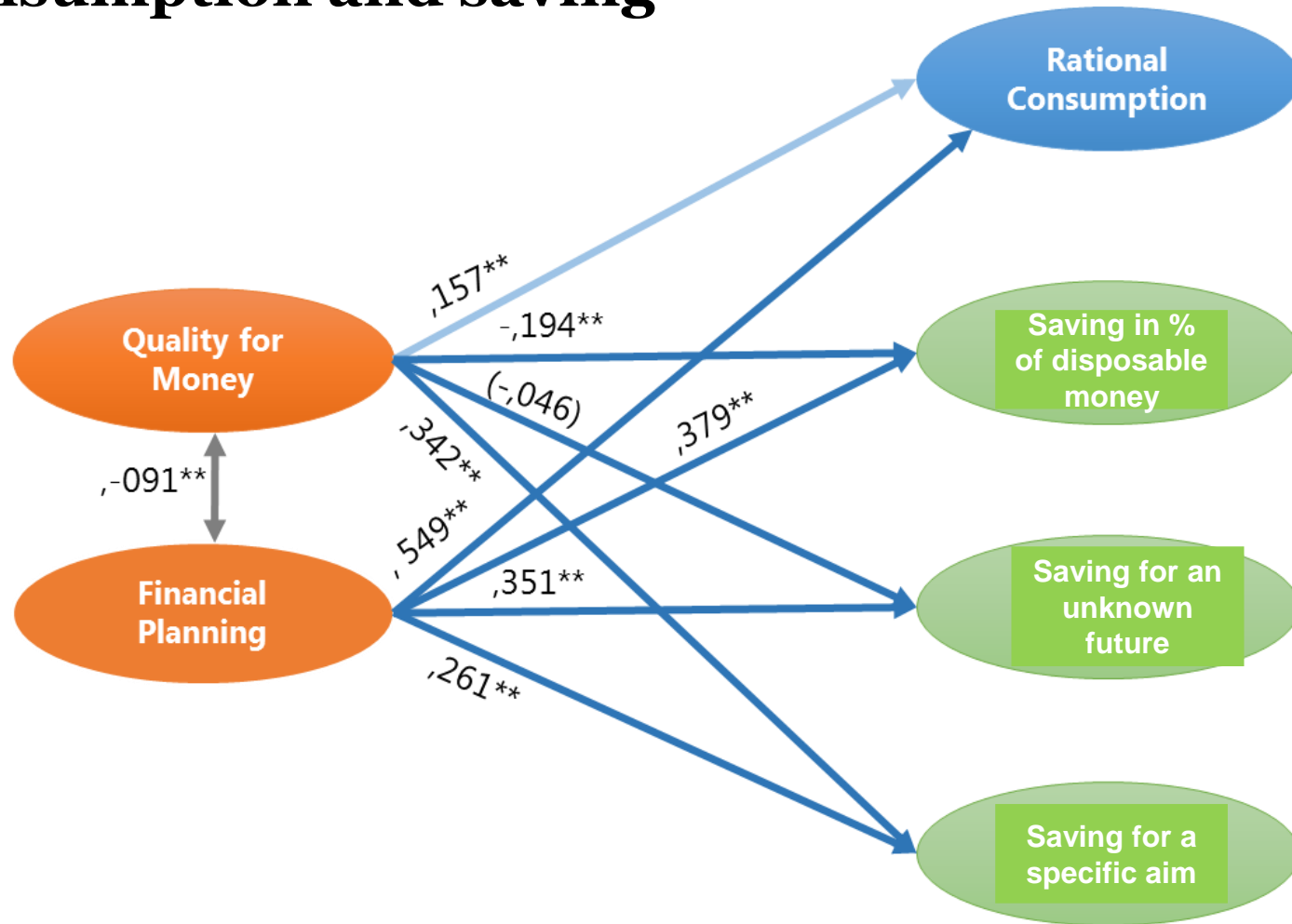
Structural equation
modelling

Rational consumption is related to saving money



Estimation: AMOS: Maximum Likelihood
 Model fit: χ^2 : ,000; Heolter .05: 365, CFI: ,920; RMSEA: ,050
 p-value: * < .05; ** < .001

Attitudes are relevant for rational consumption and saving



Estimation: AMOS: Maximum Likelihood
Model fit: χ^2 : ,000; Heolter .05: 266, CFI: ,885; RMSEA: ,060
p-value: * < .05; ** < .001

**Can it be
measured?**



Measuring Financial Literacy

selected international activities

- 1) **Financial Literacy Around the World (FLAT World)**,
research conducted by Lusardi and Mitchell (2001, 2014)
“The Big Three” questions
also used in the recent ALLIANZ Study (2017)
- 2) **OECD Measuring Financial Literacy**
“toolkit for measuring financial literacy”
measuring the level of financial literacy among adults
(OECD 2013, 2016)

Example 1: The Allianz Study

Question 1 of „The Big Three“

Suppose you had 100 euros in a savings account and the interest rate was 2% per year. After five years, how much do you think you would have in the account if you left the money to grow?

- More than 102
- Exactly 102
- Less than 102
- Don't know
- Refuse to answer

Source: Allianz



Question 2 of „The Big Three“

Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, how much would you be able to buy with the money in this account?

- More than today
- Exactly the same
- Less than today
- Don't know
- Refuse to answer

Source: Allianz



Question 3 of „The Big Three“

Do you think the following statement is true or false? “Buying a single company stock usually provides a safer return than a stock mutual fund.”

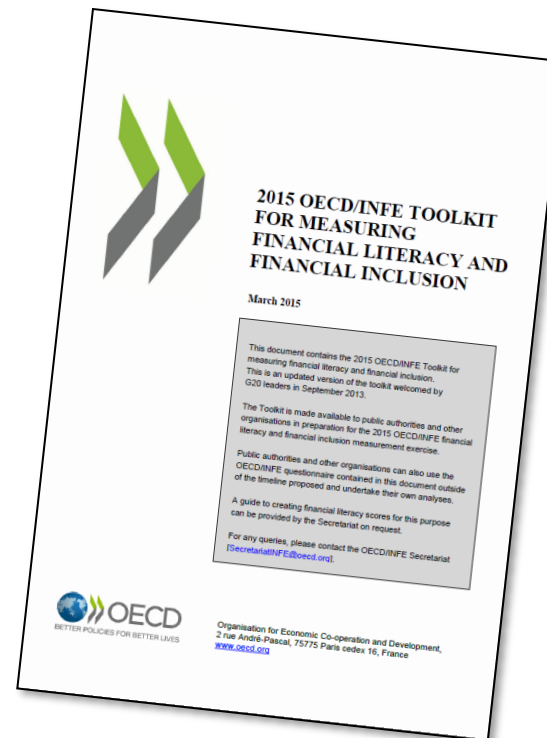
- True
- False
- Don't know
- Refuse to answer

Source: Allianz

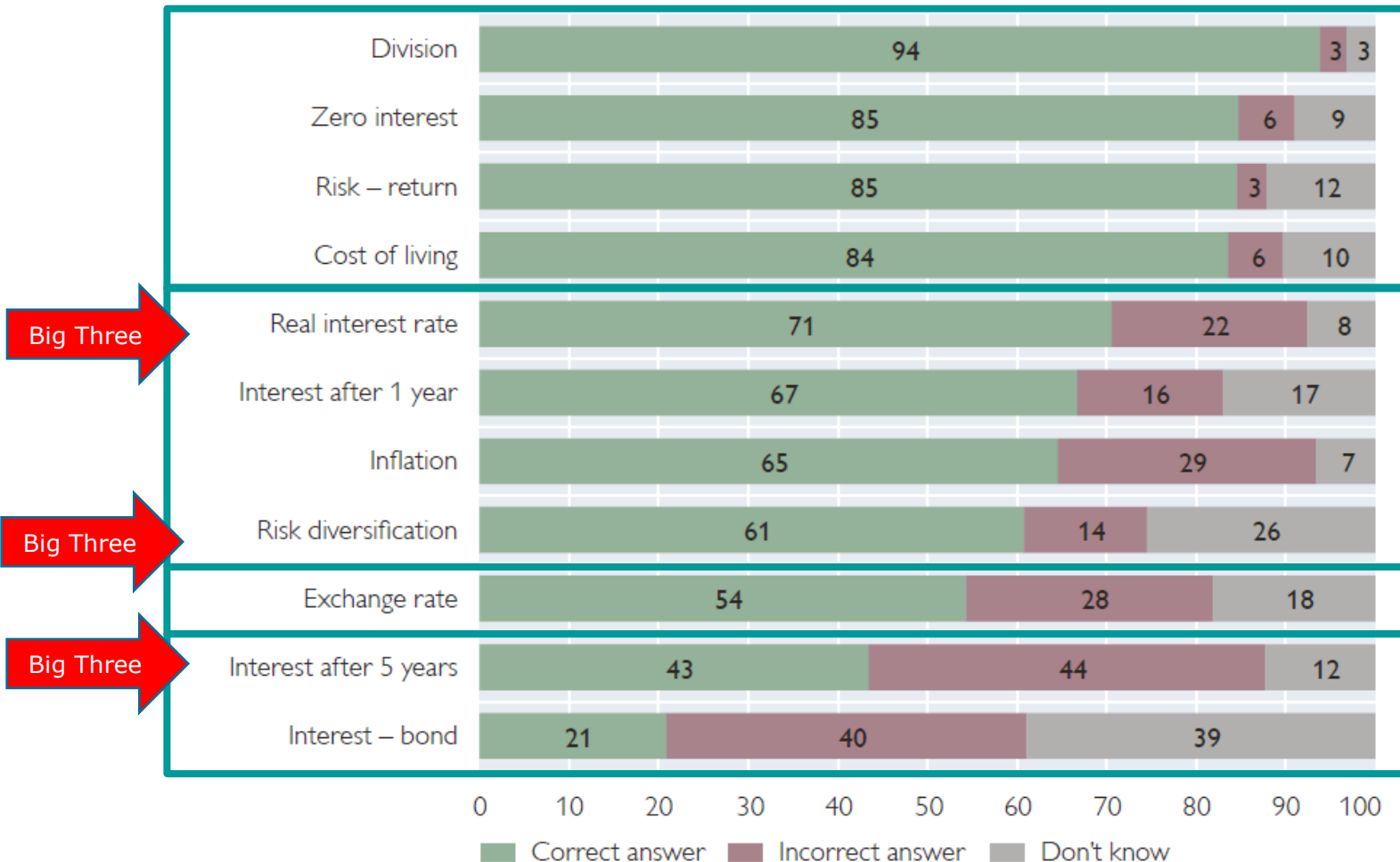


Example 2: The OECD/INFE Approach Measuring Financial Literacy

- *"2015 OECD/INFE toolkit for measuring financial literacy and financial inclusion"*
- Questions on
 - Financial knowledge
 - Financial behavior
 - Financial attitudes
- Data from 30 countries;
Austria: 2,000 face-to face interviews, autumn 2014



Answers to the 11 financial knowledge questions (in %)



Methodological issues: Questions on inflation

(a) true or (b) false? High inflation means that the cost of living is increasing rapidly

			Häufigkeit	Prozent	Gültige Prozent	Kumulative Prozente
Gültig	Falsch	false	124	6,2	6,9	6,9
	Richtig	true	1671	83,6		
	Gesamtsumme		1795	89,7		
Fehlend	Weiß nicht		177	8,9		
	Keine Angabe		28	1,4		
	Gesamtsumme		205	10,3		
Gesamtsumme			2000	100,0		

100 euros after one year (interest rate 1% per year, inflation rate 2%)

			Häufigkeit	Prozent	Gültige Prozent	Kumulative Prozente
Gültig	Mehr als heute		192	9,6	9,6	9,6
	Genauso viel		245	12,3	12,3	21,8
Less than today	Weniger als heute		1412	70,6	70,6	92,4
	Weiß nicht		109	5,5	5,5	97,9
	Keine Angabe		42	2,1	2,1	100,0
Gesamtsumme			2000	100,0	100,0	

Questions on inflation – ctd.

100 euros after one year (interest rate 1% per year, inflation rate 2%)

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	Gesamtsumme	2000	100,0	100,0	

Less than today

The brothers need to wait for one year (inflation rate 2%)

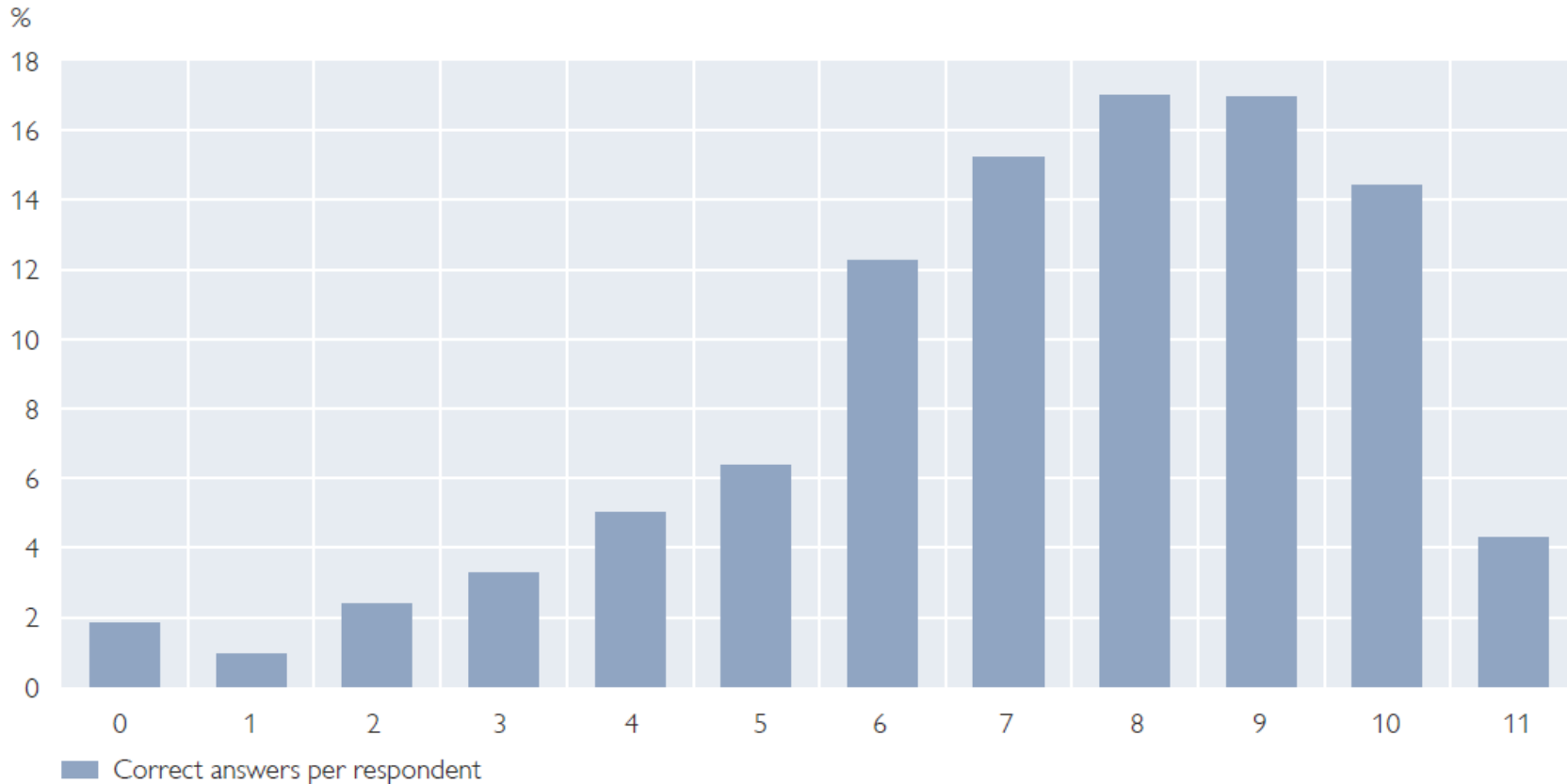
		Häufigkeit	Prozent	Gültige Prozent	Kumulative Prozente
Gültig	mehr kaufen, als sie es heute könnten	114	5,7	6,1	6,1
	genauso viel kaufen oder weniger kaufen, als sie es heute könnten	452	22,6	24,2	30,3
	Es hängt davon ab, was sie sich kaufen wollen	1172	58,6	62,8	93,0
	Irrelevante Angabe	10	,5	,5	99,5
	Gesamtsumme	1868	93,4	100,0	
	Fehlend	Wei nicht	87	4,4	
	Keine Angabe	45	2,3		
	Gesamtsumme	132	6,6		
Gesamtsumme		2000	100,0		

Less than today

It depends on what they want to buy

Results – Knowledge questions

Percentage of respondents answering x financial knowledge questions correctly



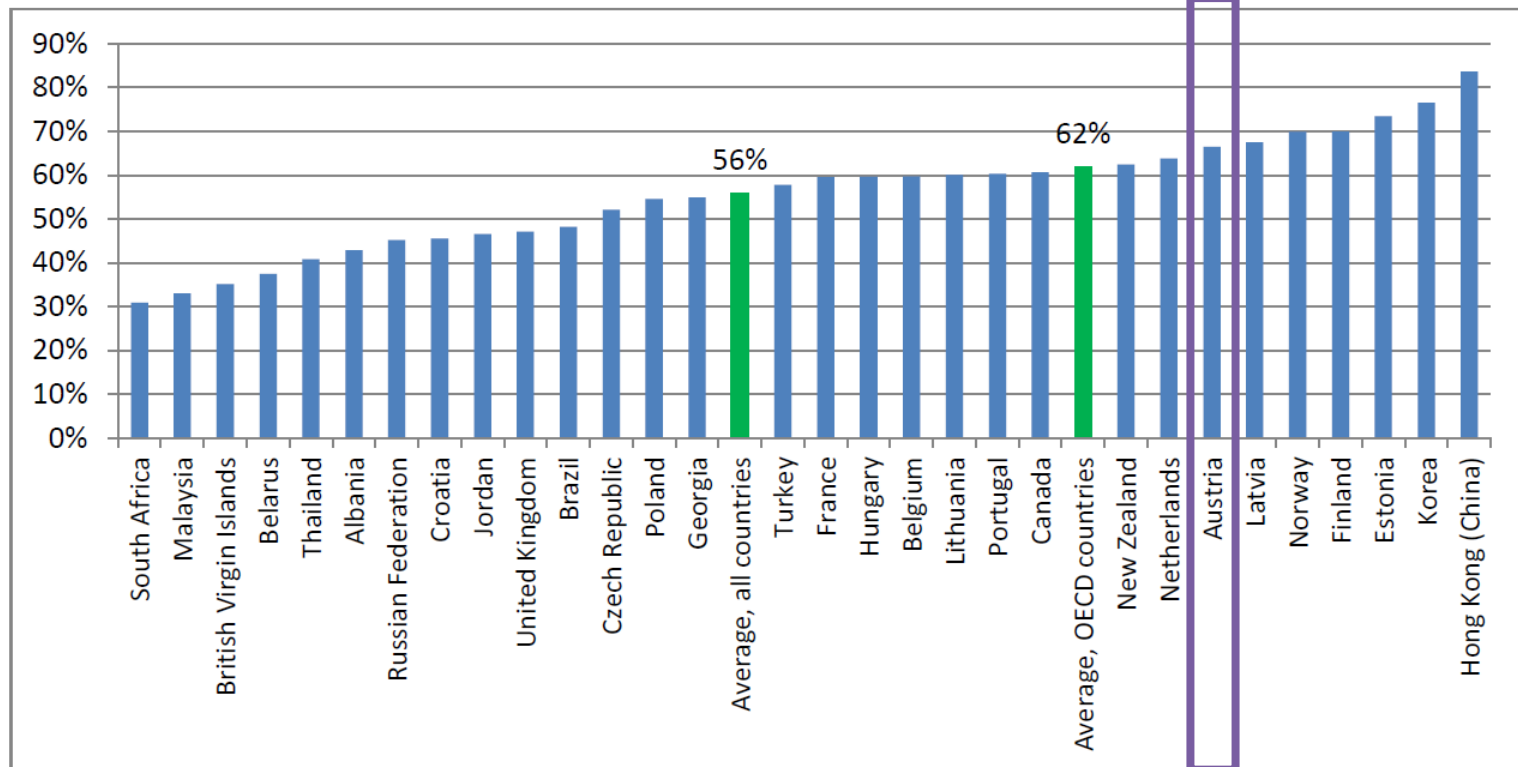
Source: OeNB.

Note: N = 1,994. The bars add up to 100%.

Austria compared to other countries

Figure 2. Minimum target score (5 or more) on financial knowledge

Percentages (weighted data): all respondents



Notes: Average, all countries and Average, OECD countries report the mean of the country/economy percentages. Each country/economy is therefore given equal weight.

Source: OECD

Measuring Financial Knowledge Summary

- Most studies on financial literacy **focus on financial knowledge**
- Most studies **lack a theoretical foundation** of what financial literacy is and what it comprises
- Knowledge is important BUT
 - knowledgeable people also make irrational choices
- Items used for measuring knowledge **suffer a number of weaknesses** concerning their content and the methodology
- **Validity of items is often questionable**
- **Attitudes and behaviour** also need to be considered: are as important as knowledge for achieving financial wellbeing

**Can financial
literacy be taught?
And if so, how?**



In a perfect world ...

**... parents would
teach their kids all
they need to know
about money**

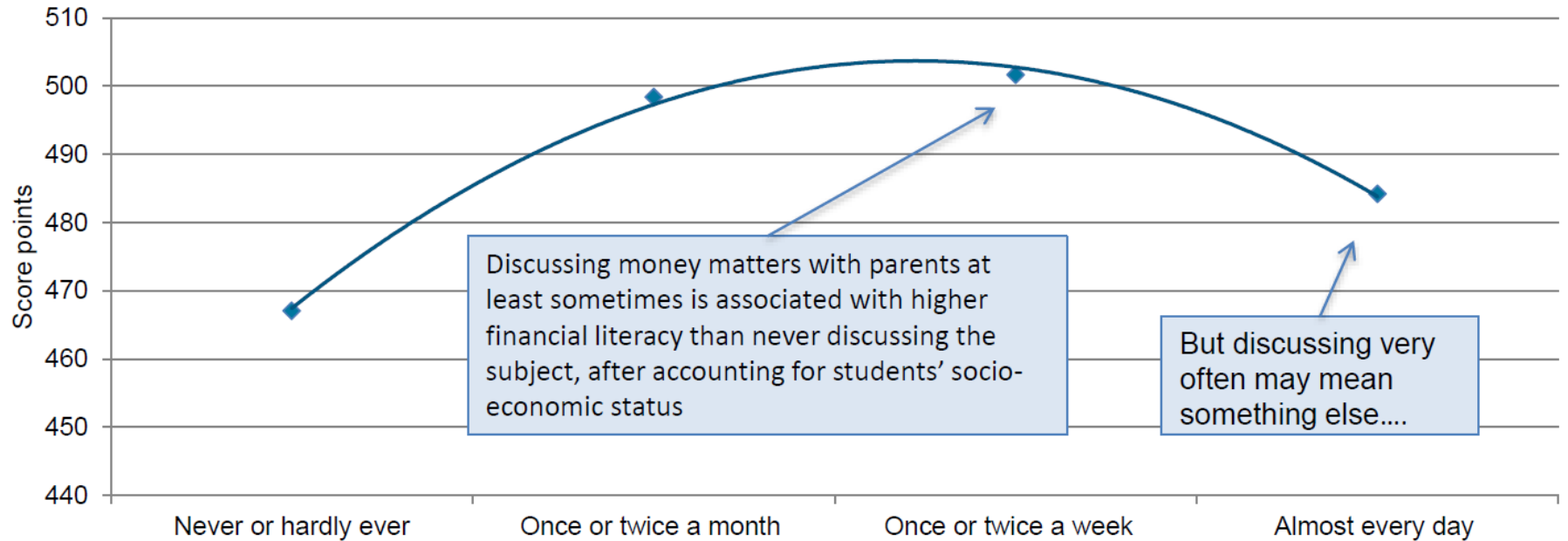


but most of them have knowledge gaps themselves,
and some struggle with their financial affairs and make bad choices

Parents play a role ...

Mean score, by students' answers to the question:

"How often do you discuss money matters (e.g. talk about spending, saving, banking, investment) with your parents?"



(OECD 2017)

Meta study by Kaiser & Menkhoff (German Institute for economic research, 2016)

- 115 research studies on the effects on knowledge and behaviour
- Focus on experiments with treatment and controlgroup
- Calculating effect sizes
(differences in means between treatment group and control group)
- All effect sizes were positive and significant but vary in size:
 - Moderate effect sizes for knowledge, small effect sizes for behaviour
(saving behavior, record keeping, borrowing behavior)
 - Higher effect sizes for optional programs,
favorable socio-economic background,
and for „teachable moments“

LEARNING EXPERIENCES

(Greimel-Fuhrmann & Grohs-Müller 2017)

Dealing with their own
money

Earning money

Making ends meet with
a fixed amount of
money

Regretting impulse
purchases

Role models in their
families /
Among their friends

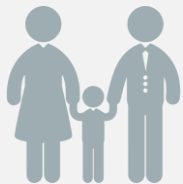
Talking with parents
about money

WHO can teach financial literacy?

And HOW?



Schools



**Parents/
family members**



**Private and public
organizations**

- **start** at an **early** stage in life
- create „**teachable moments**“
- inform kids about financial decisions
- **be a role model**: plan your expenses, save money, ...
- let kids deal with their own money
- explain the **relevance of knowledge**
- talk about **money attitudes**
- **use multiple methods**

CONCLUSION



CONCLUSION

- Financial literacy has become an **important „life skill“** for all people, regardless of their age
- Young people lack very important financial knowledge
but would be interested to learn more
- Many young people do not get sufficient financial education from their parents (who might also lack financial literacy)
- Therefore, there is a **need for more financial education** at schools as well as at the workplace
- Financial education needs to create **“teachable moments“**

Thank you for listening

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