Impact of RMI education on its Literacy among University Students in Korea

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1. Background

- Information symmetry is a necessary condition to competitive market leading to optimal allocation of resources, either real or financial, and equilibrium prices and quantities of goods consumed and/or produced.
- Information asymmetry in financial market attracted the initial attention of academia in 1970s when the issue was addressed from the scene of uninformed seller and informed buyer (consumer).
- The US financial crisis has ended up with displaying an unpresented picture of informed seller and uninformed buyer leading to change of regulatory structure and educational necessity in financial service sector.
- Since then, financial literacy has been believed to be an effective solution or indispensable remedy to financial crisis, although not panacea.
- Financial literacy in general refers to understanding basic concepts of finance, keeping right attitudes toward risk and return, and behaving in right ways; With the literacy, U.S. household would have never borrowed or invested too much money in sub-prime mortgage which gave birth to the bubble crisis.
- Unfortunately, however, insurance has not gained that public attention in the literacy debate as much as the one of the key financial services as expected for some reasons (Tennyson, 2013).
- This is an empirical research to explore how insurance literacy (RMI literacy) can be developed in university education, based upon Korean data (We do not consider any other determinants of the literacy including general income level or family education but just class education)

2. Literature review

1. Education effect

2. 1. Concept of education effect

- ‘Educational effect’ refers to achievement of any educational purpose, the degree of improvement, positive change and development of student by educational treatment and resources (Ahn, 2011).

- Previous studies also see that educational effect is simply the improvement of knowledge and intellectual ability educational effect. On the other hands, education effect should consider non-cognitive areas such as personality, attitudes, emotional.

- There are many studies to determine the educational effect is limited to the cognitive area, this is because it can be measured easily and maintain objectivity.

2. Literature review

1. Education effect

2. 2. Determinants of educational effect

2. 2-1. Learner characteristics

2.2-1.1 Self-efficacy

- Self-efficacy is the extent or strength of one's belief in one's own ability to complete tasks and reach goals.
- Bandura(1986) : Self-efficacy as the belief one has in being able to execute a specific task successfully in order to obtain a certain outcome.

2.2-1.2 Achievement motivation

- Achievement motivation is regarded as the need to perform well or the striving for success.
- Collins(2004) : the relationship of achievement motivation to entrepreneurial behavior. achievement motivation was significantly correlated with both choice of an entrepreneurial career and entrepreneurial performance.
- Wilke(2000) : the effects active learning strategies had on college students' achievement motivation, and self–efficacy.

2. Literature review

1. Education effect

2. 2. determinants of educational effect

2. 2-2. Teaching competency - clarify, passion, communication, professionalism, attitude, etc,.

- Teaching and learning activity is important between professor and students in school education. The objective of teaching and learning is educational achievement of students.
- CHOI(2013) : professionalism, collaboration, sustained participation
- Kwon(2006) : Knowledge(specialty, clarity, relevance, organization, disclosure), skill(interaction, speech, leadership, sense of humor), attitude(enthusiasm, rapport, learning centered, flexibility, pacing)

2.2-2.1 Professionalism : a wide knowledge, skills etc.

2.2-2.2 Enthusiasm : attitude, voice, gesture, speed control etc.

2.2-2.3 Interaction with students: reflect idea, group discussion, effort to expression opinion

2.2-3. Environment

2.2-3.1 Education system – organization of textbook etc.

2.2-3.2 Physical Environment - facility, size of class.

2. Literature review

2. RMI education : literature review

Relationshp	researcher	outcome
Teaching competency → Education effect	Pyun & Kim (2005)	Teacher matters.
	Ahn(2013)	Teacher's communication matters.
	Kim(2013)	Teacher matters.
	Borich(2004)	-
Teaching competency →Learner characteristic	Kunter, Tsai, Klusmann, Brunner, Krauss, Baumert(2008)	Teacher's passion matters.
	Assor, Kaplan, Roth(2002)	Teacher's attitude affects students' involvement and effort.

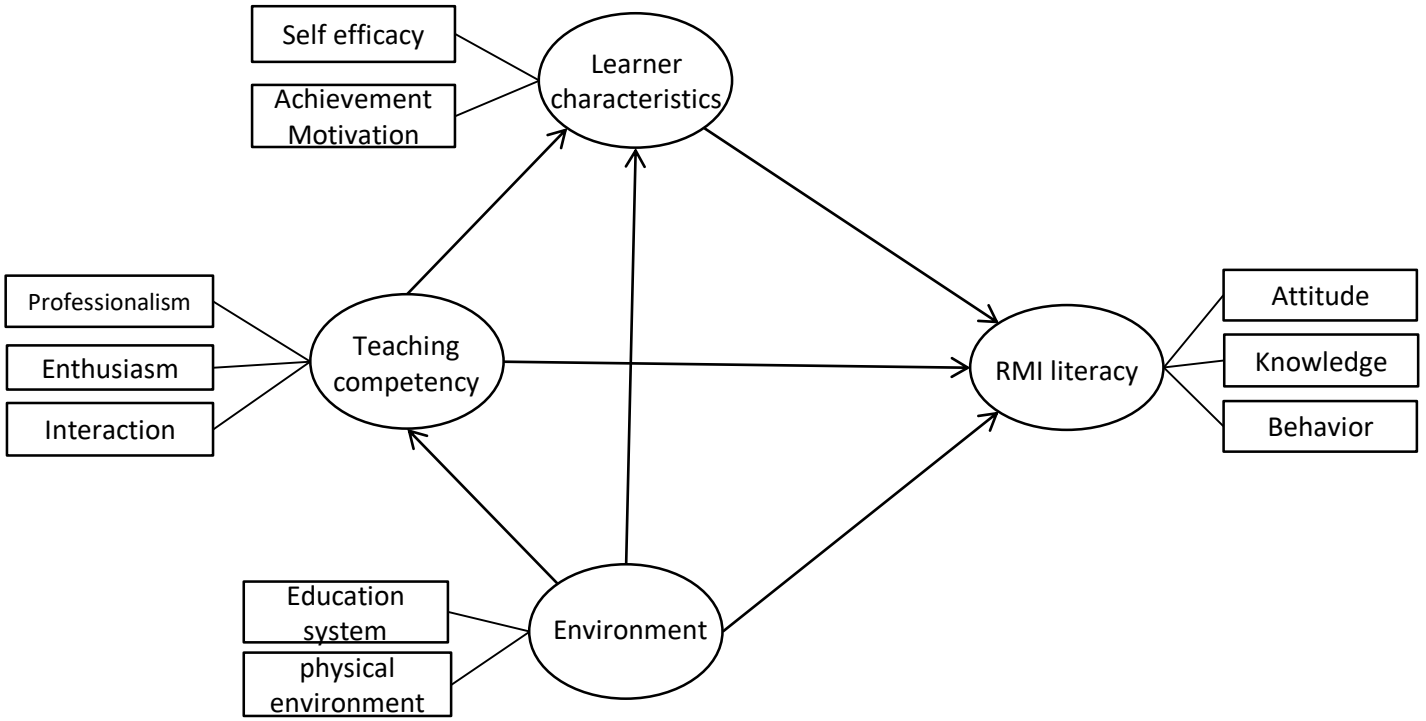
2. Literature review

3. RMI or education literature

관계	연구자	결과
Environment → Education effect	Tanner(2008)	positive
	Merriarn(2001)	Positive (both physical and psychological environment matters)
	Kim (1999)	positive
	Cho (2013)	positive
Environment → Teaching competency	Ainley(1987)	Positive (while no impact of environment on students).
	Anderson(2004)	positive
	Lackney(1994)	Positive (particularly on teaching persistency)
Environment → Learner characteristic	Tanner(2008)	Positive on students' attitude and orientation
	Ainley(1987)	Positive on students' attitude, but uncertain on their performance

3. Methods

Research model



3. Methods

1. Survey Participants

- 960 University students taking RMI course in 2014 autumn semester
- The final number reduced a bit due to the Before and After treatment comparison(matching)

2. Data collection

- Self-administered questionnaire survey method is adopted, and distributed directly.
- Questionnaire survey was conducted in the beginning of and the end of class with the same questionnaire.

3. Methods

- SPSS20.0, AMOS 18.0

- Descriptive analysis, Frequency analysis
- Reliability and validity of measurement (Cronbach's alpha, factor analysis, correlation analysis)
- SEM(Structural equation modeling)
- Mediating effect

Participating Students - Characteristics

Classification		Number of Respondents	ratio(%)
Gender	Male	239.0	52.9
	Female	213.0	47.1
	Missing number	0	0
University Name	Kyungnam	35.0	7.7
	Daegu	51.0	11.3
	Dongeui	51.0	11.3
	Seowon	36.0	8.0
	SKK	73.0	16.2
	Chonju	27.0	6.0
	Hyunpsung	37.0	8.2
	Hongik (Seoul)	95.0	21.0
	Hongik (Sejong)	47.0	10.4
	Missing value	0	0
School Grade	Freshmen	66.0	14.6
	Sophomore	125.0	27.7
	Junior	142.0	31.4
	Senior	119.0	26.3
	Missing value	0	0
Previous experience of RMI course-taking	Yes	234.0	51.8
	No	215.0	47.6
	Missing value	3	.7
Previous experience of Insurance claim	Yes	291.0	64.4
	No	154.0	34.1
	Missing value	7	1.5
To have a friend or family member in insurance business	Yes	95.0	21.0
	No	356.0	78.8
	Missing value	1	.2
Total		425.0	100.0

Measurement tool – RMI knowledge

	Questions	Before,%	After,%	difference (%p)	difference (%)
1	Hazard is a condition to influence the chance of loss.(o)	69.0	87.2	18.1	26.3
2	Insurance is a typical risk management tool to transfer risk to insurers.(o)	84.5	92.5	8.0	9.4
3	Static risk differentiates from dynamic risk with regards to level of time varying risk.(o)	61.3	69.0	7.7	12.6
4	Endowment insurance is a combination of term insurance and savings product.(o)	73.2	73.2	0.0	0.0
5	Insurer is a person or corporation who makes contract with insurance company with payment of insurance premium. (x)	61.9	72.8	10.8	17.5
6	Once retired, parents should participate on regional health insurance to cover their children's illness risk .(o)	14.2	17.3	3.1	21.9
7	Ordinary Life insurance is necessary more for family with children than otherwise.(o)	71.2	81.9	10.6	14.9
8	Personal insurance is covered against default risk by insurance protection scheme (deposit insurance) .(o)	52.4	59.3	6.9	13.1
9	Comprehensive insurance is to cover the negligent driver's own loss.(o)	24.1	37.6	13.5	56.0
10	One can choose any benefit scheme in the national pension system.(x)	33.6	42.3	8.6	25.7
11	To choose a high deductible amount will hurt the insured because of its consequential small compensation level. (x)	42.5	46.9	4.4	10.4
12	Variable annuity is advantageous in the long run thanks to its higher expected rate of return than ordinary annuity product.(x)	21.2	33.0	11.7	55.2
13	Nonlife insurance is subject to the Principle of indemnity. (o)	74.3	88.9	14.6	19.6
14	Insurance premium is paid to the insurer by the policyholder (o)	65.5	74.8	9.3	14.2
15	There is no cooling-off period but cancellation system in insurance contract (x)	56.9	62.8	6.0	10.5
16	Insurance is a highly effective tool when loss frequency is high and loss severity low .(x)	68.1	69.7	1.5	2.3
17	Life table or mortality table presents annual percentage or number of death from 100,000 age zero. (o)	31.9	53.3	21.5	67.4
18	Insurable risk tends to be speculative, catastrophic, and static. (x)	51.5	61.9	10.4	20.2
19	Emotional or spiritual value, that is not calculable in terms of monetary value, can be insured.(x)	51.3	52.4	1.1	2.2
20	Risk may be measured by loss frequency and loss severity. (o)	71.5	74.3	2.9	4.0

Students - Self-Efficacy

No.	Question	Fully disagree			average			Fully agree
1	I am sure of my learning competency in this course.	①	②	③	④	⑤	⑥	⑦
2	I expect to do well in this course.	①	②	③	④	⑤	⑥	⑦
3	I believe to get a good grade in this course.	①	②	③	④	⑤	⑥	⑦
4	I try to understand no matter what is difficult in content.	①	②	③	④	⑤	⑥	⑦
5	.Regardless of difficulty of problem set or of assignment, I can do well.	①	②	③	④	⑤	⑥	⑦
6	In spite of high chance of failure to complete a task, I enjoy challenging hard task..	①	②	③	④	⑤	⑥	⑦
7	I am capable to link new knowledge to existing knowledge..	①	②	③	④	⑤	⑥	⑦
8	I have a good memory to remember what is learnt	①	②	③	④	⑤	⑥	⑦

Students - Motivation

No	Question	Fully disagree			average			Fully agree
1	I try my best to accomplish my own goal..	①	②	③	④	⑤	⑥	⑦
2	I keep up working to the end of my assignment.	①	②	③	④	⑤	⑥	⑦
3	Once I see something valuable, I try my best to the end..	①	②	③	④	⑤	⑥	⑦
4	My endeavor goes over the limit required.	①	②	③	④	⑤	⑥	⑦
5	I am likely to set up my own goal, which I kept in my mind until its end.	①	②	③	④	⑤	⑥	⑦
6	I like to pursue my own goal that I have set .	①	②	③	④	⑤	⑥	⑦
7	I enjoy doing what is interesting to me.	①	②	③	④	⑤	⑥	⑦

Professor - professionalism

No	Question	Fully disagree			average			Fully agree	
1	Lecturer has profound knowledge and expertise over the course to share with students.	①	②	③	④	⑤	⑥	⑦	
2	Lecturer is going to introduce specific reference, literature and experts in that area.	①	②	③	④	⑤	⑥	⑦	
3	He/She will present appropriate cases to match important concepts.	①	②	③	④	⑤	⑥	⑦	
4	He/she will show practical cases to explain concepts and principles.	①	②	③	④	⑤	⑥	⑦	
5	He/She will repeatedly explain new or difficult concepts..	①	②	③	④	⑤	⑥	⑦	
6	He/She will summarize important part of lecture.	①	②	③	④	⑤	⑥	⑦	
7	Course materials may be logical and corresponding to syllabus.	①	②	③	④	⑤	⑥	⑦	

Professor – Enthusiasm

	Question	Fully disagree			average			Fully agree	
1	Lecturers will not read or dictate textbooks or lecture notes.	①	②	③	④	⑤	⑥	⑦	
2	He/She will diversify eye contact, voice, and gestur es for better impression	①	②	③	④	⑤	⑥	⑦	
3	He/She will witfully and humorously, respond to st udents' questions or comments.	①	②	③	④	⑤	⑥	⑦	
4	Lecture speed is controlled so reasonably that.	①	②	③	④	⑤	⑥	⑦	
5	Burnt or weary, he or she will be looked fine	①	②	③	④	⑤	⑥	⑦	
6	He/She .maintains energetic atmospear.	①	②	③	④	⑤	⑥	⑦	

Professor – interaction

No	Question	Fully Disagree			Average			Fully Agree
1	Lecturer will ask questions to class participants.	①	②	③	④	⑤	⑥	⑦
2	He or she will reflect students' idea into course p rocess.	①	②	③	④	⑤	⑥	⑦
3	He or she will encourage students to speak in pu blic.	①	②	③	④	⑤	⑥	⑦
4	He or she will try to set up learning atmosphere through group discussion or so.	①	②	③	④	⑤	⑥	⑦
5	He or she will encourage students to find answer s for themselves by repeatedly asking questions or giving hints to them..	①	②	③	④	⑤	⑥	⑦
6	He or she will lead students to an academic atm osphere where students express their own ideas and thoughts freely and ask questions.	①	②	③	④	⑤	⑥	⑦

Environment - Education system

No	Question	Fully Disagree			Average			Fully Agree
1	Course plan of this course is well organized.	①	②	③	④	⑤	⑥	⑦
2	Learning methods of this course are reasona bly provided.	①	②	③	④	⑤	⑥	⑦
3	The number of professors majoring in RMI is sufficient.	①	②	③	④	⑤	⑥	⑦
	The number of RMI courses is appropriate..	2.	②	③	④	⑤	⑥	⑦

Environment – physical characteristics

No	Question	Fully Agree Average Fully Disagree
1	Class size is optimal.	① ② ③ ④ ⑤ ⑥ ⑦
2	Lecture room is well prepared in terms of size, ill umination, and facilities.	① ② ③ ④ ⑤ ⑥ ⑦

RMI – attitude

No	Question	Fully Disagree			Average			Fully Agree
1	It is crucial to identify potential risks surrounding myself and to prepare for contingency plans reacting in advance.	①	②	③	④	⑤	⑥	⑦
2	I think that it is necessary to prepare for protecting my assets beforehand.	①	②	③	④	⑤	⑥	⑦
3	Insurance is an essential element in managing risk in every day economy.	①	②	③	④	⑤	⑥	⑦
3	Every type of risk can be matched to appropriate RMI method.	①	②	③	④	⑤	⑥	⑦
4	It is not a good idea to insure against low probability risk.	①	②	③	④	⑤	⑥	⑦
5	Social insurance including public pension or public health insurance seems to be insufficient.	①	②	③	④	⑤	⑥	⑦

RMI – function

No	Question	Fully Disagree Average Fully Agree
1	I can recognize potential risks and utilize any suitable RMI methods against them.	① ② ③ ④ ⑤ ⑥ ⑦
2	I am aware of how to buy insurance in practice.	① ② ③ ④ ⑤ ⑥ ⑦
3	I can understand terms and conditions in insurance contract.	① ② ③ ④ ⑤ ⑥ ⑦
4	I can easily search for insurance products if necessary.	① ② ③ ④ ⑤ ⑥ ⑦

4. Results

1. Reliability and Validity

1. Reliability

	Measurement factors		Cronbach α
Learner characteristics	Self efficacy	8	0.924
	Achievement Motivation	6	0.922
Teaching competency	Professionalism	7	0.921
	Enthusiasm	5	0.893
	Interaction	6	0.938
Environment	Education system	2	0.922
	Physical Environment	2	0.871
RMI Literacy	Attitude	4	0.855
	Behavior	4	0.857

4. Results

1 Reliability and Validity

2. Validity

2.1 Confirmatory factor analysis of exogenous variable and mediator

	Measurement factors	Factor loading	S.E	C.R(t-value)	CCR	AVE
Self efficacy	Self efficacy1	0.636	0.057	14.637	0.9	0.53
	Self efficacy2	0.791	0.047	19.558		
	Self efficacy3	0.762	0.045	18.562		
	Self efficacy4	0.787	0.045	19.435		
	Self efficacy5	0.849	0.045	21.72		
	Self efficacy6	0.844	0.045	21.552		
	Self efficacy7	0.761	0.048	18.534		
	Self efficacy8	0.822	-	-		
Achievement Motivation	Achievement Motivation1	0.805	0.069	15.696	0.89	0.538
	Achievement Motivation2	0.787	0.069	15.357		
	Achievement Motivation3	0.754	0.067	14.743		
	Achievement Motivation4	0.812	0.074	15.82		
	Achievement Motivation5	0.816	0.075	15.839		
	Achievement Motivation6	0.809	0.077	15.709		
Professionalism	Professionalism1	0.755	0.042	18.788	0.89	0.526
	Professionalism2	0.728	0.05	17.849		
	Professionalism3	0.835	0.04	21.926		
	Professionalism4	0.806	0.041	20.673		
	Professionalism5	0.752	0.044	18.689		
	Professionalism6	0.8	0.046	20.517		
	Professionalism7	0.845	-	-		

4. Results

1 Reliability and Validity

2. Validity

2.1 Confirmatory factor analysis of exogenous variable and mediator

	Measurement factors	Factor loading	S.E	C.R(t-value)	CCR	AVE
Enthusiasm	Enthusiasm1	0.627	0.058	14.14	0.83	0.458
	Enthusiasm2	0.823	0.055	20.201		
	Enthusiasm3	0.79	0.051	19.061		
	Enthusiasm4	0.819	0.052	20.033		
	Enthusiasm5	0.687	0.042	18.896		
	Enthusiasm6	0.816	-	-		
Interaction	Interaction1	0.776	0.04	21.929	0.88	0.552
	Interaction2	0.807	0.036	23.53		
	Interaction3	0.875	0.033	28.234		
	Interaction4	0.801	0.043	23.3		
	Interaction5	0.88	0.034	28.653		
	Interaction6	0.912	-	-		
Education system	Education system3	0.959	0.064	17.168	0.85	0.74
	Education system4	0.891	-	-		
physical environment	physical environment1	0.888	0.053	18.692	0.73	0.579
	physical environment2	0.868	-	-		

χ2(p)	df	RMR	RMSEA	NFI	CFI	GFI	TLI
1776.425 (p=0.000)	638	0.089	0.063	0.878	0.918	0.804	0.910

4. Results

2 Model

1. SEM Analysis for **Attitude variable**

[Model fit]

χ^2(p)	df	RMR	RMSEA	NFI	CFI	GFI	AGFI	IFI	TLI
82.933 (p=0.000)	14	0.060	0.104	0.942	0.951	0.958	0.893	0.951	0.902

[Path coefficient]

Hypothesis	Path	Standardized coefficient	Standard error	C.R	P-value
H1-2	Learner characteristic → Attitude	.086	0.06	1.261	.207
H2-1	Teaching competency → Learner characteristic	**.660*****	0.075	6.583	**.000**
H2-3	Teaching competency → Attitude	**.309*****	0.068	3.006	**.003**
H3-1	Environment → Teaching competency	**.712*****	0.078	8.17	**.000**
H3-2	Environment → Learner characteristic	-.134	0.069	-1.309	.190
H3-4	Environment → Attitude	-.169	0.059	-1.678	.093

***: p<.01, **: p<.05, *: p<.10

[Direct effect, Indirect effect, Total effect]

Hypothesis	Path	Direct effect		Indirect effect		Total effect	
		Standardized coefficient	P-value	Standardized coefficient	P-value	Standardized coefficient	P-value
H4-1	Environment → Learner characteristic	-.134	.190	.469	.002	.335	.003
H4-3	Environment → Attitude	-.169	.093	.249	.006	.080	.149
H5-2	Teaching competency → Attitude	.309	.003	.057	.309	.366	.009

4. Results

2 Model

2. SEM Analysis for **Knowledge variable**

[Model fit]

χ^2(p)	df	RMR	RMSEA	NFI	CFI	GFI	AGFI	IFI	TLI
62.299 (p=0.000)	14	0.048	0.089	0.954	0.964	0.966	0.914	0.964	0.927

[Path coefficient]

Hypothesis	Path	Standardized coefficient	Standard error	C.R	P-value
H1-3	Learner characteristic → Knowledge	.061	.079	0.849	.396
H2-1	Teaching competency → Learner characteristic	**.625*****	.090	5.396	**.000**
H2-4	Teaching competency → Knowledge	**.205***	.102	1.728	**.084**
H3-1	Environment → Teaching competency	**.756*****	.088	8.085	**.000**
H3-2	Environment → Learner characteristic	-.057	.088	-0.47	.639
H3-5	Environment → Knowledge	-.149	.099	-1.226	.220

***: p<.01, **: p<.05, *: p<.10

[Direct effect, Indirect effect, Total effect]

Hypothesis	Path	Direct effect		Indirect effect		Total effect	
		Standardized coefficient	P-value	Standardized coefficient	P-value	Standardized coefficient	P-value
H4-1	Environment → Learner characteristic	-.057	.639	.473	.001	.416	.006
H4-4	Environment → Knowledge	-.149	.220	.180	.036	.031	.659
H5-3	Teaching competency → Knowledge	.205	.084	.038	.428	.243	.039

4. Results

2 Model

3. SEM Analysis for **Behavior variable**

[Model fit]

χ^2(p)	df	RMR	RMSEA	NFI	CFI	GFI	AGFI	IFI	TLI
89.623 (p=0.000)	14	0.061	0.109	0.938	0.946	0.955	0.883	0.947	0.893

[Path coefficient]

Hypothesis	Path	Standardized coefficient	Standard error	C.R	P-value
H1-4	Learner characteristic → Behavior	**.123***	.062	1.813	**.070**
H2-1	Teaching competency → Learner characteristic	**.656*****	.074	6.546	**.000**
H2-5	Teaching competency → Behavior	.149	.066	1.537	.124
H3-1	Environment → Teaching competency	**.710*****	.078	8.141	**.000**
H3-2	Environment → Learner characteristic	-.134	.067	-1.318	.188
H3-6	Environment → Behavior	.012	.057	0.123	.902

***: p<.01, **: p<.05, *: p<.10

[Direct effect, Indirect effect, Total effect]

Hypothesis	Path	Direct effect		Indirect effect		Total effect	
		Standardized coefficient	P-value	Standardized coefficient	P-value	Standardized coefficient	P-value
H4-1	Environment → Learner characteristic	-.134	.188	.466	.002	.332	.003
H4-5	Environment → Behavior	.012	.902	.147	.030	.159	.010
H5-4	Teaching competency → Behavior	.149	.124	.081	.096	.230	.016

5. Summary

<In general>

- As far as the RMI education in Korean university is concerned, the RMI literacy is found to be significantly affected by environment, teaching competency, and learner characteristics, but in such a different way as follows.
- Teaching competency displays not only direct influence on RMI literacy but also indirect one through learner characteristics.
- Environment is shown to have a significant direct effect on teaching competency, but no direct one on learner characteristics. Nevertheless, environment has a significant indirect impact on student through teaching competency.

<In particular … …This finding can be shown by some other tables not here>

- When decomposed into sub-sample analysis, it was found that
- Male students' literacy is more significantly affected by teaching competency and learner characteristics than female cohort.
- Younger students (freshmen and sophomore) are more significantly affected by teaching competency than the elder ones (junior and senior).
- Students in metropolitan area are more significantly affected by teaching competency than the others.

5. Summary - continued

<when we divide the RMI literacy into attitude, knowledge, and behavior, we found that>

- As to the RMI attitude, teaching competency shows significant direct impact on RMI literacy (attitude) while environment does indirect one through teaching competency or learner character.
- As to the RMI knowledge, the same is found as the attitude.
- As to the RMI behavior, teaching competency does have no direct but indirect impact on the behavior, which is directly affected by the learner character.

<last but not the least, when we divide teaching competency into two pieces>

- teachers' expertise is found to affect students' attitude and knowledge.
- Teachers' passion and attitude appear to affect students' attitude only (not to affect their knowledge)
- Interaction with students is found to affect their behavior only.

References

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The Effect of Marketing Channel on Market Discipline for Life Insurance

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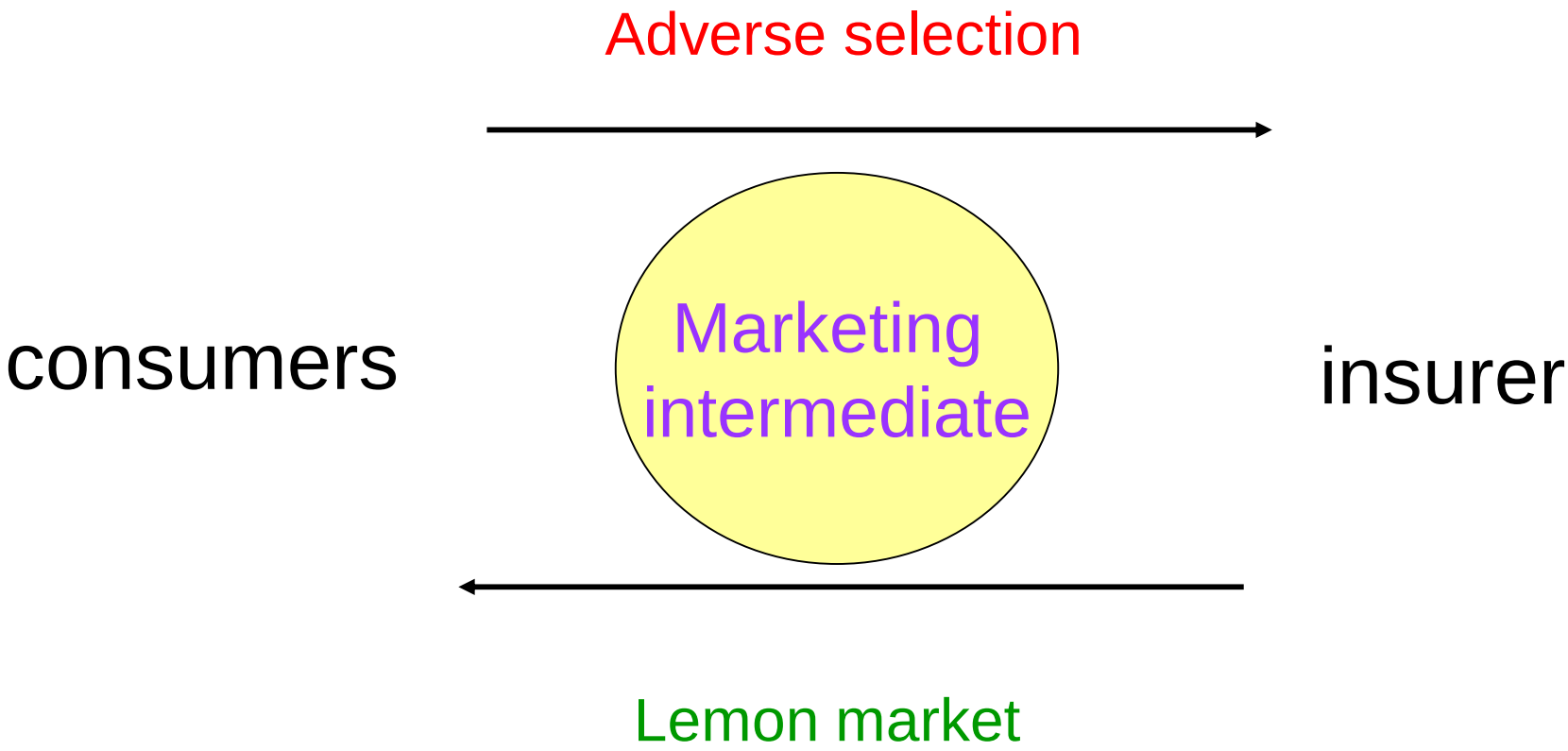
Outline of Paper

- Introduction
- Literature Review and Hypotheses Development
- Sample and Research Methodology
- Empirical Results
- Conclusion

I. Introduction

- market discipline
  - risk sensitivity of customer demand for insurance products
  - disciplining pressure through the publication of formation about the insurer’s activities
  - allowing policyholders to assess product information

I. Introduction



I. Introduction

- This paper investigates the role of marketing intermediate in market discipline

- If market discipline exists, the insurance demand should be responsive to insurer’s enterprise risk

I. Introduction

- Insurance Demand
  - no. of new contracts
  - premium incomes of new contracts
  - persistency rates for 13 and 25 months.
- Insurer's Enterprise Risk
  - risk-taking strategies
  - financial soundness
  - underwriting service quality
  - corporate reputation.
- Marketing Channel
  - Traditional salesperson
  - Bancassurance

II. Literature Review and Hypotheses Development

- Robson and Sekhon (2011)
  - an intermediary's recommendation may significantly influence insurance sales.
- Abtin and Pouramiri (2016)
  - insurance customer loyalty is significantly affected by trust, communication, and competence.

- H1: Demand for life insurance is related to the marketing channel
  - ↓for bancassurance (↑for salespersons).

II. Literature Review and Hypotheses Development

- Eling and Schmit (2012)
  - insurance demand is positively corresponding to insurer's credit rating
- Flannery (2001)
  - market discipline : the power of market forces, such as consumers, can influence the risk-taking behavior of financial institutions.

- H2: Demand for life insurance is related to the enterprise risks of insurer.

II. Literature Review and Hypotheses Development

- Emilia and Bolovan (2012)
  - bancassurance may cause new risks in banks and insurance companies
- Lemmink, Schuijf and Streukens (2003)
  - service quality is an influential factor for corporate reputation

- H3: Selection of marketing channel is related to the enterprise risks of insurer.

III. Research Methodology and Sample

- Sample and Data
  - Around 30 life insurance companies in Taiwan
  - 2004-2013.

III. Research Methodology and Sample

- $InsDemand_{it}$

  $=\alpha+ \beta_1 Risk_{it} + \lambda_1 Channel_{it}$

  $+\Sigma\beta_j\ FirmCharacter_{ijt} +\varepsilon_{it}$ (1)

- $\triangle InsDmd_{it}$

$=\alpha + \delta Channel_{it} +\theta_1 \triangle RS_{it} +\Sigma\beta_j\ FC_{jit}$

  $+\varphi \triangle GDP_t + \lambda YR_t + \varepsilon_{it}$ (2)

III. Research Methodology and Sample

Table 1 The Expected Relation between Life Insurance Demand and Insurer's Risk

		Risk-taking Strategies		Financial soundness	Underwriting performance		Corporate reputation
		Invest	***Prod***	***Finsnd***	***Pdfair***	***Uwq***	***Rptn***
New business	**Policies**	+	—	+	+	+	+
	Premiums	+	—	+	+	+	+
Contract persistency	**13-month**	+	—	+	+	+	+
	25-month	+	—	+	+	+	+

III. Research Methodology and Sample

- Index for insurer's enterprise risks
- Cluster analysis

- RSI

  (A, B, …, E) =(5, 4, …1)

- RSX

  (AAAAAA,…., EEEEEE) = (30, ….6)

IV. Empirical Results

Table 2 Pearson Correlation between Ins Demand, Marketing Channel, and Insurer's Enterprise Risks

	Sale	*Bank*	*Channel*	*lnNNC*	*lnPNC*	*P13*	*P25*	*RSI*	*RSX*
lnNNC	**0.38543 (<.0001)**	**-0.13145 (0.0616)**	**0.36161 (<.0001)**	**1.00000**					
lnPNC	**0.24395 (0.0005)**	**0.25901 (0.0002)**	**0.03687 (0.6393)**	**0.58080 (<.0001)**	**1.00000**				
P13	**0.14171 (0.0524)**	**0.00503 (0.9453)**	**0.11658 (0.1421)**	**0.29661 (<.0001)**	**0.34904 (<.0001)**	**1.00000**			
P25	**0.15524 (0.0339)**	**-0.04446 (0.5457)**	**0.12989 (0.1027)**	**0.18416 (0.0025)**	**0.25380 (<.0001)**	**0.70083 (<.0001)**	**1.00000**		
RSI	**0.44459 (<.0001)**	**-0.12111 (0.0876)**	**0.37922 (<.0001)**	**0.69587 (<.0001)**	**0.58881 (<.0001)**	**0.24341 (<.0001)**	**0.13852 (0.0236)**	**1.00000**	
RSX	**0.44943 (<.0001)**	**-0.10364 (0.1581)**	**0.37334 (<.0001)**	**0.72033 (<.0001)**	**0.72654 (<.0001)**	**0.39501 (<.0001)**	**0.31585 (<.0001)**	**0.79887 (<.0001)**	**1.00000**

Correlation coefficients are listed with p-values in the parentheses.

IV. Empirical Results

Table 3 Comparison of Risk between Insurers with Different Marketing Channel

Variable	Channel=0 Mean (std.dev)	Channel =1 Mean (std.dev)	t Value Pr > |t|
lnNNC	12.0761 (1.9663)	13.5387 (1.7614)	-4.97 (<.0001)
lnPNC	15.8227 (1.6456)	15.9489 (1.7814)	-0.47 (0.6393)
P13	90.2659 (7.0796)	91.7086 (4.6429)	-1.55 (0.1229)
P25	82.9121 (10.4040)	85.2759 (6.8438)	-1.72 (0.0872)
RSI	3.2688 (0.8740)	4.0282 (0.9852)	-5.22 (<.0001)
RSX	22.5281 (3.0641)	24.8235 (2.5271)	-5.01 (<.0001)
Invest	-0.0840 (1.4218)	0.3714 (1.5295)	-1.96 (0.0521)
Prod	-0.1270 (1.0317)	-0.1983 (0.7860)	0.50 (0.6184)
Finsnd	0.1319 (0.5611)	0.3712 (0.4375)	-3.04 (0.0028)
Pdfair	-0.0189 (1.2690)	0.3080 (0.2800)	-2.39 (0.0185)
Uwq	-0.0926 (0.8659)	0.6311 (0.7117)	-5.68 (<.0001)
Rptn	13.8913 (7.3057)	20.1972 (7.5017)	-5.40 (<.0001)
FHC	0.2660 (0.4442)	0.1667 (0.3753)	1.52 (0.1292)
FI	0.4255 (0.4971)	0.3056 (0.4639)	1.59 (0.1146)
lnAsst	11.5084 (1.5962)	12.5070 (1.5318)	-4.04 (<.0001)
Sample size	94	72	

IV. Empirical Results

Table 4 Regression Analysis for Insurance Demand based on *RSI* -Sales

	lnNNC	*lnPNC*	*P13*	*P25*
Intercept	**8.80910 (<.0001)**	**10.39300 (<.0001)**	**89.96306 (<.0001)**	**86.86034 (<.0001)**
Sale	**0.00653 (0.0619)**	**0.00107 (0.8527)**	**0.01668 (0.1856)**	**0.04146 (0.0329)**
RSI	**1.14569 (<.0001)**	**1.45763 (<.0001)**	**0.41551 (0.3701)**	**-0.69882 (0.3275)**
FHC	**0.03031 (0.9217)**	**0.95133 (0.0633)**	**1.76899 (0.1185)**	**1.82034 (0.2995)**
FI	**-1.23755 (<.0001)**	**-1.12383 (0.0058)**	**-4.36468 (<.0001)**	**-6.52531 (<.0001)**
adj-R^2	**0.5377**	**0.3791**	**0.1985**	**0.1485**
F value	**58.86 (<.0001)**	**31.37 (<.0001)**	**12.58 (<.0001)**	**9.11 (<.0001)**
N	**200**	**200**	**188**	**187**

IV. Empirical Results

Table 5 Regression Analysis for Insurance Demand based on *RSX*

	lnNNC	*lnPNC*	*P13*	*P25*
Intercept	**2.54702 (0.0164)**	**5.79543 (<.0001)**	**81.32914 (<.0001)**	**78.81244 (<.0001)**
Channel	**0.27559 (0.1984)**	**-0.71540 (0.0005)**	**-0.05437 (0.9558)**	**0.55134 (0.7146)**
RSX	**0.43531 (<.0001)**	**0.43008 (<.0001)**	**0.46537 (0.0279)**	**0.31481 (0.3315)**
FHC	**0.06045 (0.8137)**	**0.84460 (0.0007)**	**0.79692 (0.5050)**	**0.04884 (0.9790)**
FI	**-0.25486 (0.3316)**	**0.36342 (0.1448)**	**-4.05987 (0.0011)**	**-6.56029 (0.0006)**
adj-R2	**0.6062**	**0.5698**	**0.2491**	**0.1672**
F value	**61.04 (<.0001)**	**52.66 (<.0001)**	**13.85 (<.0001)**	**8.73 (<.0001)**
N	**157**	**157**	**156**	**155**

IV. Empirical Results

Table 6 Regression Analysis for Insurance Demand based on Growth Rate

	lnNNC	*lnPNC*	*P13*	*P25*
Intercept	**-0.61739** **(0.6216)**	**2.96939** **(0.1792)**	**0.77078** **(<.0001)**	**0.83015** **(0.0004)**
Channel	**0.07175** **(0.3177)**	**-0.06436** **(0.6105)**	**-0.00335** **(0.7260)**	**0.00274** **(0.8352)**
△RSX	**0.04539** **(0.1166)**	**0.18346** **(0.0004)**	**0.00407** **(0.2898)**	**0.00872** **(0.1007)**
FHC	**0.10864** **(0.2324)**	**0.26303** **(0.1016)**	**0.00284** **(0.8141)**	**-0.01765** **(0.2904)**
FI	**-0.02060** **(0.7892)**	**0.07262** **(0.5930)**	**0.00259** **(0.8010)**	**-0.00409** **(0.7726)**
△GDP	**0.00943** **(0.3988)**	**0.01355** **(0.4915)**	**0.00261** **(0.0810)**	**-0.00415** **(0.0446)**
YR	**0.00502** **(0.6906)**	**-0.03139** **(0.1594)**	**0.00237** **(0.1600)**	**0.00202** **(0.3826)**
adj-R^2	**0.0041**	**0.0865**	**0.0165**	**0.0088**
F value	**1.10** **(0.3639)**	**3.37** **(0.0039)**	**1.42** **(0.2110)**	**1.22** **(0.2979)**
N	**151**	**151**	**151**	**151**

IV. Empirical Results

Table 7a 3SLS SEMs for Insurance Demand - New Business

	lnNNC				*lnPNC*		
	RSX	***lnNNC***	***Channel***		***RSX***	***lnPNC***	***Channel***
Intercept	**6.622067 (<.0001)**	**5.109303 (0.1890)**	**-1.07706 (0.0186)**		**6.622067 (<.0001)**	**3.433764 (0.3565)**	**-1.07706 (0.0186)**
Channel	**2.900082 (<.0001)**				**2.900082 (<.0001)**		
lnAsst	**1.304744 (<.0001)**				**1.304744 (<.0001)**		
RSX		**0.592792 (<.0001)**	**0.068438 (0.0003)**			**0.517515 (<.0001)**	**0.068438 (0.0003)**
FHC		**0.116273 (0.6358)**	**-0.23404 (0.0078)**			**1.055245 (<.0001)**	**-0.23404 (0.0078)**
FI		**-0.20508 (0.4458)**	**-0.12442 (0.1888)**			**0.554436 (0.0527)**	**-0.12442 (0.1888)**
△GDP		**0.000367 (0.9895)**				**-0.01387 (0.6058)**	
YR		**-0.06283 (0.0797)**				**-0.00078 (0.9817)**	
System R^2		**0.7490**				**0.7379**	
Sample size		**157**				**157**	

IV. Empirical Results

Table 7a 3SLS SEMs for Insurance Demand - New Business

	lnNNC				*lnPNC*		
	RSX	***lnNNC***	***Channel***		***RSX***	***lnPNC***	***Channel***
Intercept	**6.622067 (<.0001)**	**5.109303 (0.1890)**	**-1.07706 (0.0186)**		**6.622067 (<.0001)**	**3.433764 (0.3565)**	**-1.07706 (0.0186)**
Channel	**2.900082 (<.0001)**				**2.900082 (<.0001)**		
lnAsst	**1.304744 (<.0001)**				**1.304744 (<.0001)**		
RSX		**0.592792 (<.0001)**	**0.068438 (0.0003)**			**0.517515 (<.0001)**	**0.068438 (0.0003)**
FHC		**0.116273 (0.6358)**	**-0.23404 (0.0078)**			**1.055245 (<.0001)**	**-0.23404 (0.0078)**
FI		**-0.20508 (0.4458)**	**-0.12442 (0.1888)**			**0.554436 (0.0527)**	**-0.12442 (0.1888)**
△GDP		**0.000367 (0.9895)**				**-0.01387 (0.6058)**	
YR		**-0.06283 (0.0797)**				**-0.00078 (0.9817)**	
System R^2		**0.7490**				**0.7379**	
Sample size		**157**				**157**	

IV. Empirical Results

Table 7b 3SLS SEMs for Insurance Demand - Persistency

	P13				*P25*		
	RSX	***P13***	***Channel***		***RSX***	***P25***	***Channel***
Intercept	**6.475647 (<.0001)**	**23.90030 (0.1583)**	**-1.11501 (0.0202)**		**6.536727 (<.0001)**	**39.21924 (0.1444)**	**-1.06905 (0.0270)**
Channel	**2.540680 (<.0001)**				**2.666580 (<.0001)**		
lnAsst	**1.332164 (<.0001)**				**1.321797 (<.0001)**		
RSX		**0.569994 (0.0148)**	**0.069904 (0.0004)**			**0.435264 (0.2396)**	**0.068075 (0.0006)**
FHC		**0.214827 (0.8500)**	**-0.24254 (0.0080)**			**-0.50117 (0.7832)**	**-0.23156 (0.0120)**
FI		**-3.96325 (0.0023)**	**-0.11272 (0.2566)**			**-6.46923 (0.0018)**	**-0.12242 (0.2173)**
△GDP		**-0.01381 (0.9173)**				**-0.18736 (0.3754)**	
YR		**0.560116 (0.0004)**				**0.383667 (0.1198)**	
System R^2		**0.5717**				**0.5577**	
Sample size		**156**				**155**	

V. Conclusion

- Marketing channel is a relevant factor for insurance demand
- Insurance demand is significantly related insurer’s enterprise risk
- Marketing channel is associated with the insurer’s risk.

FROM INTERMEDIARY FINANCE TO INCLUSIVE FINANCE: A BROKEN CHAIN

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DEFINITIONS

- Intermediary finance: indirect fiancé, individual investment through financial intermediaries, banks in particular.

- Inclusive finance: universal coverage of financial services on the consumers. The financial consumers can enjoy equal access to financial products, consuming both lending and investing.

FINANCE AND INEQUALITY

FINANCE AND INEQUALITY

- Income distribution
- Unequal chances(education, etc)
- Generational persistence
- Financial innovation awareness
- …….

GLOBAL FINDEX

#globalfindex

GLOBAL FINDEX 2014

Financial Inclusion

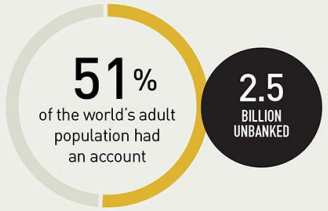
Financial inclusion is critical in reducing poverty and achieving inclusive economic growth. When people can participate in the financial system, they are better able to start and expand businesses, invest in their children's education, and absorb financial shocks. In 2011 the World Bank launched the Global Findex database, the world's most comprehensive set of data on how people save, borrow, make payments, and manage risk. The updated 2014 Global Findex database shows great progress in expanding financial inclusion—and great opportunities to expand it further.

WORLD BANK GROUP

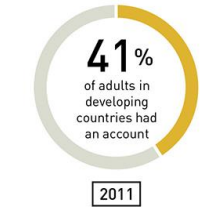
BILL & MELINDA GATES *foundation*

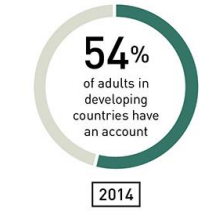
THERE HAS BEEN SIGNIFICANT GROWTH IN FINANCIAL INCLUSION

More adults have an account (with a financial institution or mobile money service) now than three years ago.

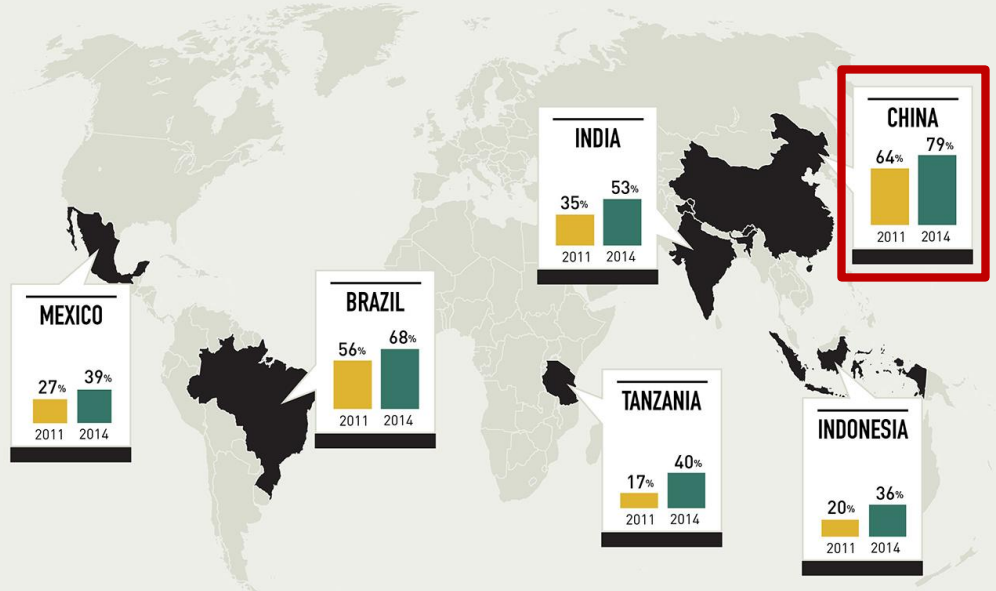


Account ownership has increased in nearly every developing country.





Examples include Mexico, Brazil, India, China, Tanzania, and Indonesia.



INTERMEDIARIES DOMINATED FINANCE

US INPUT-OUTPUT TABLE 2016

Indirect finance prevails

Output = intermediate + consumption + investment + export + (inventory)
Output = intermediate + labor income + capital value added + tax

The Use of Commodities by Industries, Before Redefinitions (Producers' Prices)
(Millions of dollars)
Bureau of Economic Analysis
2016

	odities/Ind	11	21	22	23	31G	42	44RT	48TW	51	FIRE	PROF	6	7	81	G				F010	F020	F030	F040	F050	F100				
IOCode	Name	estry, fishi	Mining	Utilities	onstructio	anufacturi	olesale tr	Retail trad	tion and w	nformation	real estate	and busin	ealth care	on, accom	es, except	overnmen	termediate	diate Not S	al Intermedi	nsumption e	fixed inve	private in	goods an	goods an	expenditu	l Uses (GD	ses (GDP)	Final Uses (	Commodity (
11	Agriculture	93850	68	0	1562	240370	1306	1448	106	0	24	1139	882	8350	66	2485	351656	...	351658	81698	...	2004	50572	-54979	...	79294	0	79294	430952
21	Mining	2467	24622	29542	14706	254341	35	54	1219	283	3896	1453	395	1151	523	16326	351013	...	351012	418	64227	-790	29371	-116010	...	-22784	0	-22784	328229
22	Utilities	4769	1968	2501	2950	50673	3928	10790	5865	4673	79840	11369	24264	11621	4495	28792	248498	...	248497	262592	...	..	1594	-2394	...	261791	0	261791	510288
23	Constructi	2584	4634	4514	196	14628	1198	2902	5377	2977	142147	2114	2990	2399	3897	76443	269000	...	268998	...	984626	..	107	...	276046	1260779	0	1260779	1529777
31G	Manufactu	68727	23365	12433	321034	1844304	35991	56334	110439	118229	52138	150183	193405	157038	54834	315405	3513859	...	3513860	1941713	852958	36124	911762	-1844157	118597	2016998	0	2016998	5530857
42	Wholesale	25204	5063	3777	59704	286382	36220	29645	30417	30539	15933	26942	45303	28126	9403	44051	676709	...	676709	485378	162157	4092	154151	37536	13161	856475	0	856475	1533184
44RT	Retail trad	810	226	549	97046	19679	944	12156	16543	600	7987	4337	1337	14411	9361	2683	188669	...	188668	1304096	82232	..	...	...	...	1386328	0	1386328	1574996
48TW	Transport	14421	7981	18297	24773	150932	59604	78380	131473	18778	29826	55506	26907	17603	6390	64206	705077	...	705077	270256	29090	819	116773	-28760	3012	391190	0	391190	1096268
51	Informatio	604	437	1188	6456	26492	15923	23775	5661	251493	63783	87711	36218	15141	9947	84856	629685	...	629686	518831	145613	647	72431	-12785	6954	731691	0	731691	1361377
FIRE	Finance, i	27367	9079	9314	41275	92646	95927	173627	83167	70312	967241	272692	352699	113076	92879	141015	2542316	...	2542316	3104133	143144	..	191757	-47579	...	3391456	0	3391456	5933772
PROF	Professio	6519	18999	17534	65533	468556	186665	188815	69020	152422	474054	621800	290755	165660	49712	294826	3070870	...	3070871	253896	662345	..	167234	-116474	186929	1153930	0	1153930	4224800
6	Education	521	0	82	3	65	1101	13694	46	1154	76	954	29344	2186	3039	39767	92032	...	92032	2794045	...	..	4869	-4496	...	2794418	0	2794418	2886450
7	Arts, enter	726	356	2340	3628	24117	8536	7405	3763	39329	55238	78241	37089	33577	4570	40129	339044	...	339043	1097974	4748	..	4356	-1322	...	1105756	0	1105756	1444799
81	Other serv	1127	257	516	6324	16490	15266	12712	4982	13265	35065	37334	37730	12804	7673	29035	230580	...	230581	630342	...	..	68	-4314	...	626096	0	626096	856677
G	Governme	43	4	355	33	5442	8425	7060	15064	2038	16840	9566	7161	6785	1765	10048	90629	...	90628	79009	...	..	525	-277	2658088	2737345	0	2737345	2827973
Used	Scrap, use	-43	-13	171	1384	15533	0	16	2138	1	-36	39	183	-42	15687	-53	34965	...	34965	89959	-116417	-7817	19153	-13629	5008	-23743	0	-23743	11222
Other	Noncomp	810	978	865	2921	18963	4048	2330	19232	12258	35127	8607	913	3041	318	15440	125851	...	125849	-93648	7423	..	214899	-251221	...	-122546	0	-122546	3303
	Sum of Int	250506	98021	103981	649530	3529613	475117	621144	504511	718349	1979179	1369987	1087572	592926	274561	1205455	...	...	...	...	...	..	...	...	...	...	...	...	...
	Intermedi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	...	...	...	...	...	..	...	...	...	...	...	...	...
	Total Inte	250506	98021	103981	649530	3529613	475117	621144	504511	718349	1979179	1369987	1087572	592926	274561	1205455	...	...	13460449	...	...	..	...	...	...	...	...	...	...
V001	Compens	54121	75710	80034	486682	1012407	512438	589897	332781	328124	873639	1654255	1322769	465280	294638	1909461	...	...	9992238	...	...	..	...	...	...	...	...	...	...
V002	Taxes on p	-392	33913	61755	8790	89367	215798	224286	33222	48026	321806	59848	41006	91885	22587	-25699	...	...	1226197	...	...	..	...	...	...	...	...	...	...
V003	Gross op	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	...	...	7406039	...	...	..	...	...	...	...	...	...	...
	Sum of Va	177580	260593	287088	792509	2182952	1102642	1096858	562528	903994	3883755	2251679	1555640	751148	415680	2399829	...	...	...	...	...	..	...	...	...	...	...	...	...
	Sum of Va	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	...	...	...	...	...	..	...	...	...	...	...	...	...
	Total Valu	177580	260593	287088	792509	2182952	1102642	1096858	562528	903994	3883755	2251679	1555640	751148	415680	2399829	18624475	...	...	...	...	..	...	...	...	...	...	18624474	...
	Total Indu	428085	358614	391069	1442038	5712565	1577759	1718002	1067039	1622342	5862934	3621666	2643212	1344074	690240	3605283	...	...	...	12820693	3022148	35078	1939622	-2460861	3267794	...	...	...	32084923

Labor

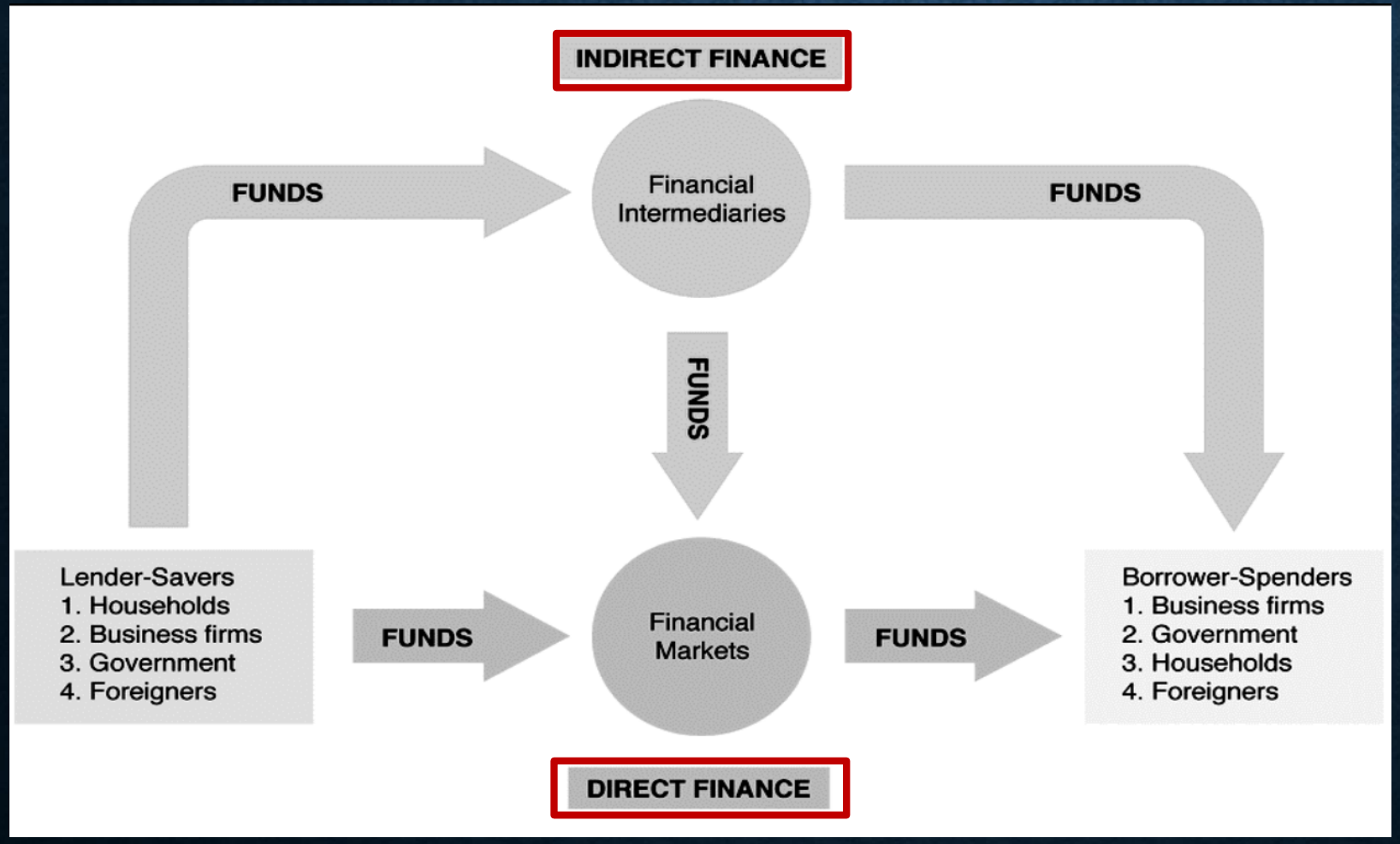
Capital

Investment

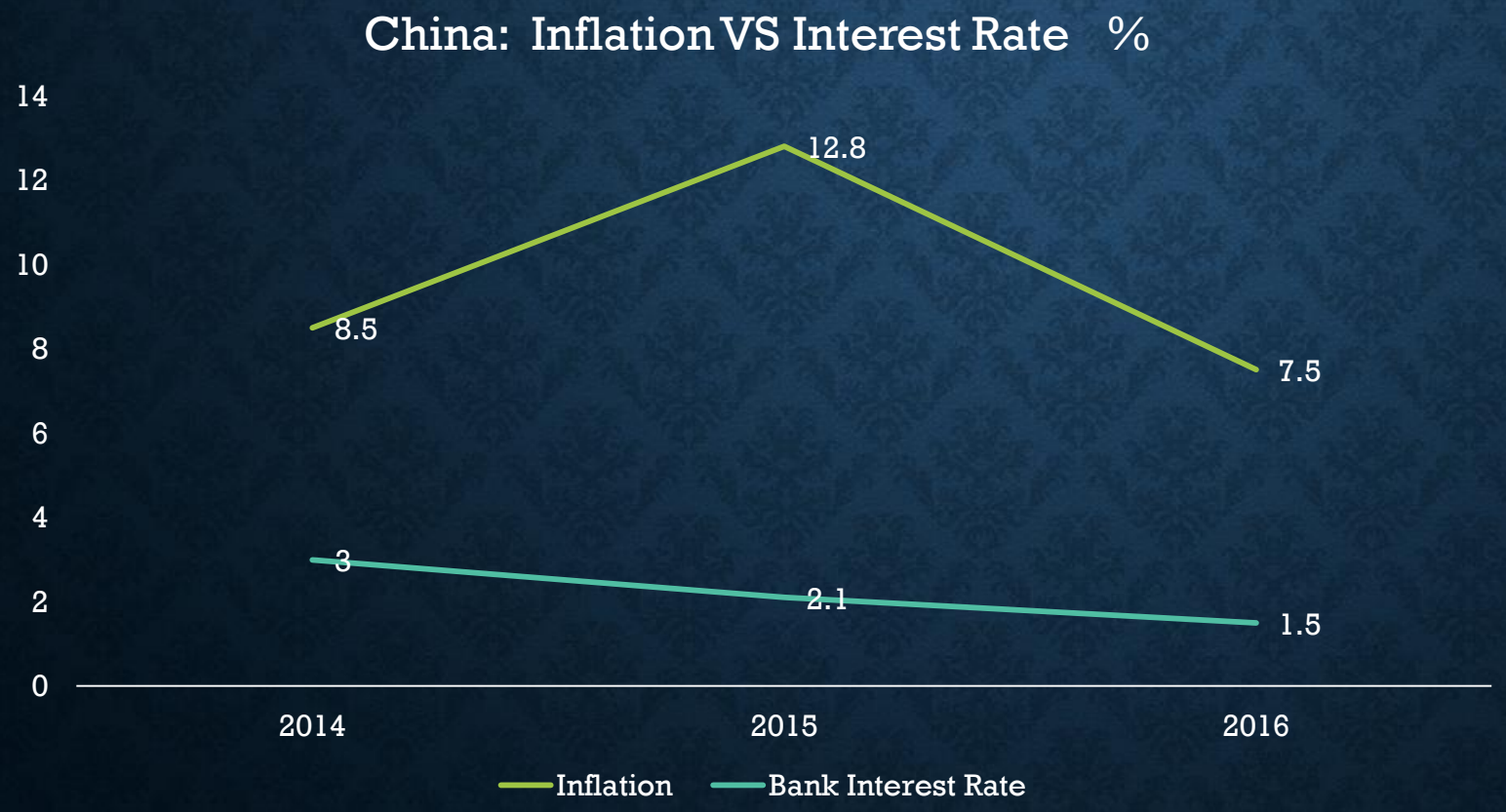
Legend / Footnotes:

1. Consists of noncomparable imports in the intermediate section of the use table and noncomparable imports and the rest-of-the-world adjustment in the final use section of the use table.
Note. Selected data with zero values are not shown.
Note. Detail may not add to total due to rounding.

DIRECT V.S. INDIRECT FINANCE



LOSING VALUE VIA INDIRECT FINANCE

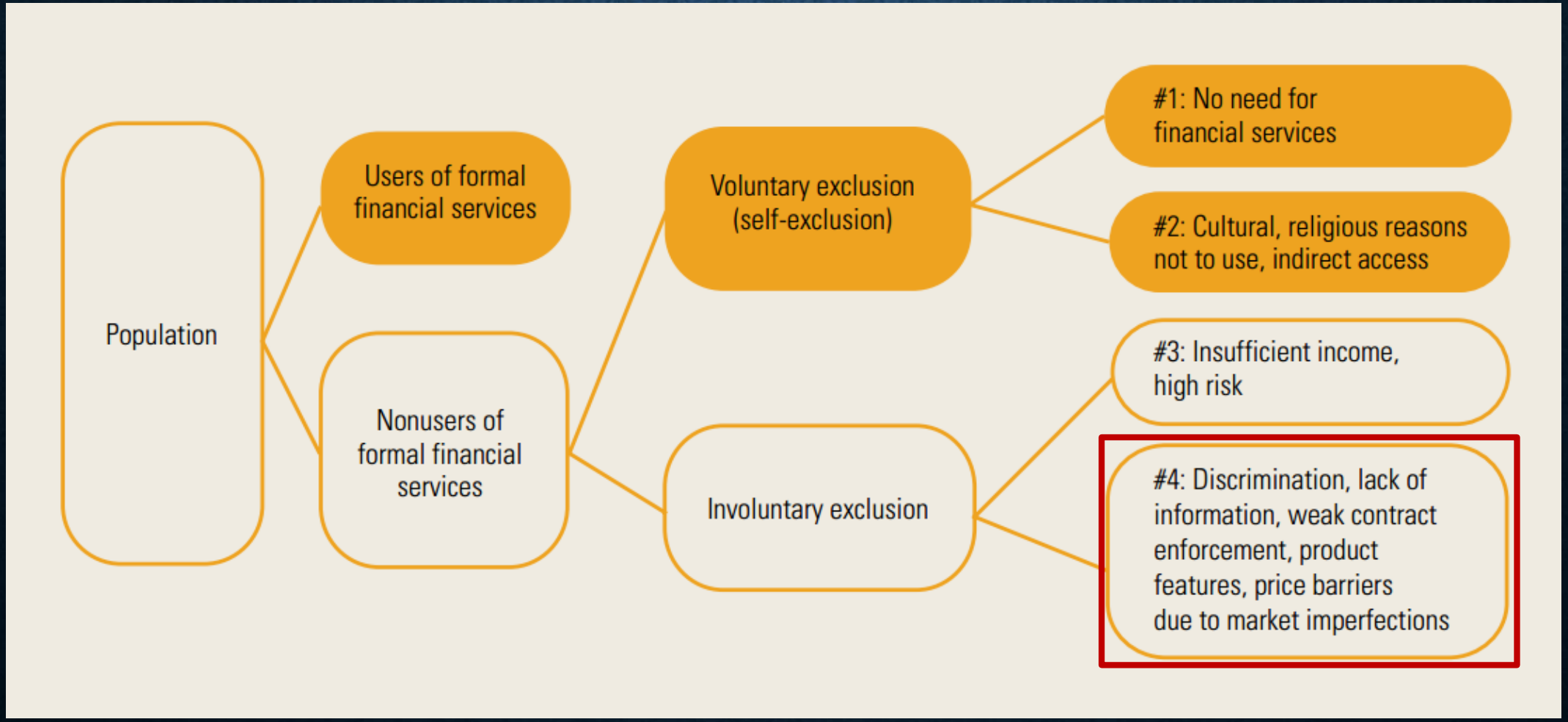


2016 Housing Price: 10.5% up

Private Equity threshold: 1 million RMB

Stock market crash in 2015

FINANCIAL INCLUSION/EXCLUSION



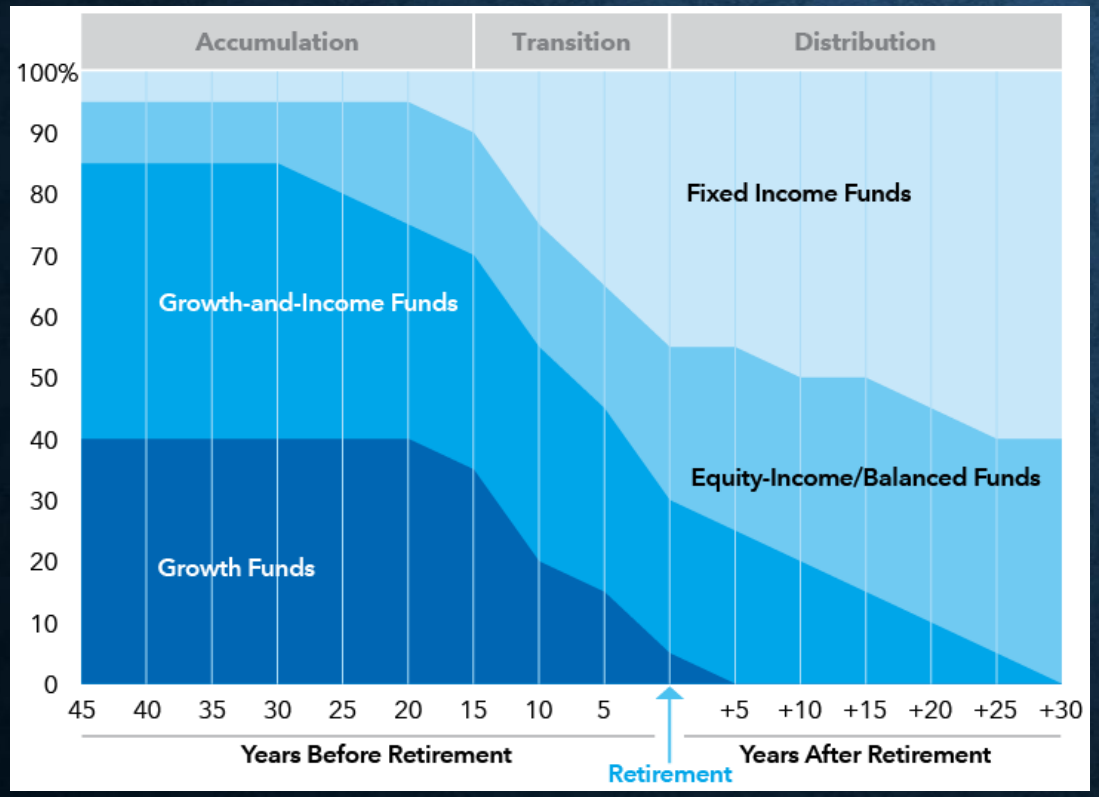
INCLUSIVE FIANCÉ: WHAT'S THE SOLUTION?

FROM INTERMEDIARY FINANCE TO INCLUSIVE FINANCE: A BROKEN CHAIN

- default enrollment
- Save more tomorrow

QDIA THE SOLUTION?

Target Date Fund



- To or Through
- Glide path, U path, or upward path

BACKBONE OF TDF

- In the 1970s and 1980s, common law jurisdictions transitioned to Modern Portfolio Theory (MPT) as the controlling concept for investment fiduciaries, looking at investment risk on a portfolio (rather than individual investment) basis.
- At the end of the 20th century, reference to practices of similar prudent expert investment fiduciaries and use of MPT were firmly established as the operative fiduciary standards (Hawley, Johnson, and Waitzer, 2011).

TARGET DATE FUND FIDUCIARY DUTY

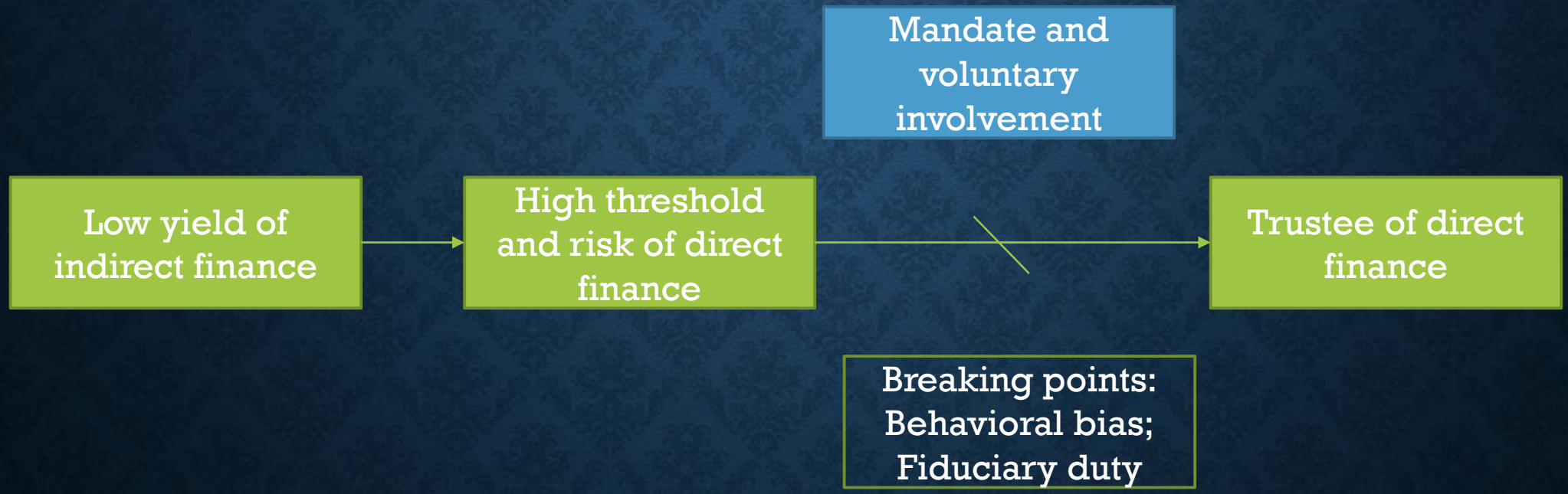
Adhering to four core fiduciary standards established by ERISA:

- act prudently,
- and with loyalty to the plan participant,
- diversifying plan investments,
- and carrying out plan duties in accordance with plan documents and all relevant laws and regulations

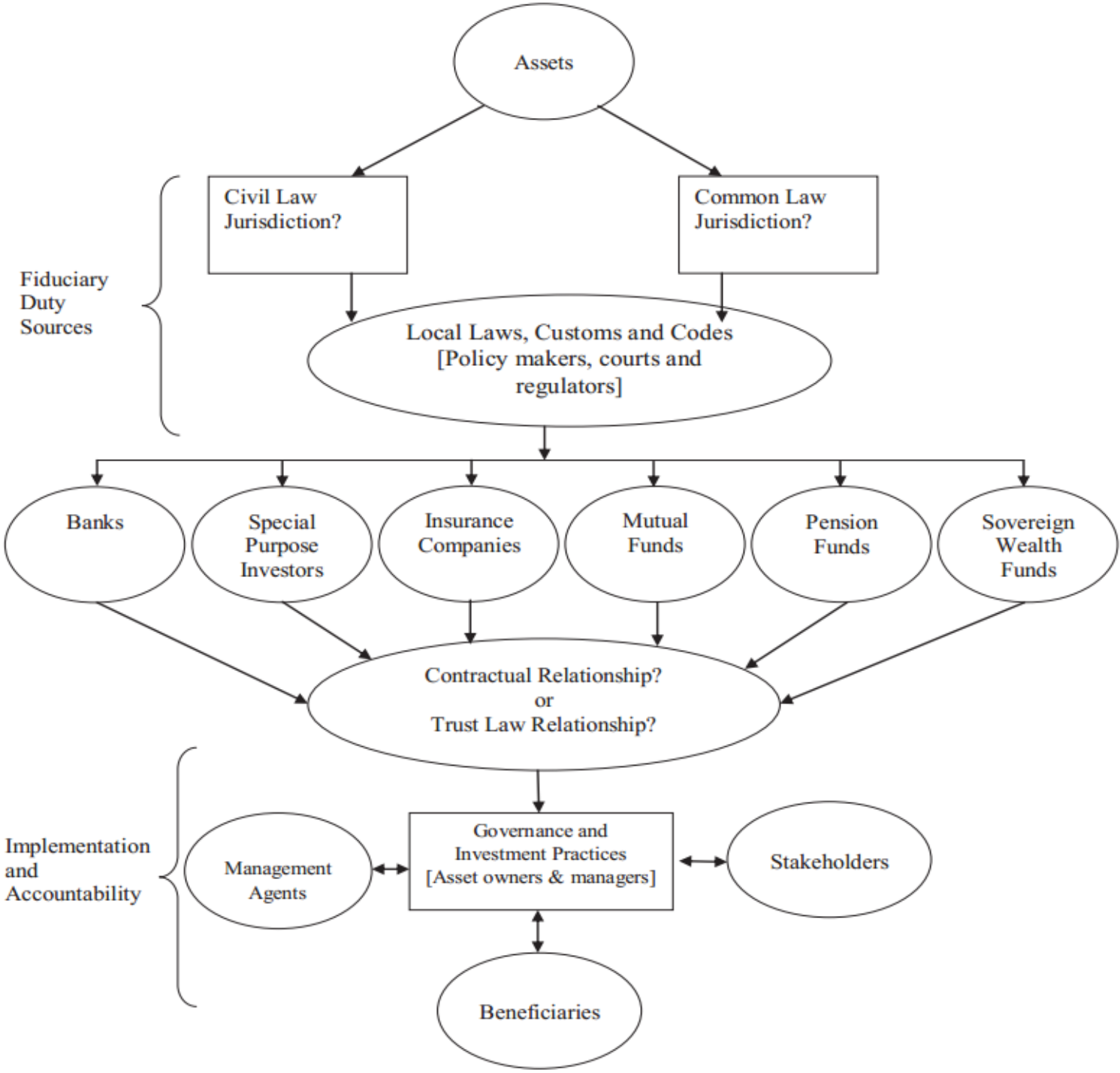
DISAPPOINTING PERFORMANCE

In 2008, the 2010 Target Date Fund lost its value by 25%

BREAKING POINT AND SOLUTIONS



LEGAL MESS


Assets
Civil Law Jurisdiction?
Common Law Jurisdiction?
Fiduciary Duty Sources
Local Laws, Customs and Codes [Policy makers, courts and regulators]
Banks
Special Purpose Investors
Insurance Companies
Mutual Funds
Pension Funds
Sovereign Wealth Funds
Contractual Relationship? or Trust Law Relationship?
Implementation and Accountability
Management Agents
Governance and Investment Practices [Asset owners & managers]
Stakeholders
Beneficiaries

FIDUCIARY DUTIES

- Legally not strong binding
- Much of an ethical issue
- Ex post evaluation

- Loyalty, including faithfulness to the interests of beneficiaries and purpose of the fund and impartiality when taking different interests of beneficiaries into account.
- Prudence and care in managing investments, diversification and risks.
- Control of costs and management of conflicts of interest.
- Transparency and accountability.
- Compliance with terms of the operative documents and applicable laws.

SHORTCOMINGS

Deadlock

- Who is the one to take blame
- How to deal with the loss made to financial consumers/investors
- What's the motivation to increase return while control risk

ALTERNATIVE SOLUTIONS?

- legally stronger punishment,
- robot advisor or AI,
- Alternative investment
- mezzanine fund

ALTERNATIVE SOLUTIONS?

Future world

THANK YOU!