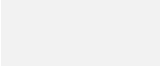





CORE SYLLABUS FOR ACTUARIAL TRAINING IN EUROPE

analysis of questioning of the AAE in 2013/2014
Data of „arithmetic average in integer“

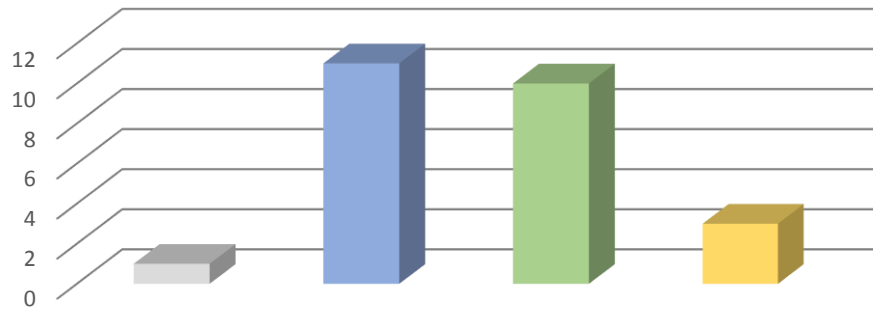
Legend for following data according to survey

	n/c
	pre
	comprehension/first
	analysis/second

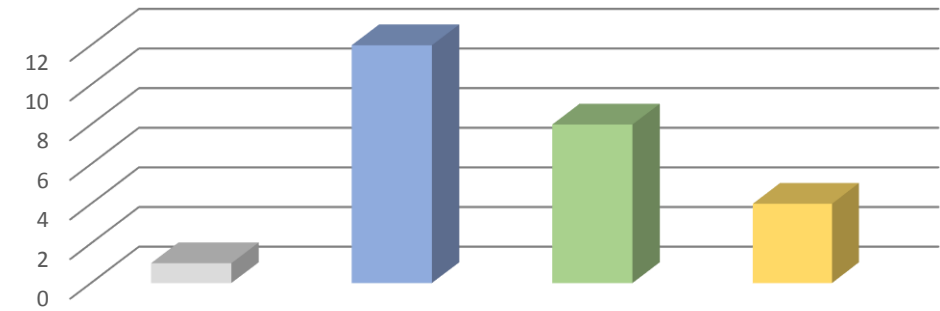
General Skills

General Skills

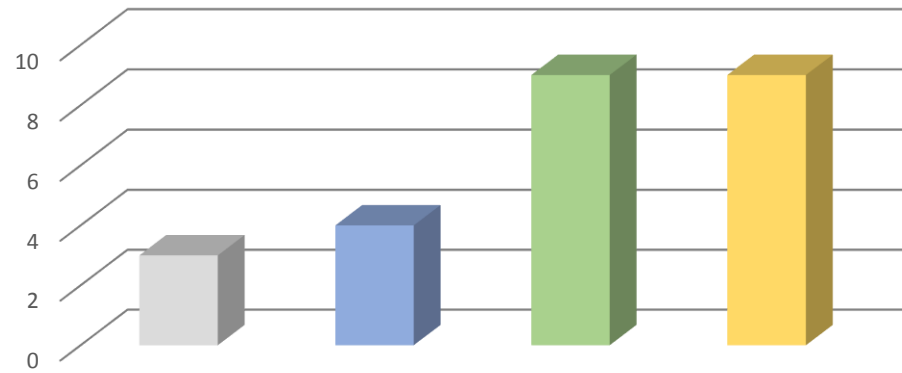
Computing



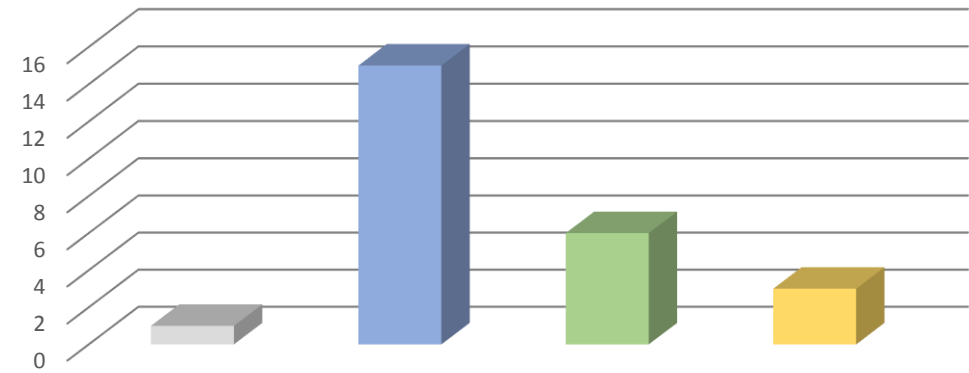
Communication Skills



Regulation and Legislation and Taxation



Language Skills



Overview

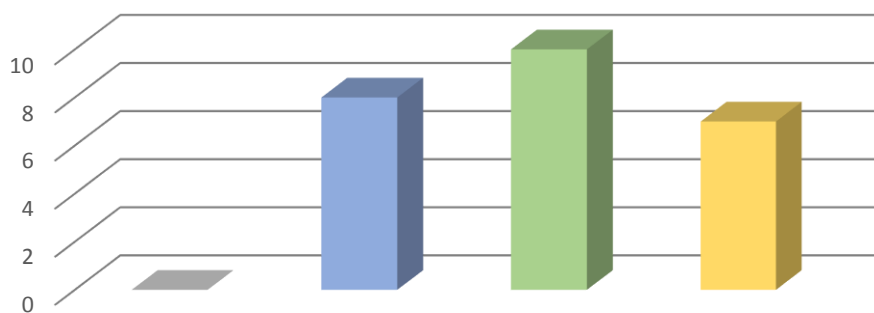
	arithmetic average rounded	estimated standard deviation	arithmetic average runded per group of required skills	estimated standard deviationper group of required skills
General Skills				
Computing	1,60	0,75	1,65	0,85
Regulation and Legislation and Taxation	1,96	1,00		
Communication Skills	1,60	0,80		
Language Skills	1,44	0,75		

General Technical Skills

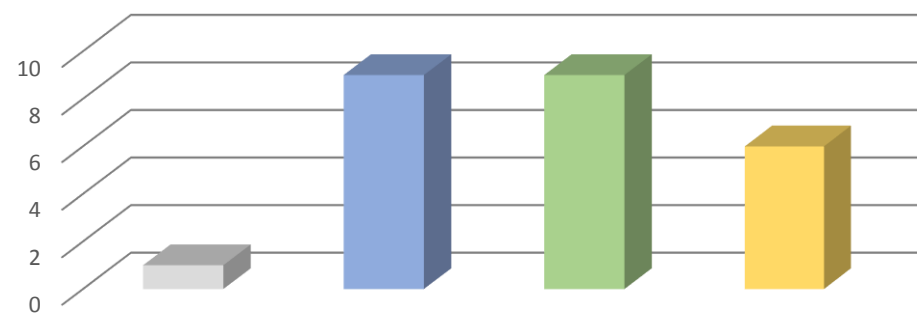
1. Mathematics

1. Mathematics

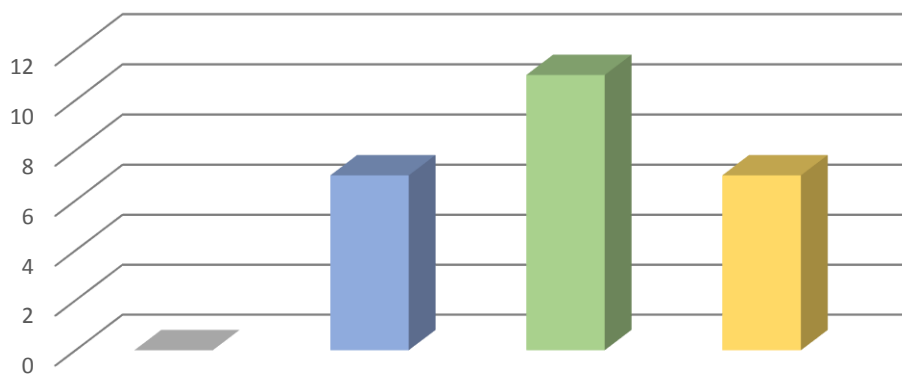
(a) Mathematical analysis



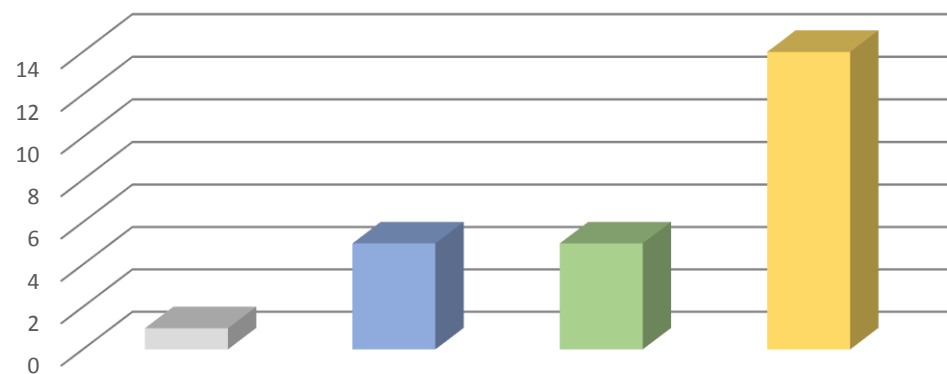
(c) Numerical analysis



(b) Linear algebra



(d) Stochastic calculus



Overview

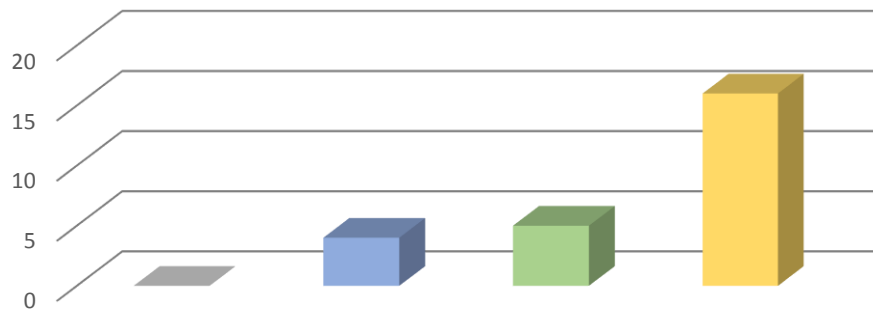
	arithmetic average rounded	estimated standard deviation	arithmetic average runded per group of required skills	estimated standard deviationper group of required skills
Mathematics				
(a) Mathematical analysis	1,96	0,77	2,01	0,84
(b) Linear algebra	2,00	0,75		
(c) Numerical analysis	1,80	0,85		
(d) Stochastic calculus	2,28	0,92		

General Technical Skills

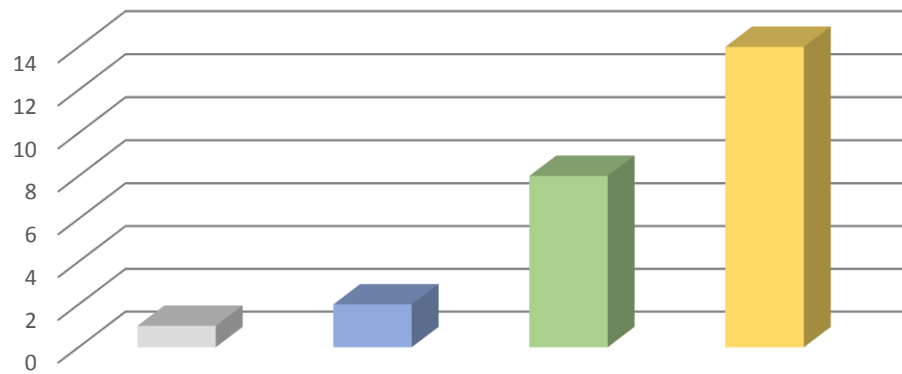
2. Probability and Mathematical Statistics

2. Probability and Mathematical Statistics

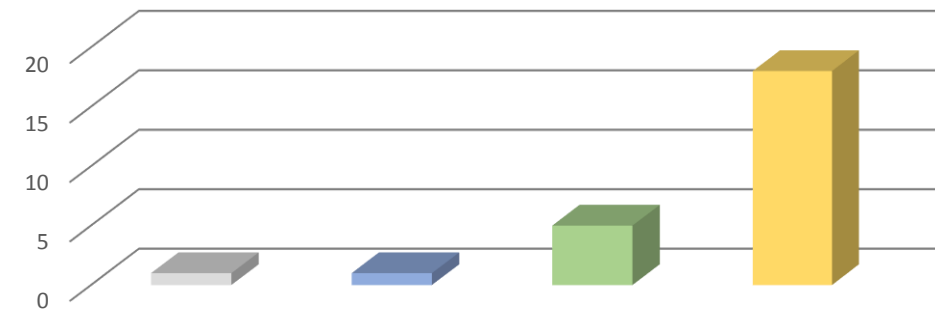
(a) Theory of probability and mathematical statistics



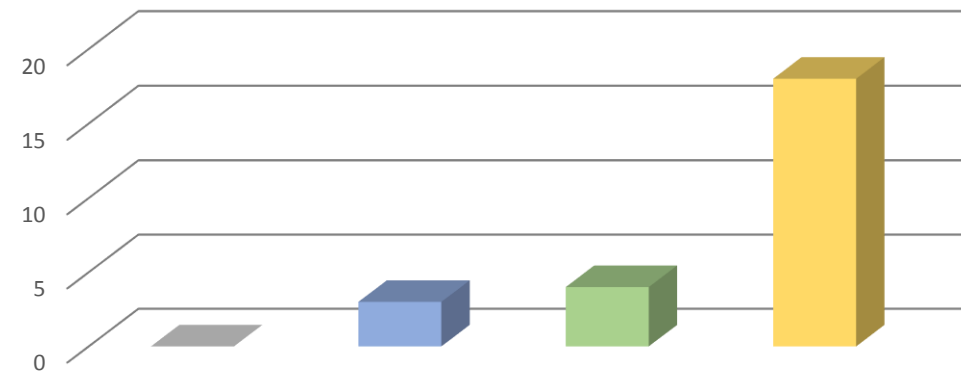
(b) Decision theory



(c) Data analysis



(d) Regression analysis



Overview

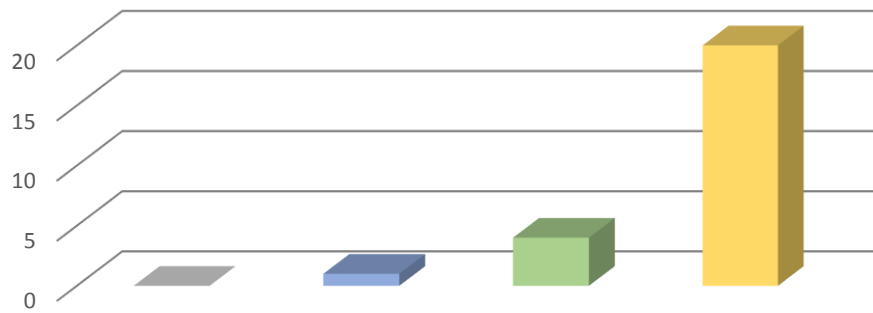
	arithmetic average rounded	estimated standard deviation	arithmetic average runded per group of required skills	estimated standard deviationper group of required skills
Probability and Mathematical Statistics				
(a) Theory of probability and mathematical statistics	2,48	0,75		
(b) Decision theory	2,40	0,80		
(c) Data analysis	2,60	0,75		
(d) Regression analysis	2,60	0,69		
			2,52	0,75

General Technical Skills

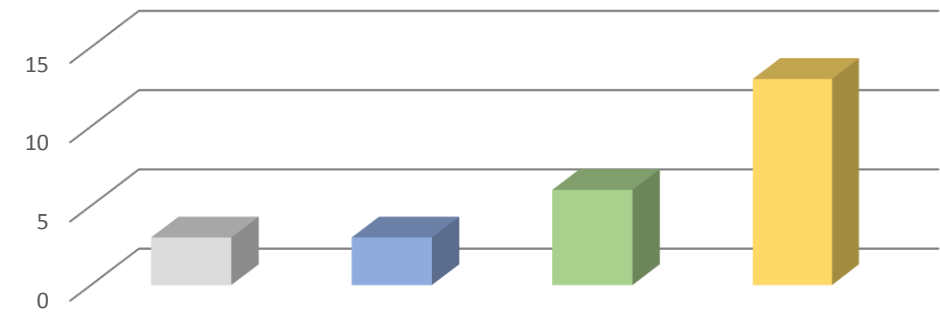
3. Stochastic Processes and Modelling

3. Stochastic Processes and Modelling

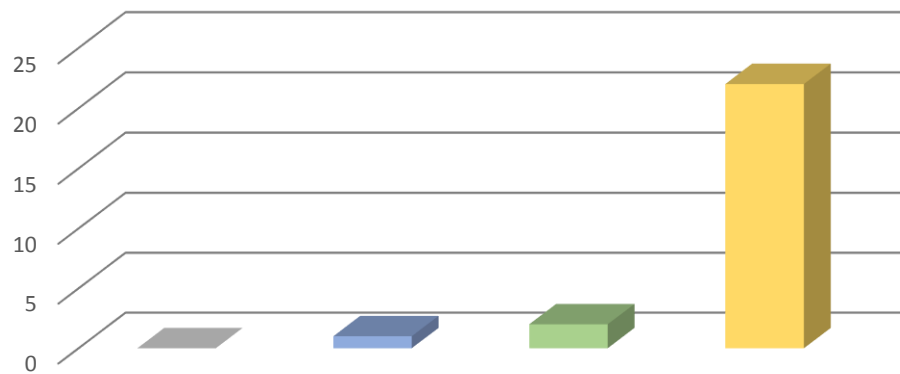
(a) Principles and methods of modelling



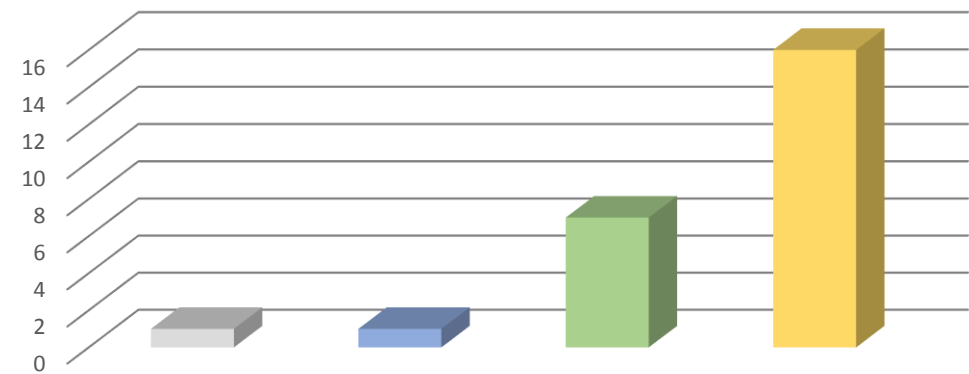
(c) Time series modelling



(b) Stochastic processes for insurance and finance



(d) Simulation methods



Overview

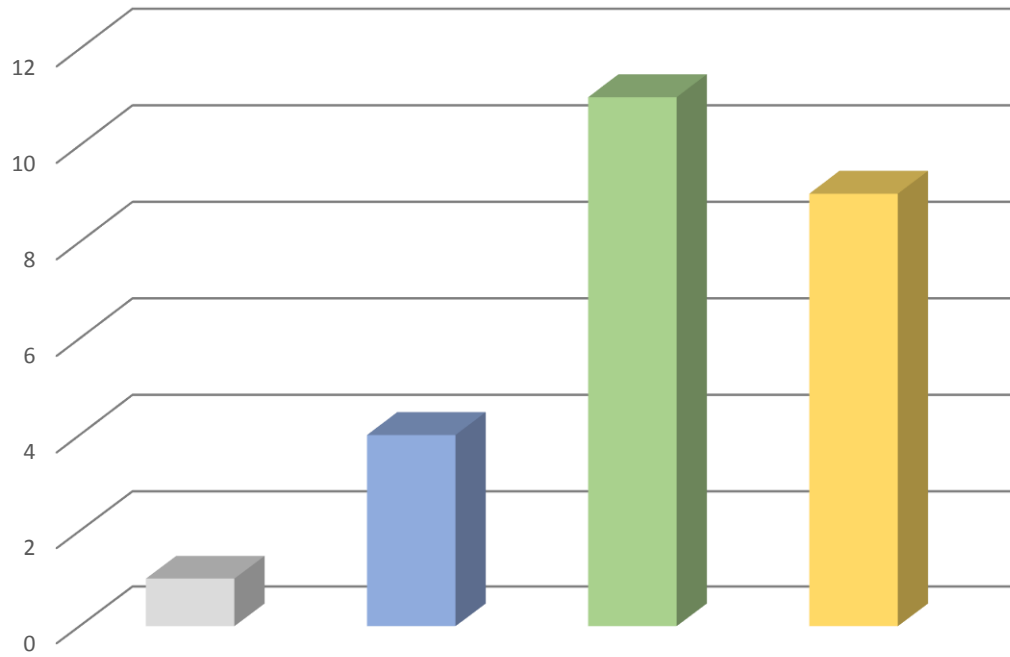
	arithmetic average rounded	estimated standard deviation	arithmetic average rounded per group of required skills	estimated standard deviationper group of required skills
Stochastic Processes and Modelling				
(a) Principles and methods of modelling	2,76	0,51	2,57	0,78
(b) Stochastic processes for insurance and finance	2,84	0,46		
(c) Time series modelling	2,16	1,05		
(d) Simulation methods	2,52	0,75		

General Technical Skills

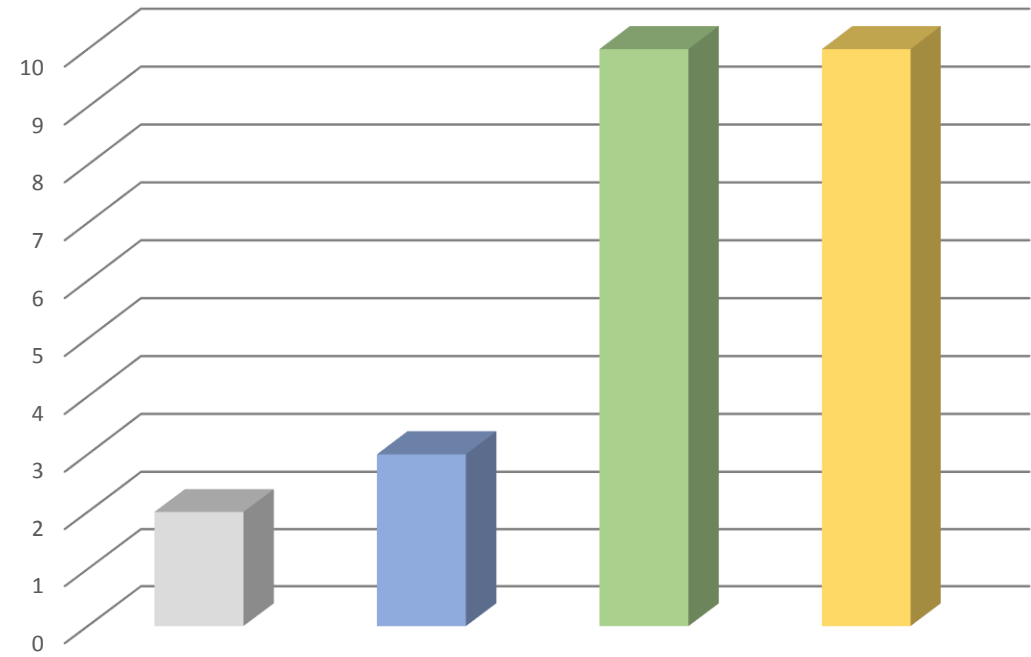
4. Economics

4. Economics

(a) Macroeconomics



(b) Microeconomics



Overview

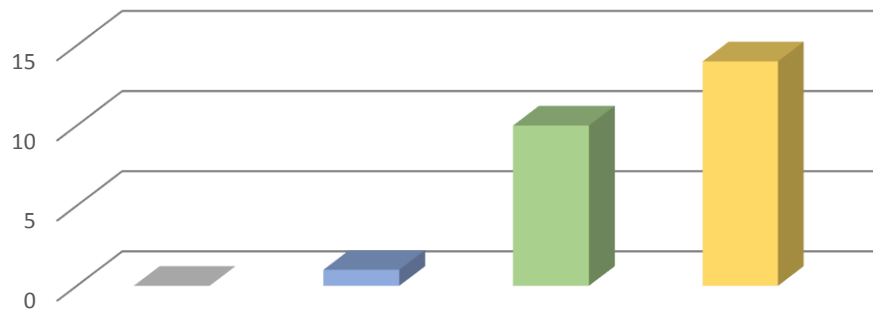
	arithmetic average rounded	estimated standard deviation	arithmetic average rounded per group of required skills	estimated standard deviationper group of required skills
Economics				
(a) Macroeconomics	2,12	0,82		
(b) Microeconomics	2,12	0,91		

General Technical Skills

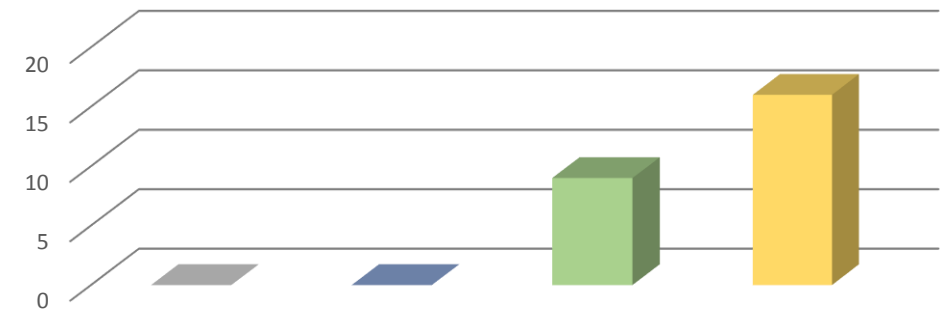
5. Accounting and Financial Reports

5. Accounting and Financial Reports

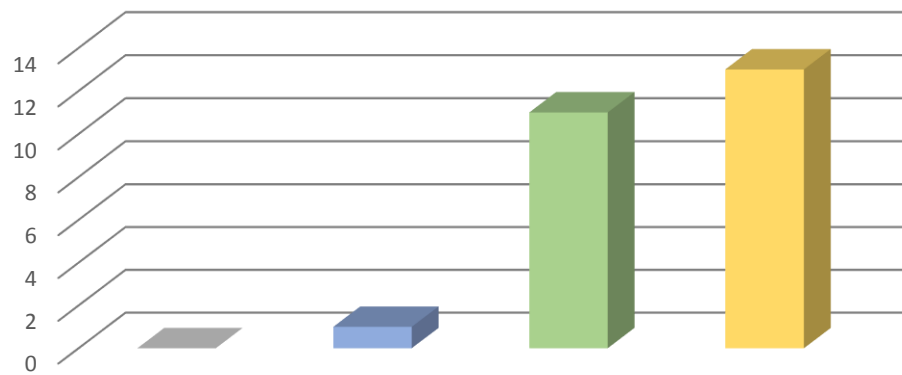
(a) Accounting principles



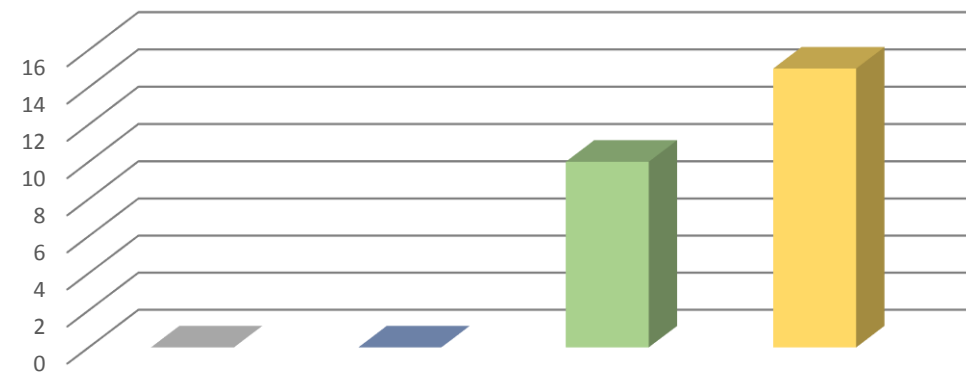
(c) Basic structure of company accounts



(b) Financial structures of business entities



(d) Interpretation of business accounts



Overview

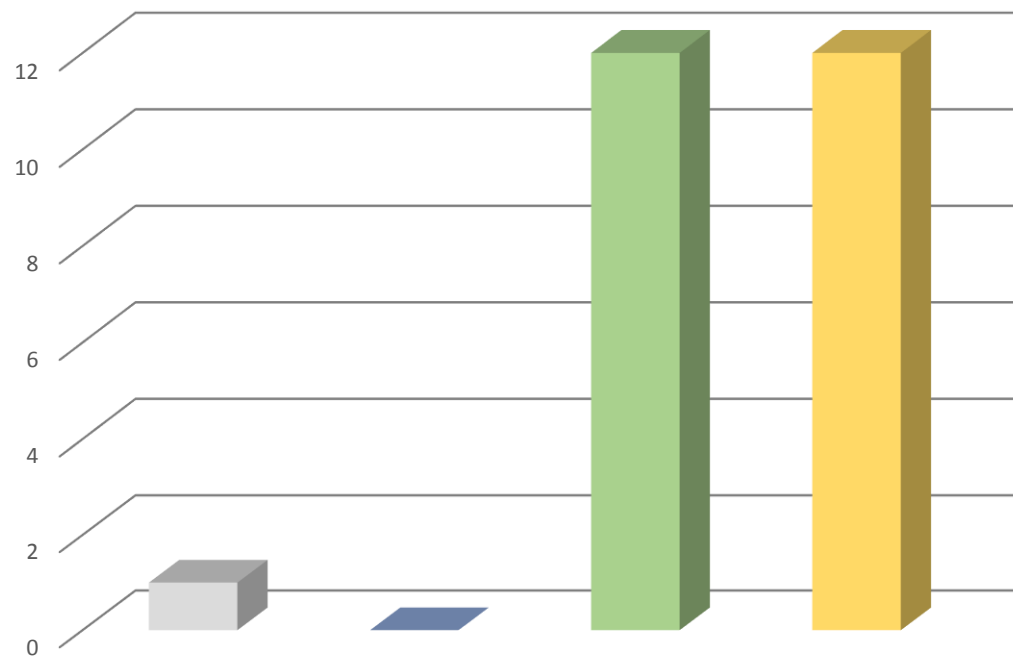
	arithmetic average rounded	estimated standard deviation	arithmetic average rounded per group of required skills	estimated standard deviation per group of required skills
Accounting and Financial Reports				
(a) Accounting principles	2,52	0,57	2,56	0,54
(b) Financial structures of business entities	2,48	0,57		
(c) Basic structure of company accounts	2,64	0,48		
(d) Interpretation of business accounts	2,60	0,49		

General Technical Skills

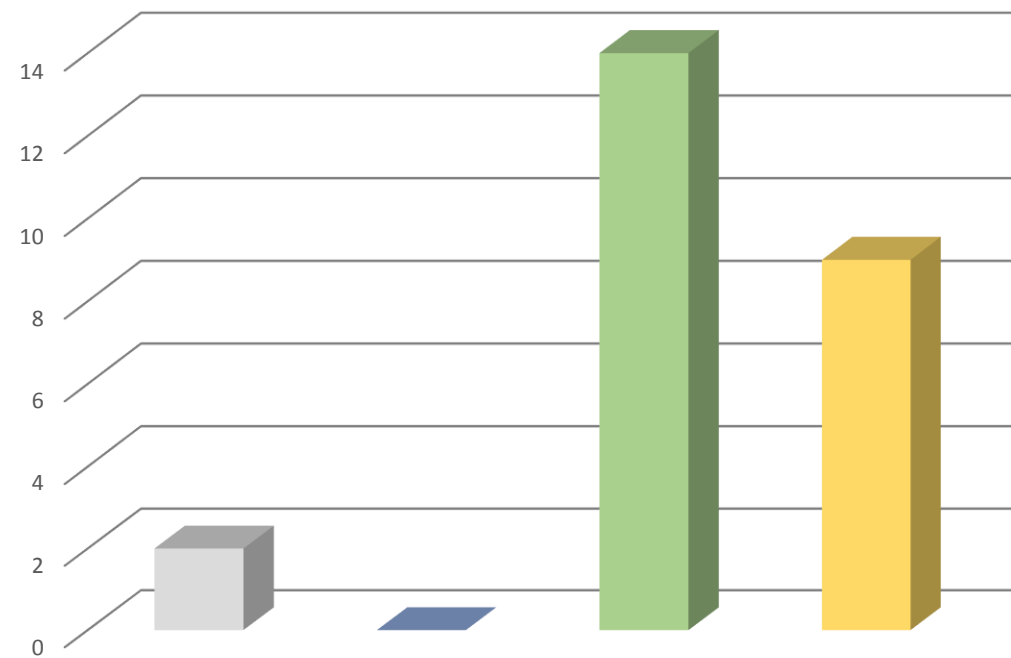
6. Legislation

6. Legislation

(a) Supervisory legislation



(b) Financial services laws



Overview

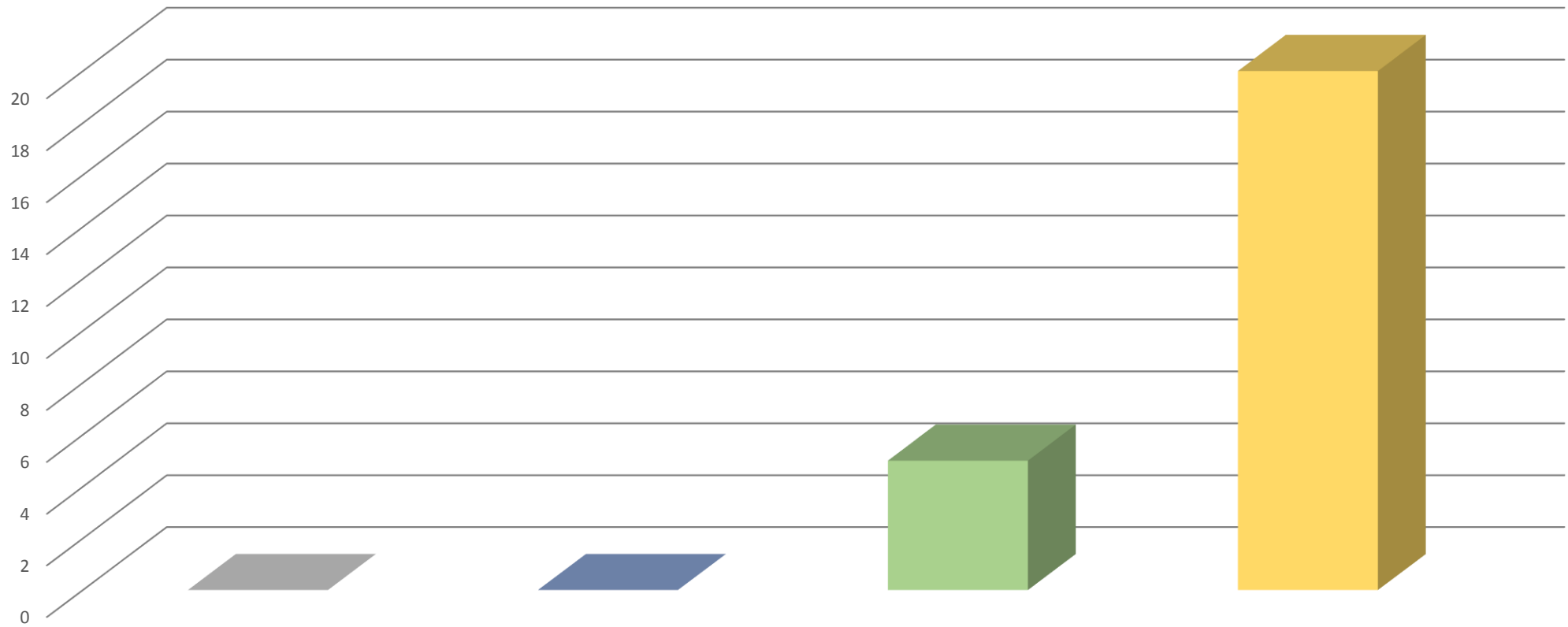
	arithmetic average rounded	estimated standard deviation	arithmetic average rounded per group of required skills	estimated standard deviationper group of required skills
Legislation				
(a) Supervisory legislation	2,40	0,69		
(b) Financial services laws	2,20	0,80	2,30	0,75

Actuarial Technical Subjects

7. Financial Mathematics

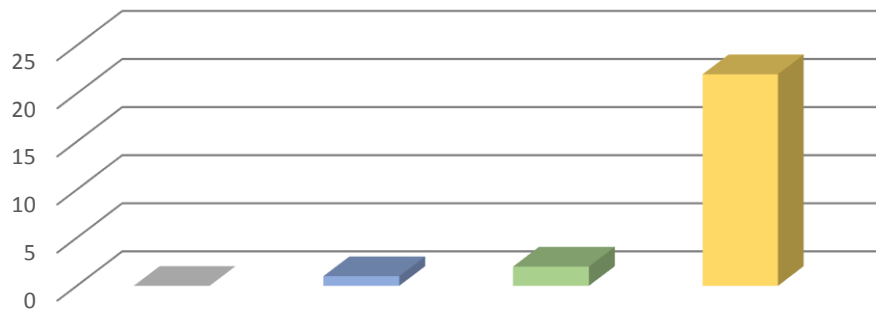
7. Financial Mathematics

(a) Theory of deterministic interest

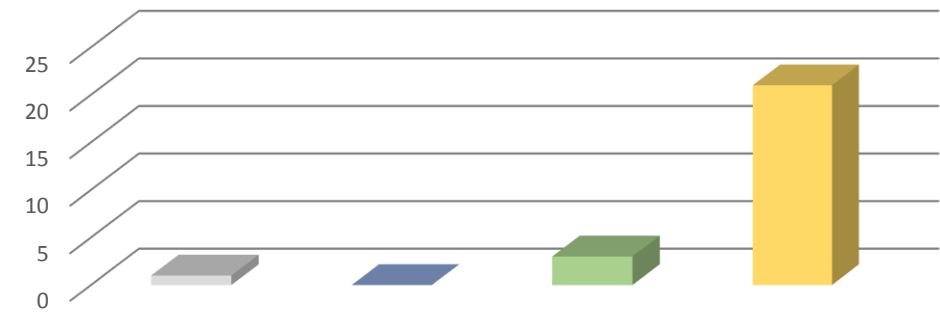


7. Financial Mathematics

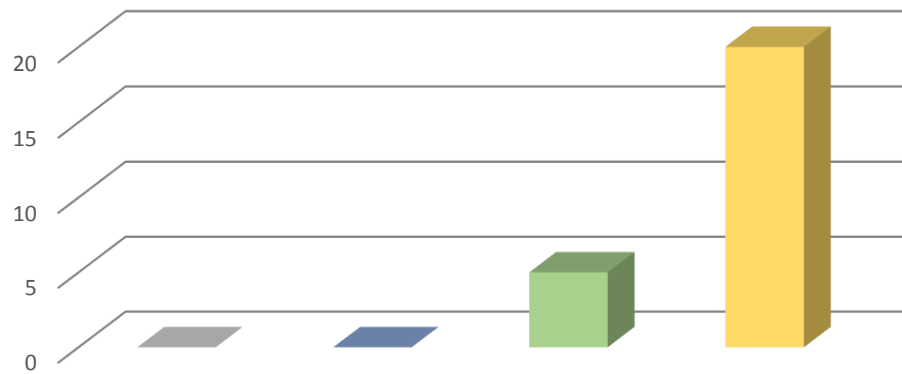
(b) Introduction to contingent claims analysis



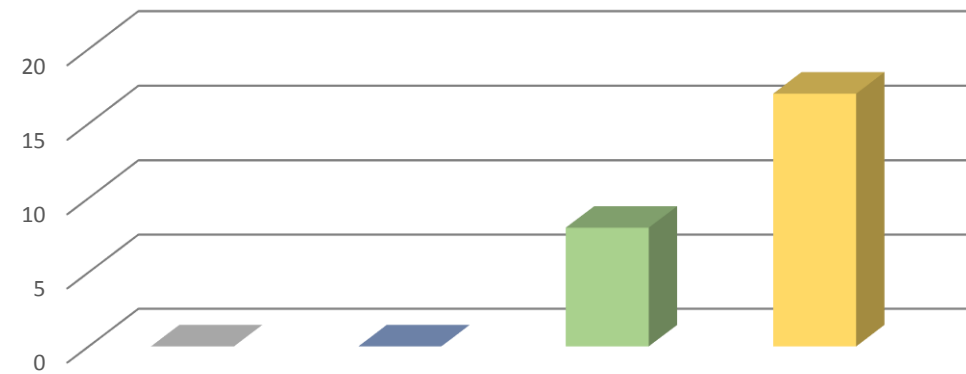
(d) Theory of stochastic interest



(c) Stochastic calculus for finance



(e) Asset management



Overview

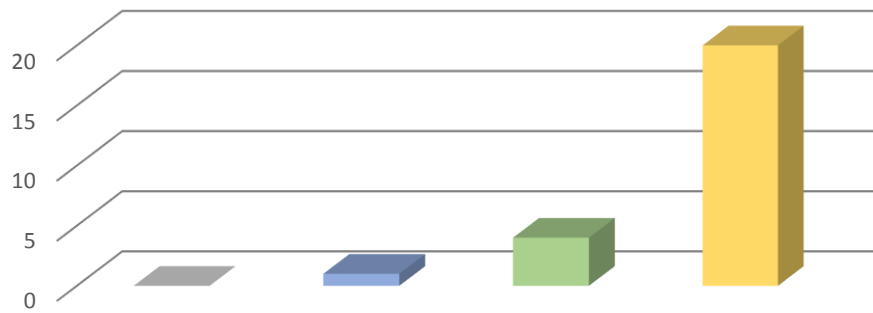
	arithmetic average rounded	estimated standard deviation	arithmetic average rounded per group of required skills	estimated standard deviation per group of required skills
Financial Mathematics				
(a) Theory of deterministic interest	2,80	0,40	2,78	0,49
(b) Introduction to contingent claims analysis	2,84	0,46		
(c) Stochastic calculus for finance	2,80	0,40		
(d) Theory of stochastic interest	2,76	0,65		
(e) Asset management	2,68	0,47		

Actuarial Technical Subjects

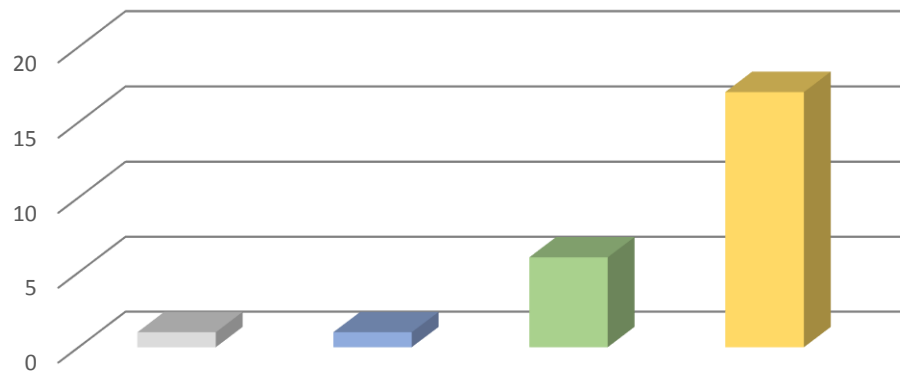
8. Multiple State Modelling

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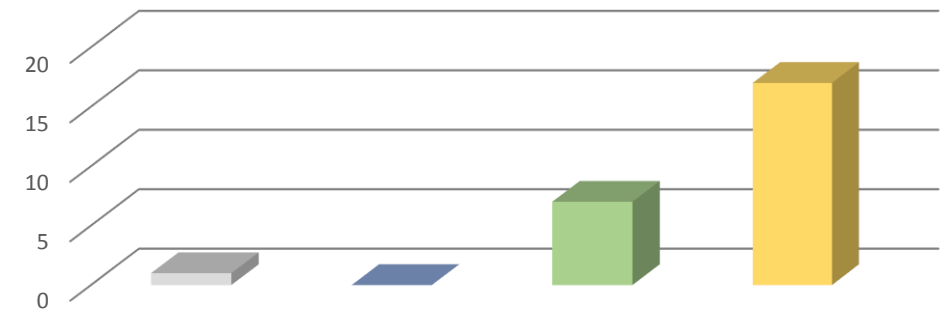
(a) Survival models and parameter estimation



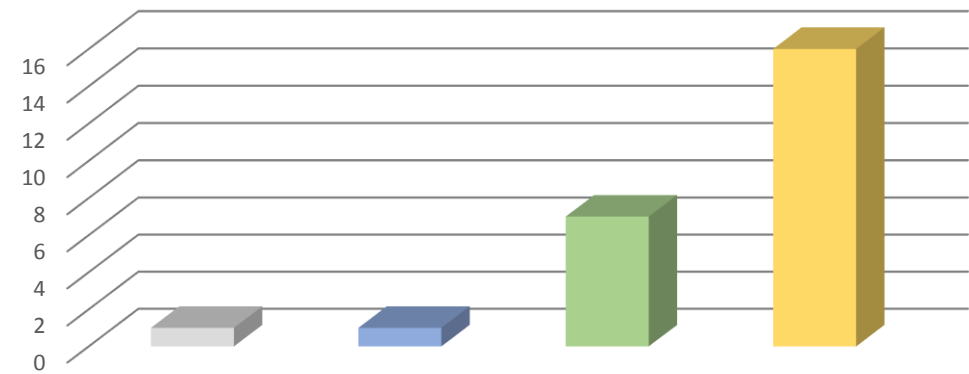
(b) Multiple state models and parameter estimation



(c) Construction of a decrement table



(d) Population characteristics and risk classification



Overview

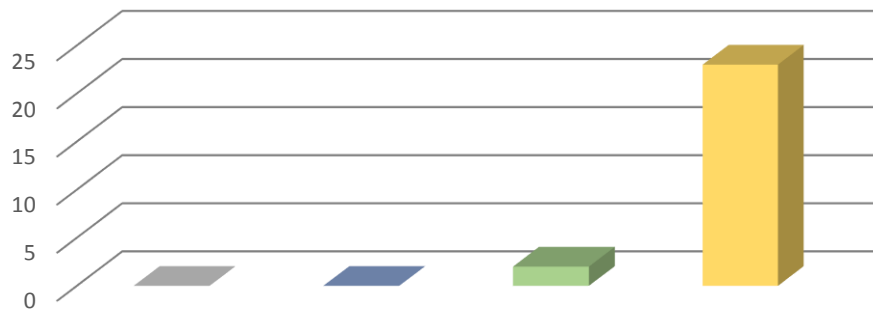
	arithmetic average rounded	estimated standard deviation	arithmetic average runded per group of required skills	estimated standard deviationper group of required skills
Multiple State Modelling				
(a) Survival models and parameter estimation	2,76	0,51	2,61	0,69
(b) Multiple state models and parameter estimation	2,56	0,75		
(c) Construction of a decrement table	2,60	0,69		
(d) Population characteristics and risk classification	2,52	0,75		

Actuarial Technical Subjects

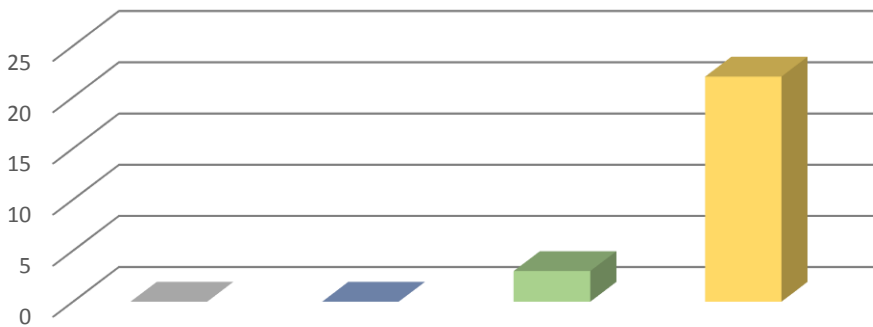
9. Contingencies

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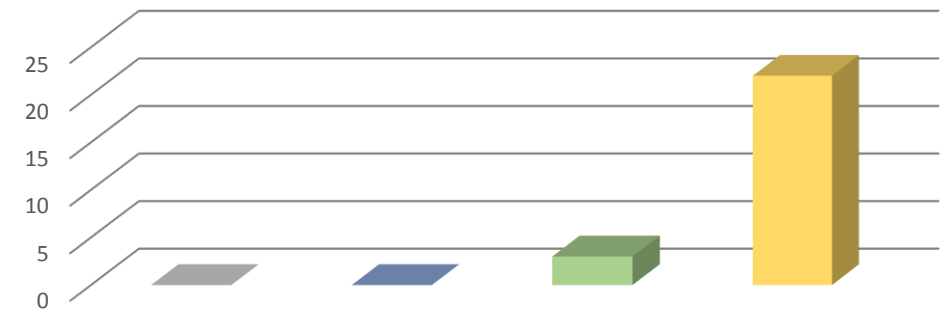
(a) Reserving methodology



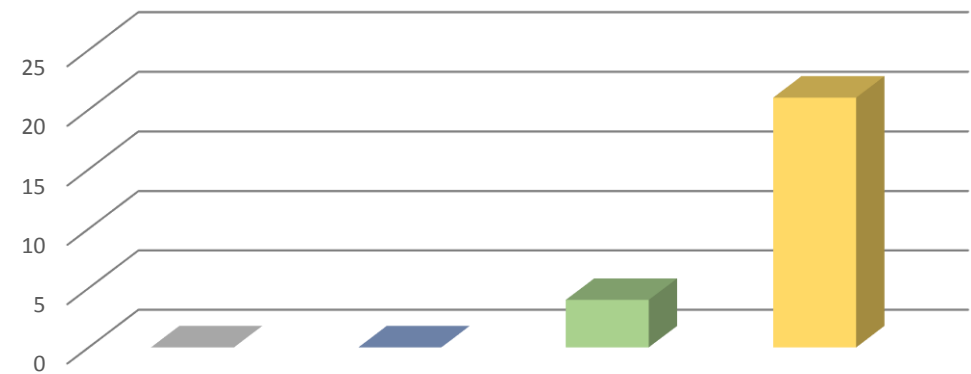
(b) Pricing of long term and short term insurance products



(c) Valuation techniques



(d) Analysis of changes in technical results



Overview

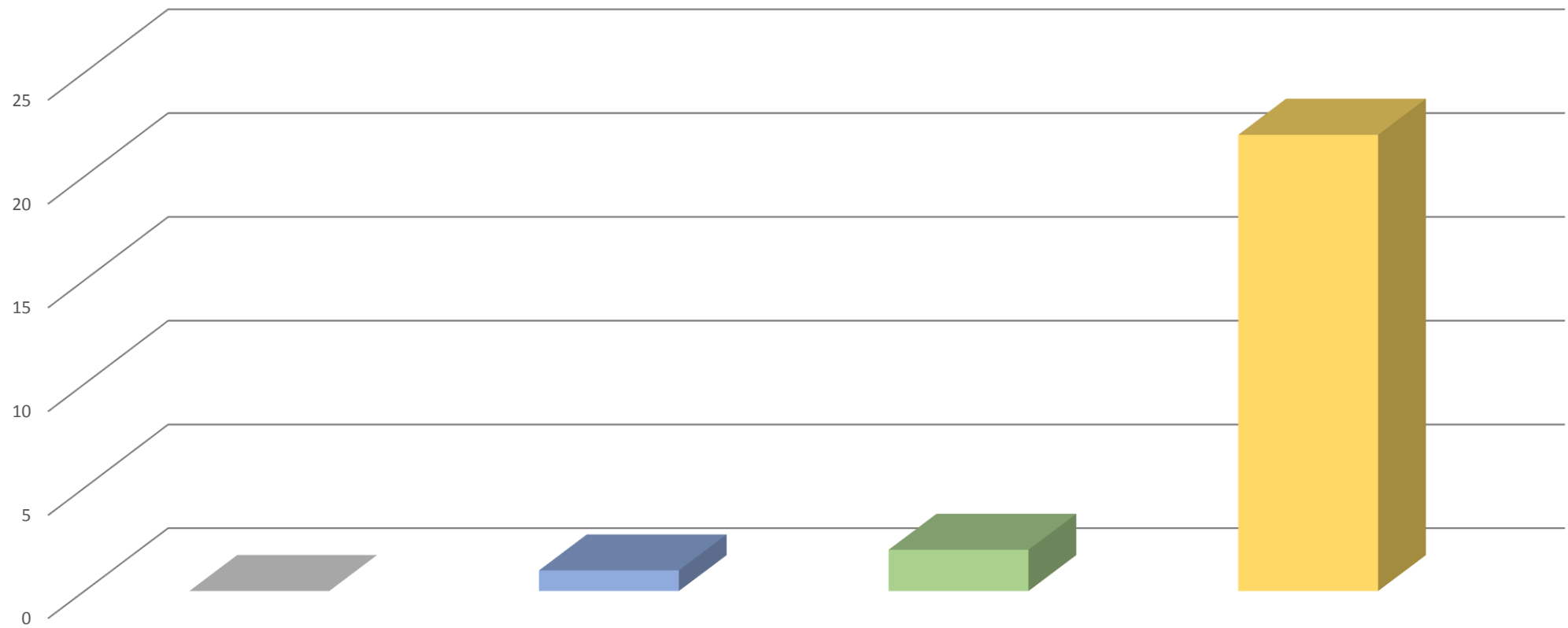
	arithmetic average rounded	estimated standard deviation	arithmetic average runded per group of required skills	estimated standard deviationper group of required skills
Contingencies				
(a) Reserving methodology	2,92	0,27	2,88	0,32
(b) Pricing of long term and short term insurance products	2,88	0,32		
(c) Valuation techniques	2,88	0,32		
(d) Analysis of changes in technical results	2,84	0,37		

Actuarial Technical Subjects

10. Risk Mathematics

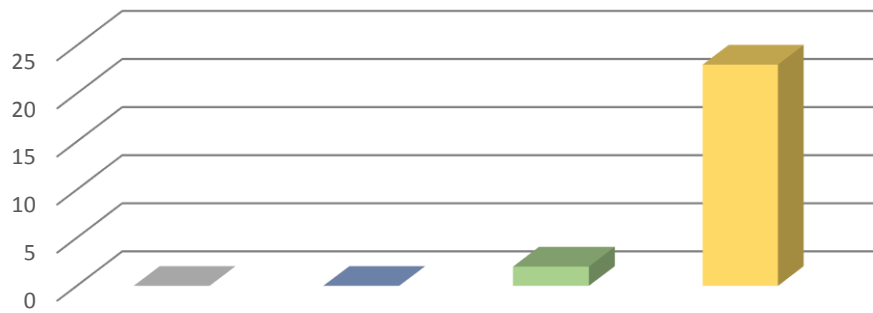
10. Risk Mathematics

(a) Distribution of frequency and severity of claims

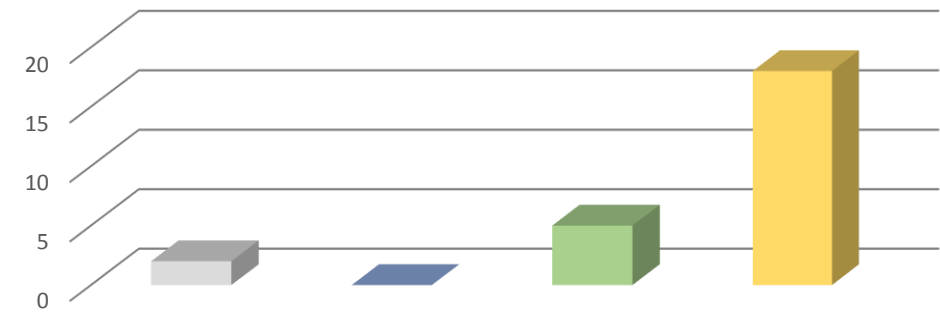


10. Risk Mathematics

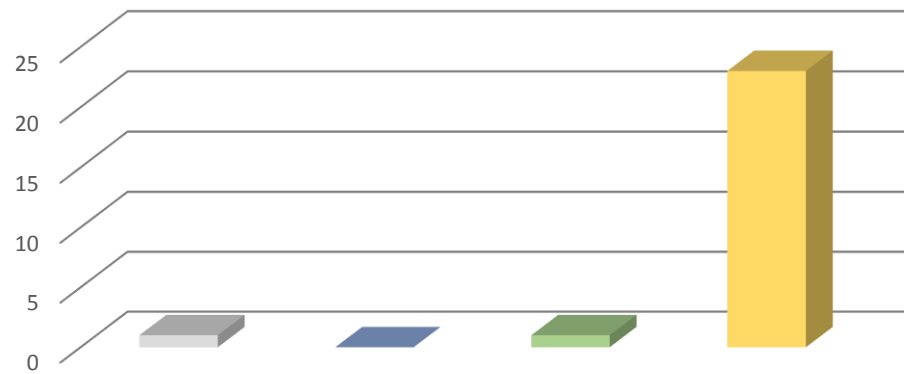
(b) Risk theory



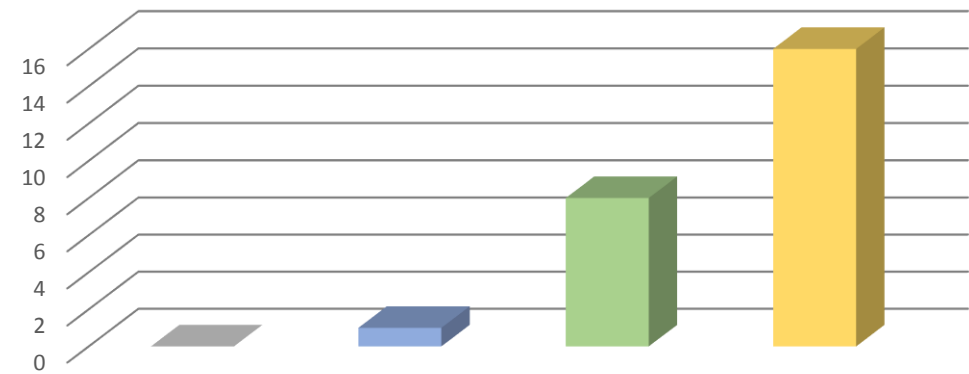
(d) Dependencies



(c) Credibility theory



(e) Generalised linear models



Overview

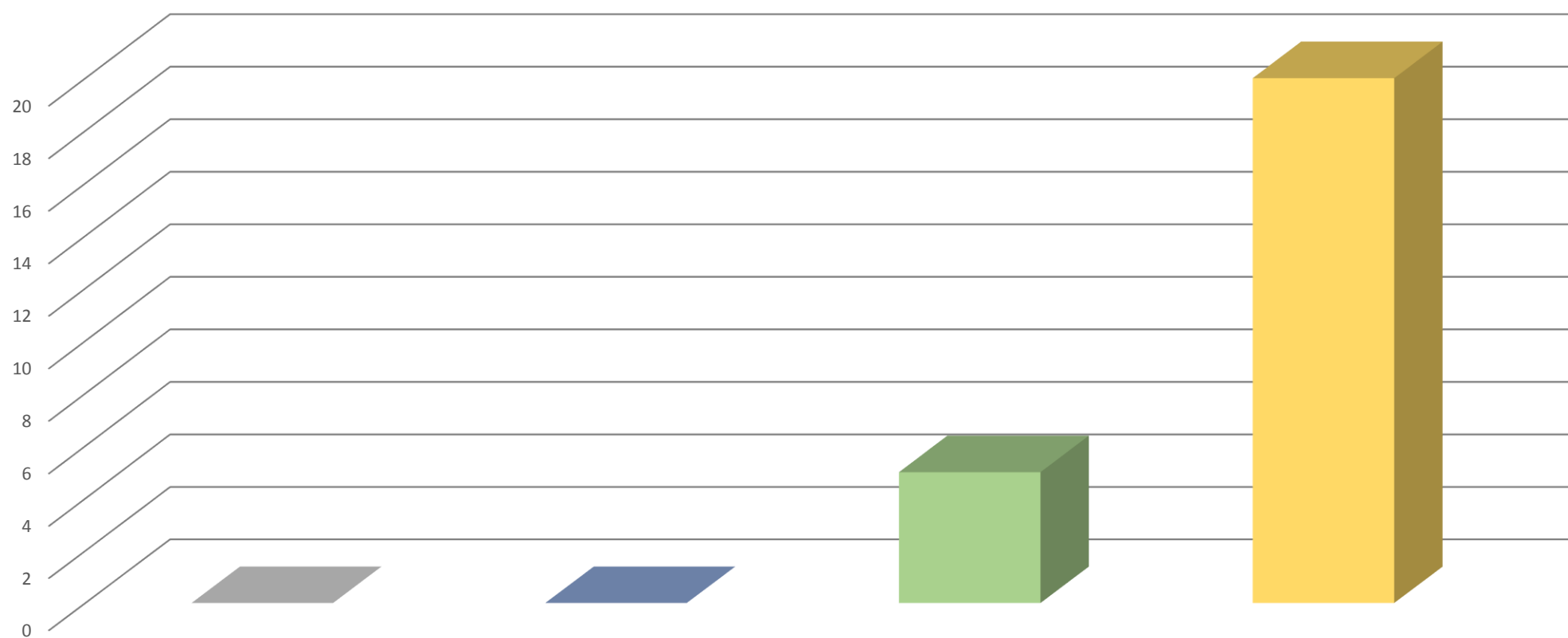
	arithmetic average rounded	estimated standard deviation	arithmetic average rounded per group of required skills	estimated standard deviation per group of required skills
Risk Mathematics				
(a) Distribution of frequency and severity of claims	2,84	0,46	2,75	0,60
(b) Risk theory	2,92	0,27		
(c) Credibility theory	2,84	0,61		
(d) Dependencies	2,56	0,85		
(e) Generalised linear models	2,6	0,57		

Actuarial Technical Subjects

11. Finance and Financial Markets

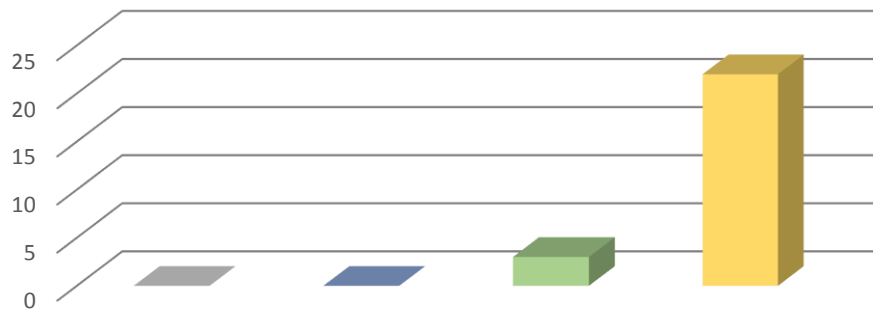
11. Finance and Financial Markets

(a) Financial markets

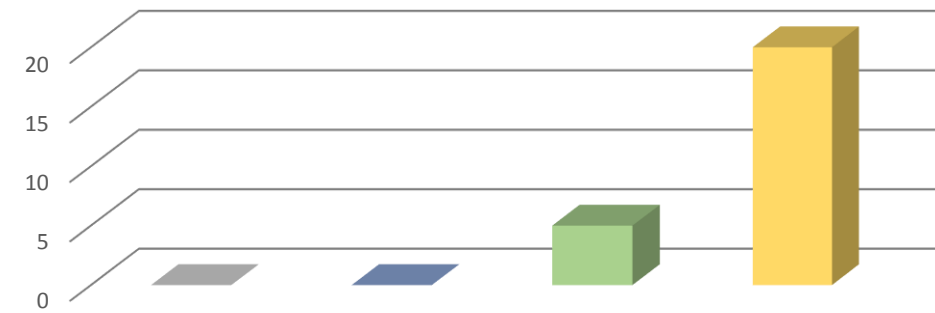


11. Finance and Financial Markets

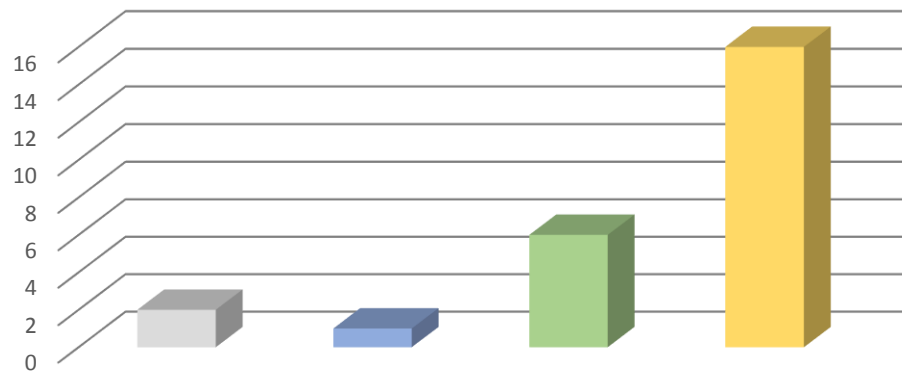
(b) Pricing and valuation of financial products



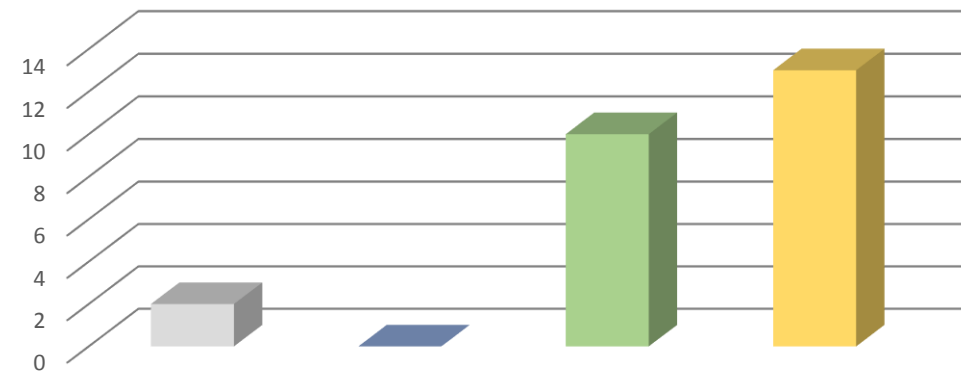
(d) Portfolio theory



(c) Corporate finance



(e) Economic value and measurement



Overview

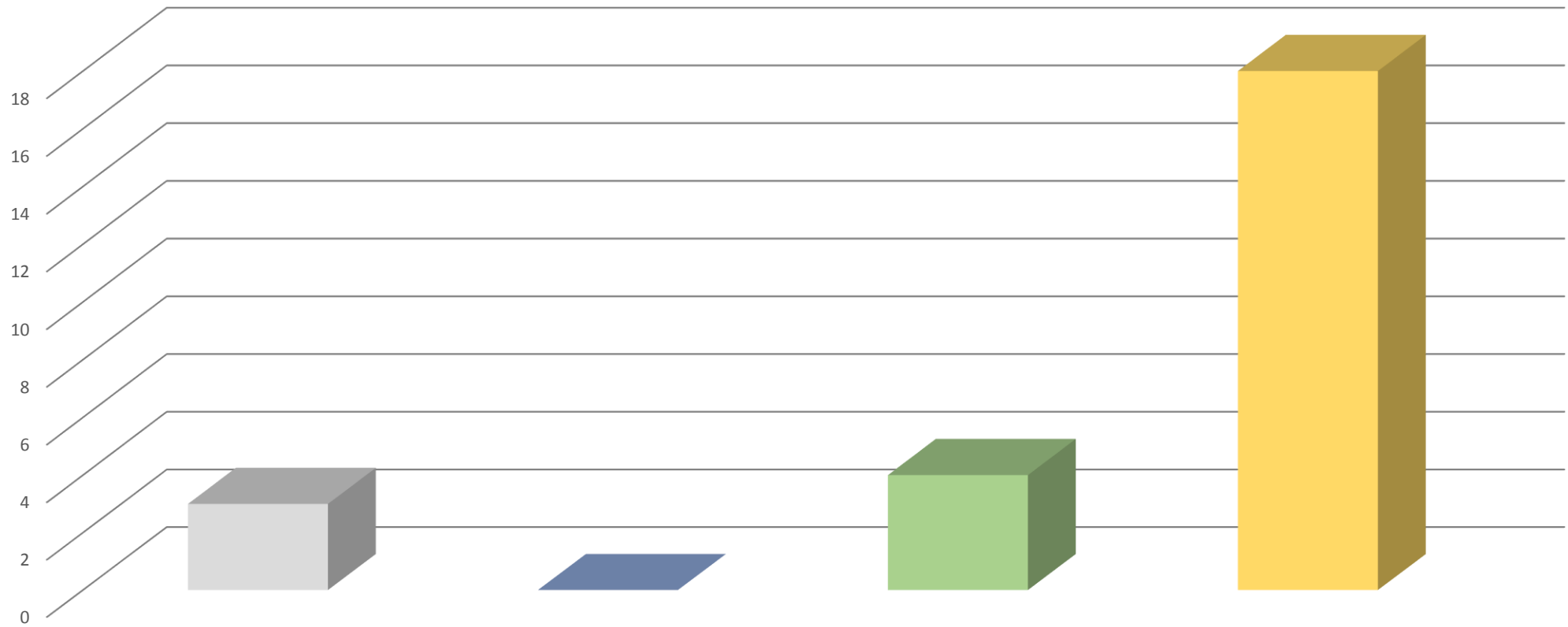
	arithmetic average rounded	estimated standard deviation	arithmetic average rounded per group of required skills	estimated standard deviation per group of required skills
Finance and Financial Markets				
(a) Financial markets	2,80	0,40	2,66	0,66
(b) Pricing and valuation of financial products	2,88	0,32		
(c) Corporate finance	2,44	0,90		
(d) Portfolio theory	2,80	0,40		
(e) Economic value and measurement	2,36	0,84		

Actuarial Technical Subjects

12. Quantitative Risk Management and Solvency

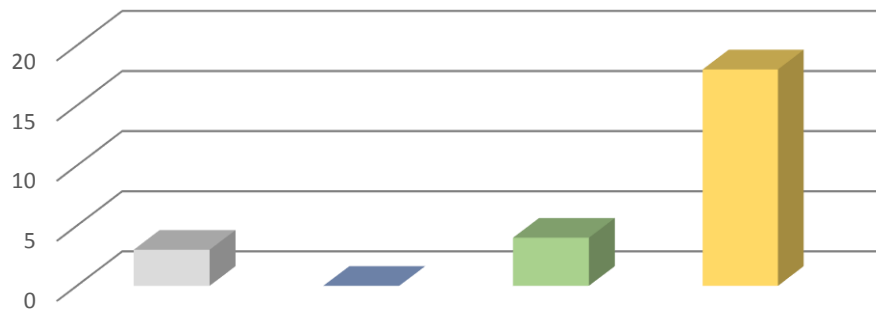
12. Quantitative Risk Management and Solvency

(a) Risk classification

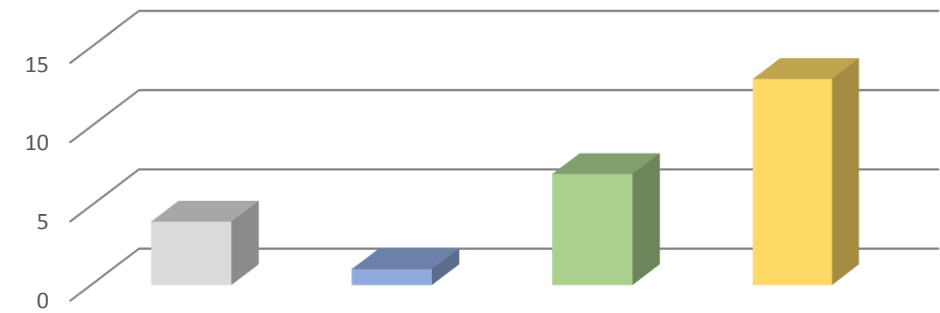


12. Quantitative Risk Management and Solvency

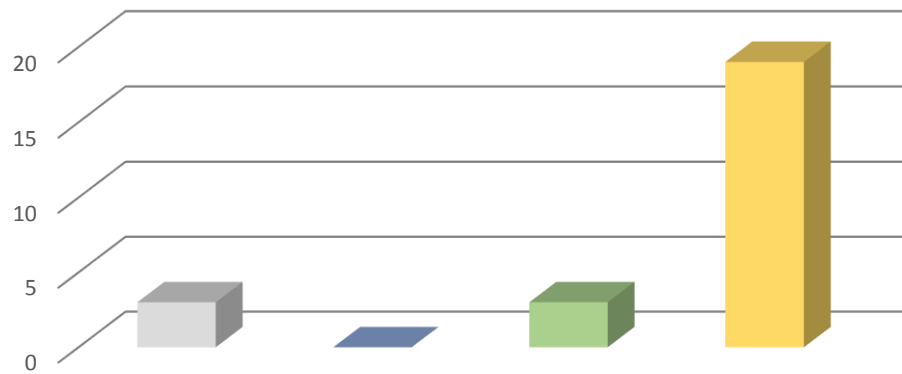
(b) Measuring risk



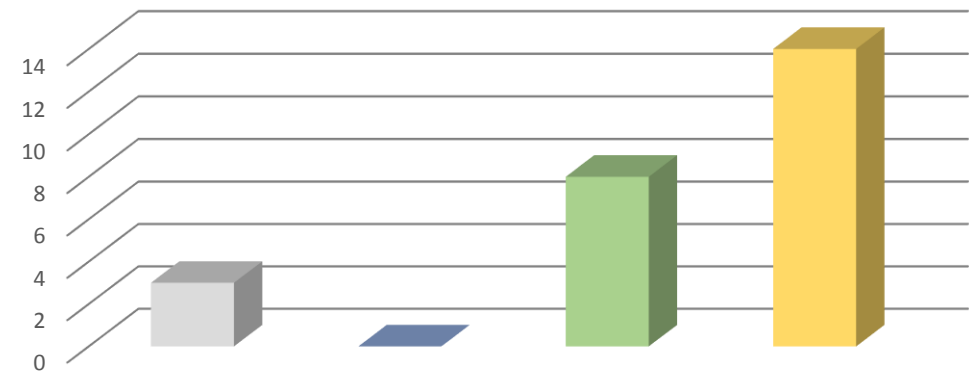
(d) Dynamic financial analysis and internal models



(c) Diversification



(e) Capital requirements



Overview

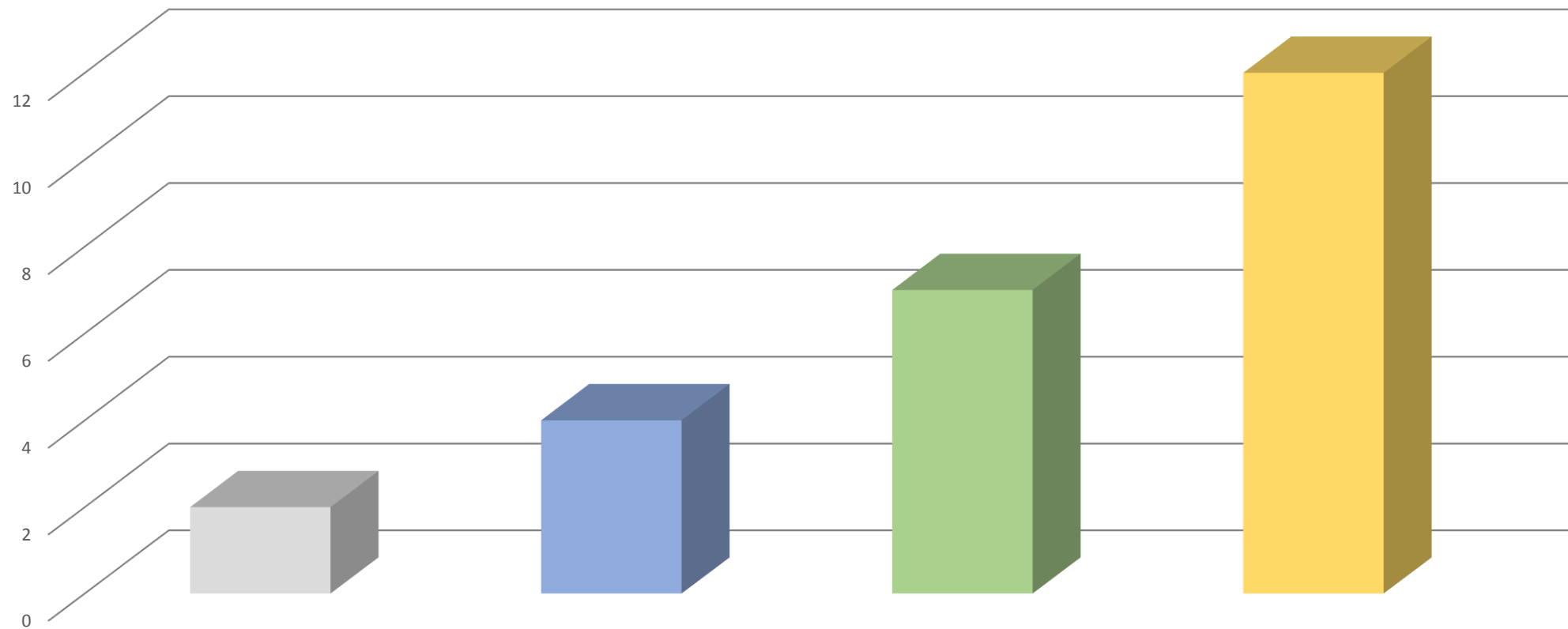
	arithmetic average rounded	estimated standard deviation	arithmetic average rounded per group of required skills	estimated standard deviation per group of required skills
Quantitative Risk Management and Solvency				
(a) Risk classification	2,48	0,98	2,39	1,01
(b) Measuring risk	2,48	0,98		
(c) Diversification	2,52	0,98		
(d) Dynamic financial analysis and internal models	2,16	1,08		
(e) Capital requirements	2,32	0,97		

Actuarial Applications

13. Actuarial Enterprise Risk Management

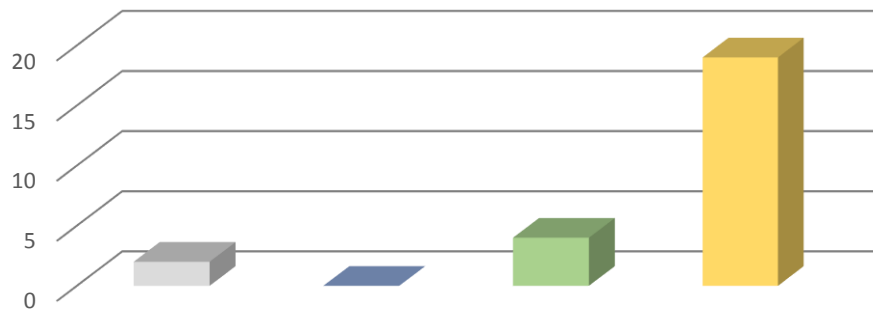
13. Actuarial Enterprise Risk Management

- The general operating environment of the enterprise

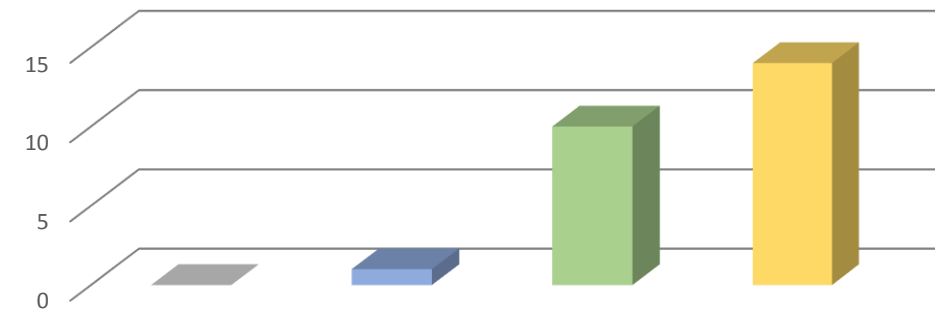


13. Actuarial Enterprise Risk Management

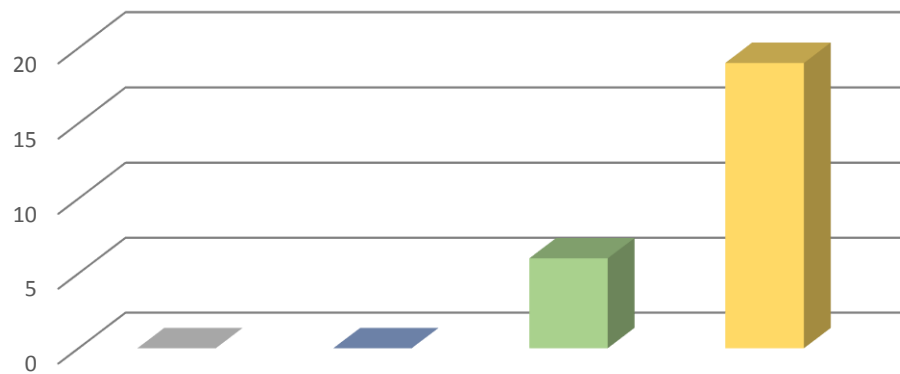
- Assessment of risks; risk types and risk measures



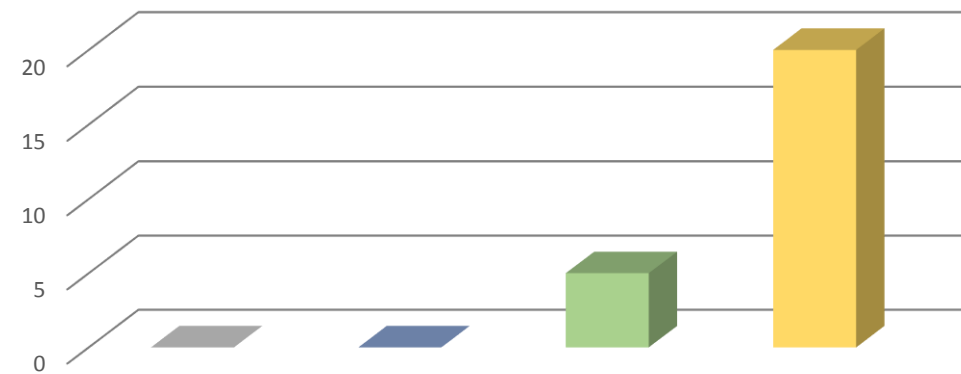
- Determination of assumptions and scenario setting



- Design and pricing of products and/or services

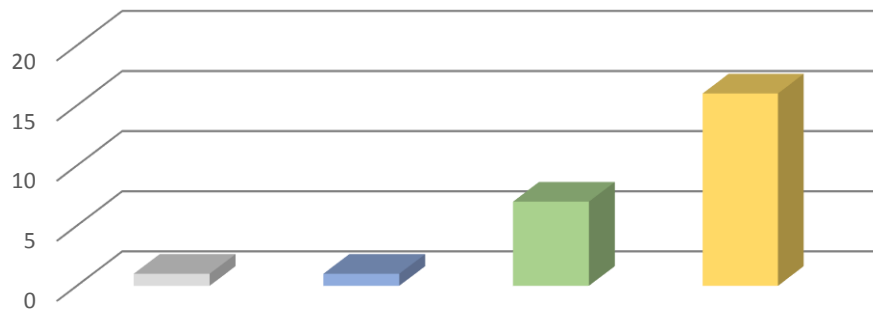


- Reserving and valuation of liabilities

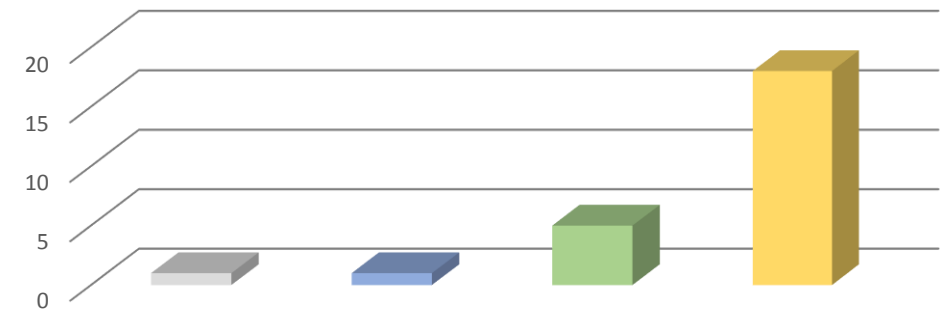


13. Actuarial Enterprise Risk Management

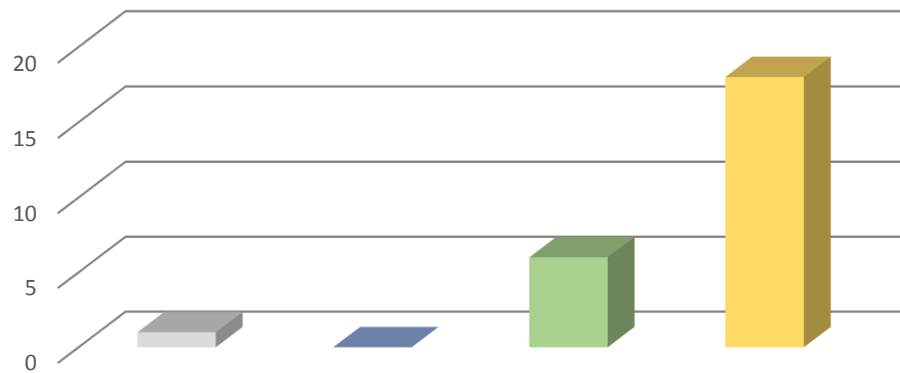
• Risk mitigation



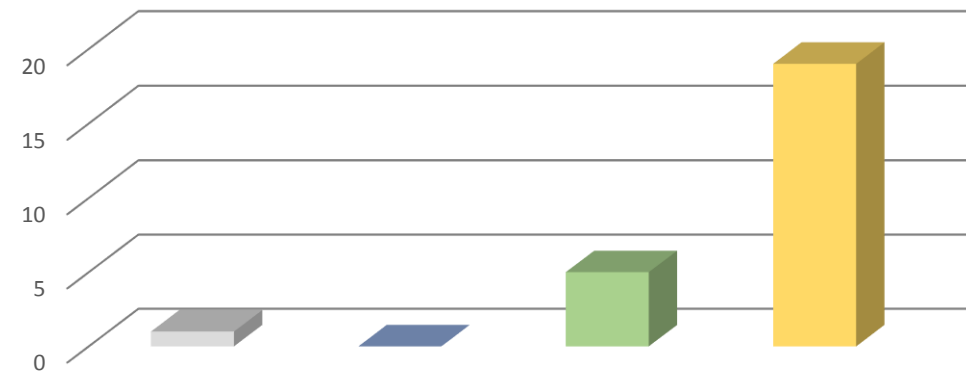
• Monitoring the experience and exposure to risk



• Asset Liability Management



• Solvency



Overview

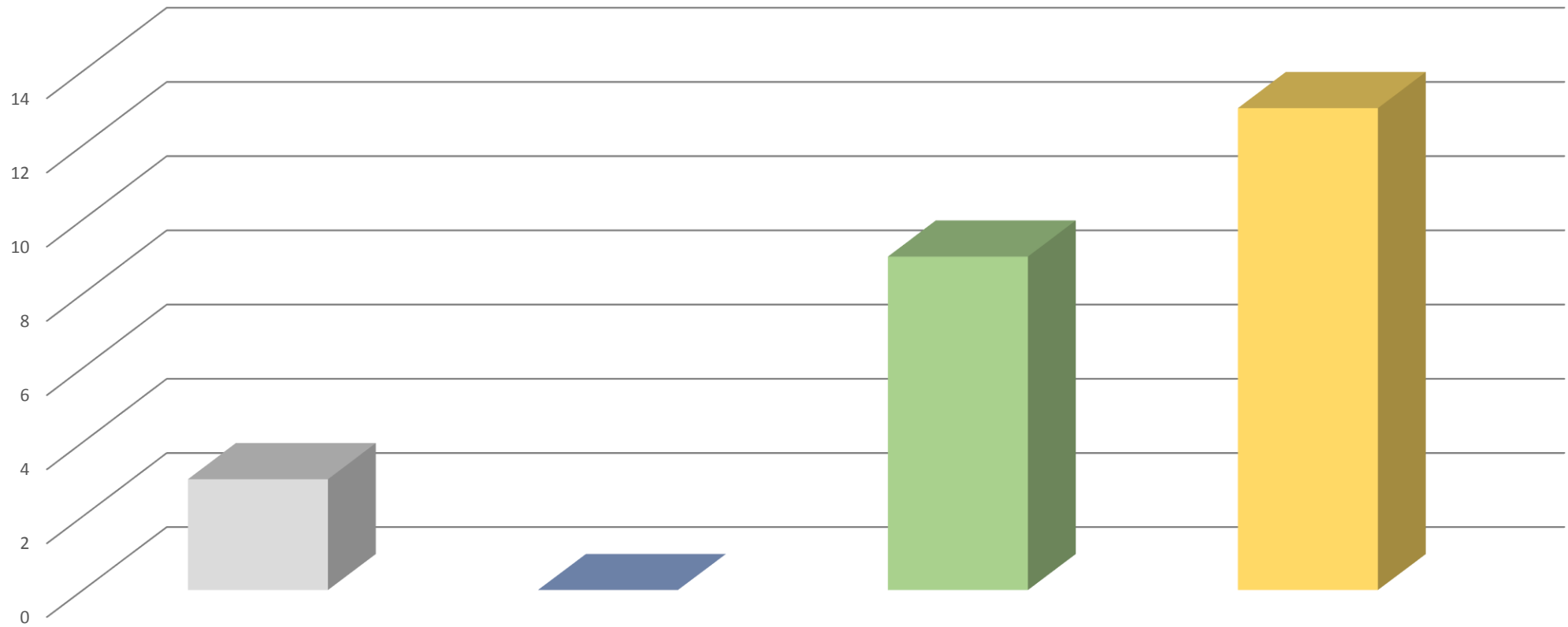
	arithmetic average rounded	estimated standard deviation	arithmetic average rounded per group of required skills	estimated standard deviation per group of required skills
Actuarial Enterprise Risk Management				
• The general operating environment of the enterprise	2,16	0,97	2,59	0,72
• Assessment of risks; risk types and risk measures	2,60	0,85		
• Design and pricing of products and/or services	2,76	0,43		
• Determination of assumptions and scenario setting	2,52	0,57		
• Reserving and valuation of liabilities	2,80	0,40		
• Risk mitigation	2,52	0,75		
• Asset Liability Management	2,64	0,69		
• Monitoring the experience and exposure to risk	2,60	0,75		
• Solvency	2,68	0,68		

Actuarial Applications

14. Professionalism

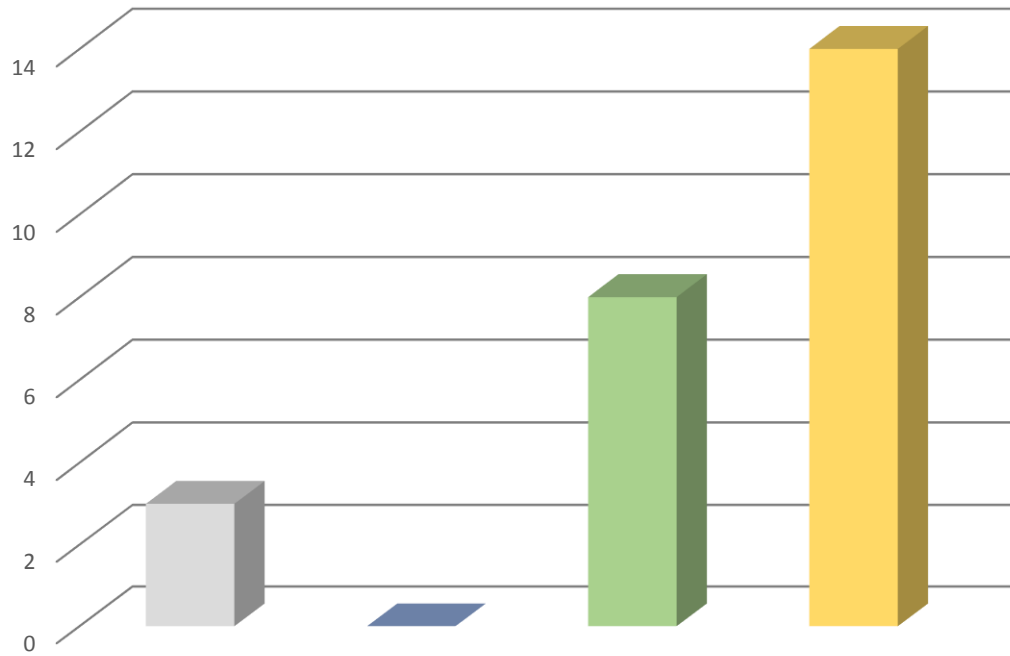
14. Professionalism

- Conduct standards and discipline

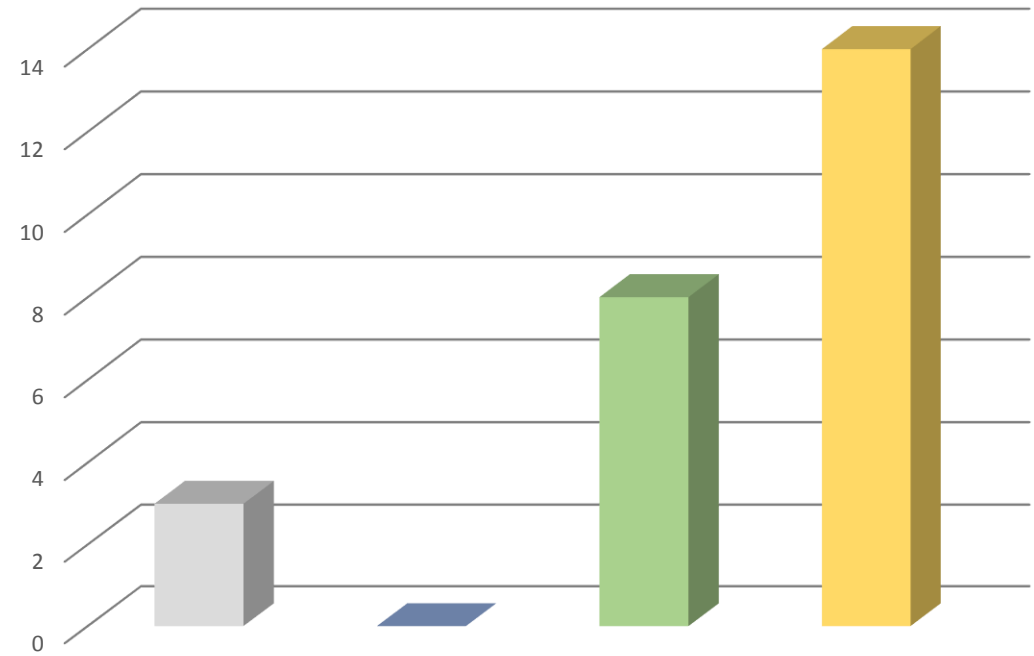


14. Professionalism

• Professional Standards



• Professionalism and business ethics



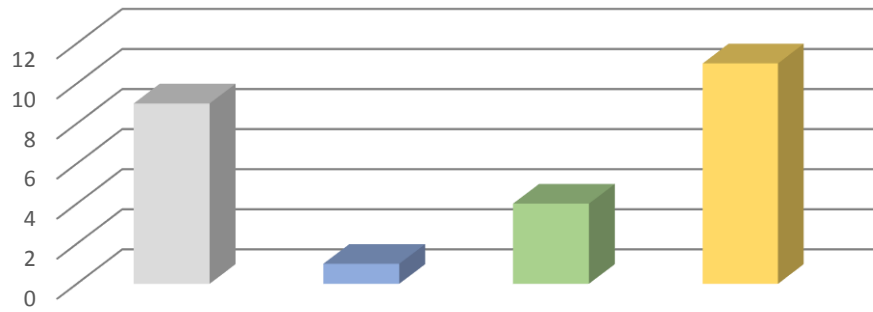
Overview

	arithmetic average rounded	estimated standard deviation	arithmetic average runded per group of required skills	estimated standard deviationper group of required skills
Professionalism				
• Conduct standards and discipline	2,28	0,96	2,31	0,97
• Professional Standards	2,32	0,97		
• Professionalism and business ethics	2,32	0,97		

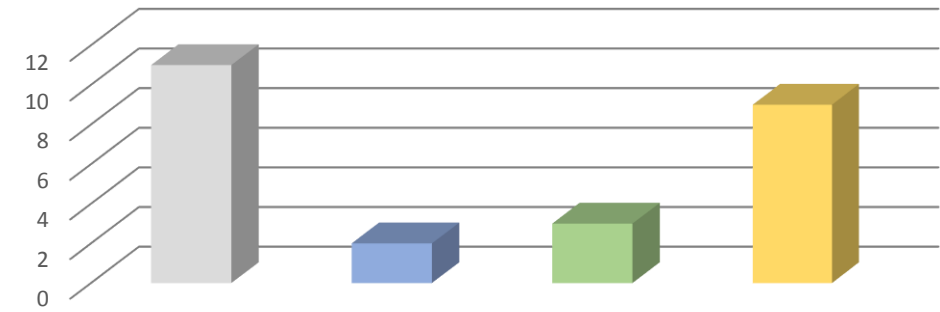
Specialisation

Specialisation

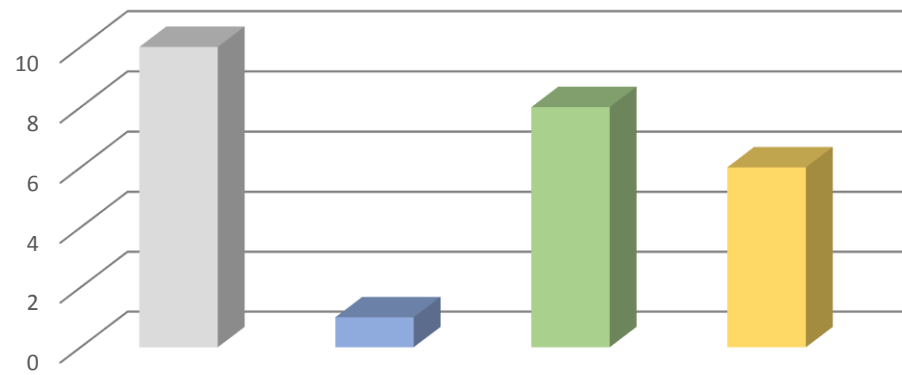
(a) Deeper studies



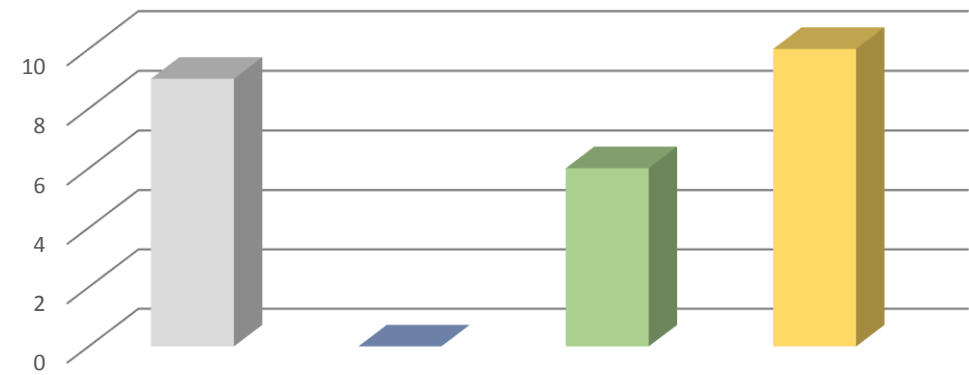
(c) Research



(b) Studies of European and country specific topics



(d) Practical application of principles



Overview

	arithmetic average rounded	estimated standard deviation	arithmetic average runded per group of required skills	estimated standard deviationper group of required skills
Specialisation				
(a) Deeper studies	1,68	1,35	1,54	1,32
(b) Studies of European and country specific topics	1,40	1,23		
(c) Research	1,40	1,36		
(d) Practical application of principles	1,68	1,32		