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Greek financial market returns

The full history since 1880

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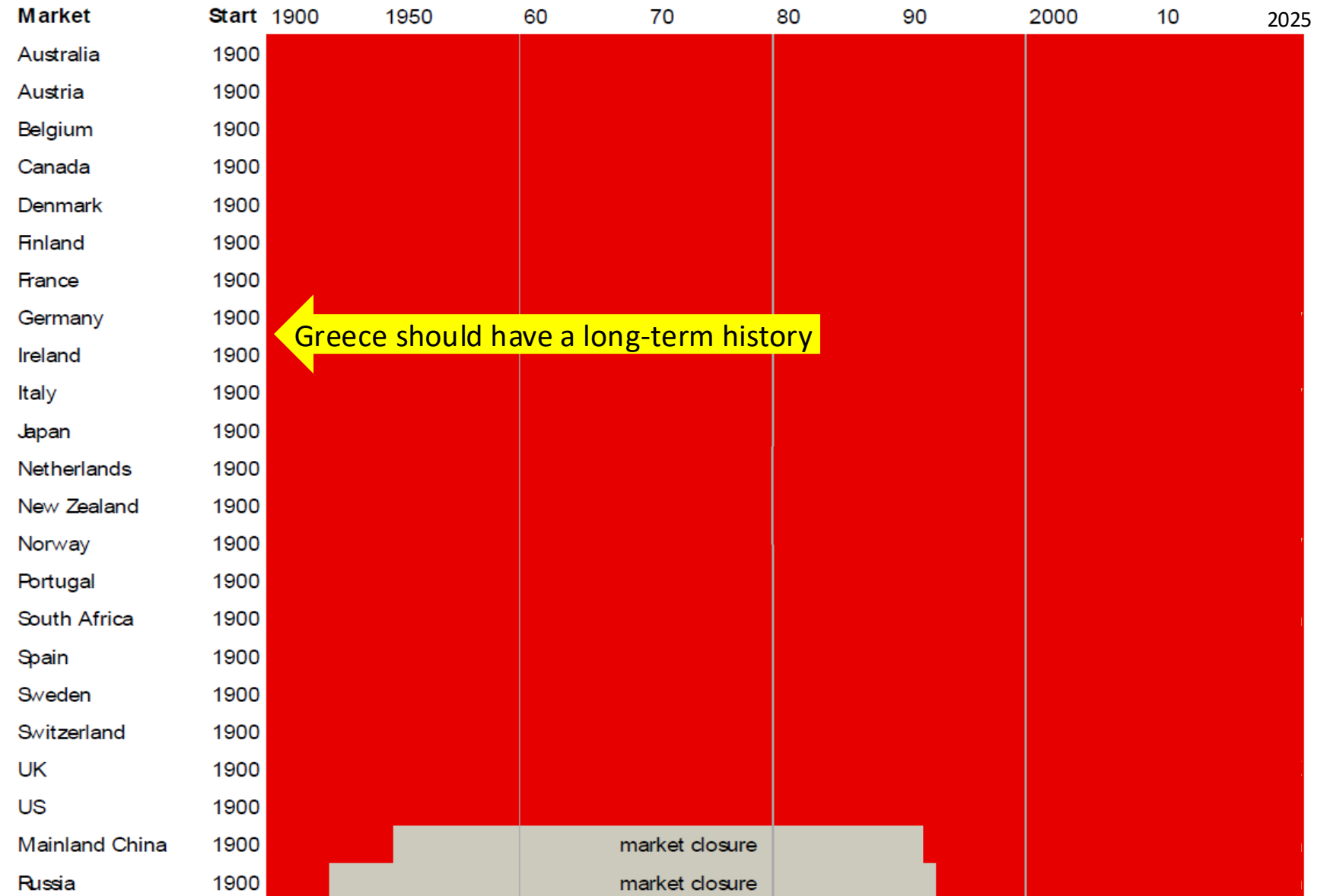
Presented at Deree School of Economics and Business – The American College of Greece

Why study financial market history?



“The longer you can
look back, the farther
you can look
forward” *Winston
Churchill*

The DMS dataset



Greece's market is not new: it merits inclusion

Economic History Review, 70, 3 (2017), pp. 859–892

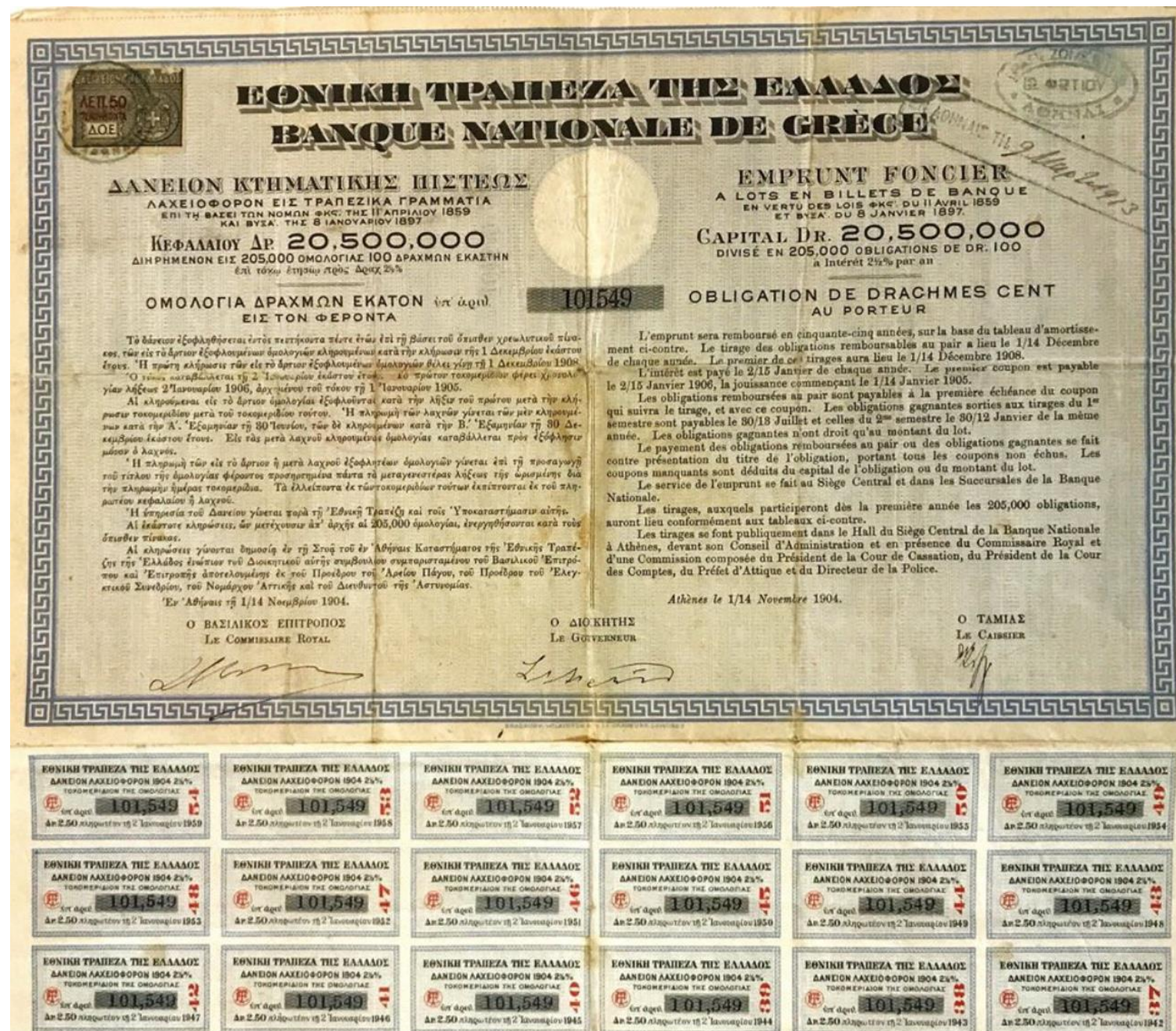
Innovation and upheaval: early growth in Greek capital market listings and IPOs from 1880 to the Second World War in the Athens Stock Exchange[†]

By STAVROS THOMADAKIS, DIMITRIOS GOUNOPOULOS, CHRISTOS NOUNIS, and MICHALIS RIGINOS*

The establishment and growth of the Greek stock market were coincident with development episodes, financial upheavals, and geographic expansions of the country's economy over the period 1880–1940. This article explores the growth of the Athens Stock Exchange through new listings and initial public offerings (IPOs) in the late nineteenth and early twentieth centuries. We examine changes in exchange governance and listing requirements. On a theme not addressed before, we find that simple listings were far more numerous than actual IPOs. IPOs in Greece remained unregulated throughout the period. Their underpricing became pronounced in the later parts of the period, especially the 1920s. The study presents data on 'quasi-IPOs' (that is, capital increases shortly after listing) and shows that they offer a more accurate assessment of the demand for the financing of listing firms in an emerging market. Robust evidence is presented to show that as the Exchange developed it also underwent a change in character, becoming more oriented to the domestic market and catering to smaller firms in domestic manufacturing in the post-First World War era that marked the end of early globalization.

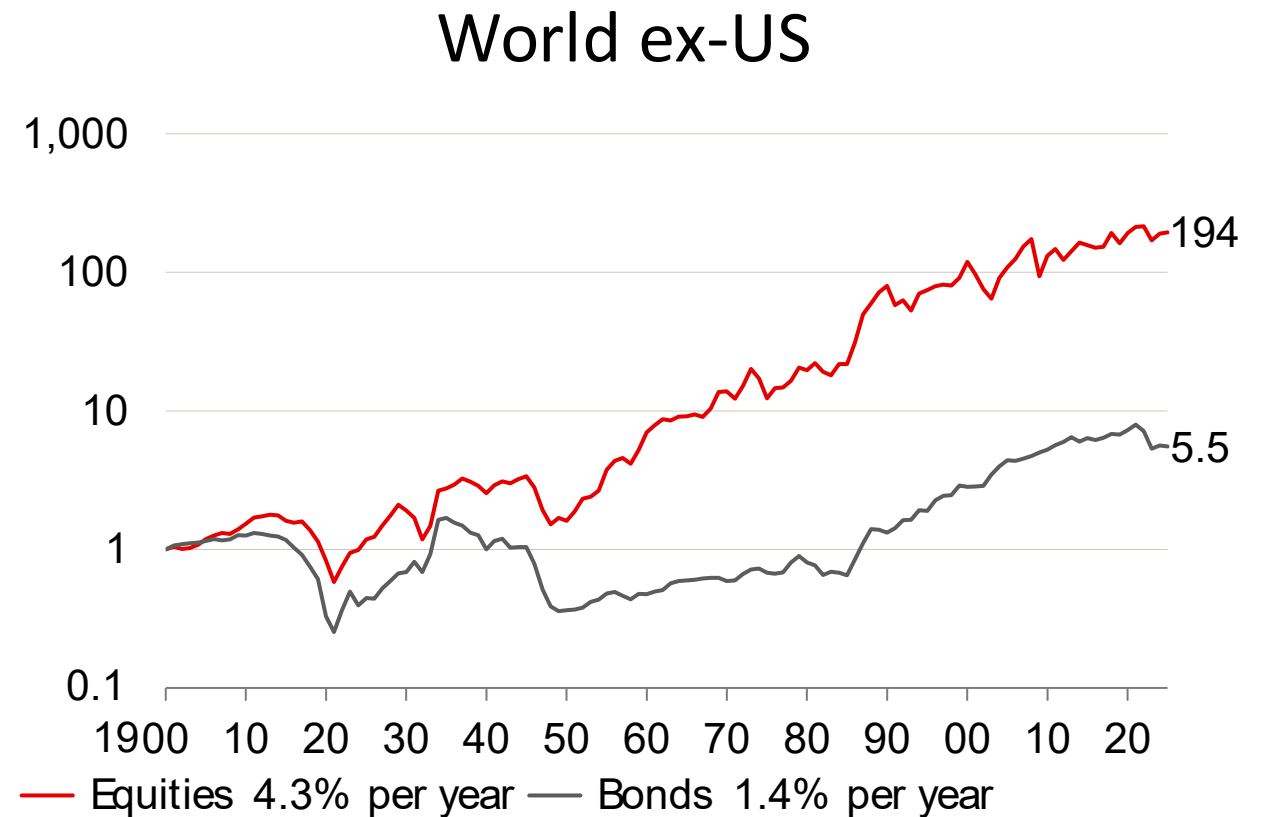
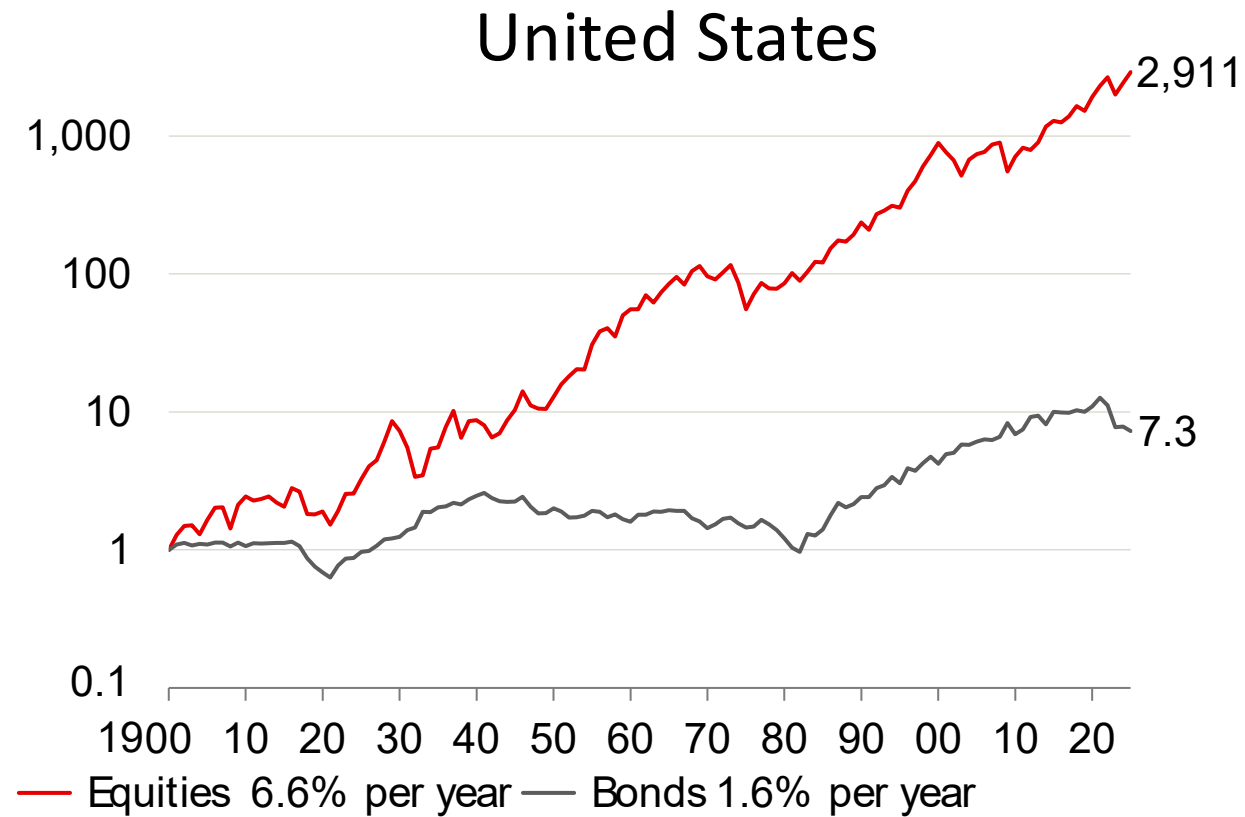
The object of this article is to study listings and public offerings of securities on the Athens Stock Exchange (ASE) from its inception in 1880 to the entry of Greece into the Second World War in 1940. No previous comparable research exists for the growth of the Greek Stock Exchange. This is a first study of capital raising

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Success bias

Cumulative performance in real terms



Real terminal wealth from US (15x greater than non-US) is not a guide to local returns

Long-Run Asset Returns

David Chambers,^{1,2} Elroy Dimson,^{1,3} Antti Ilmanen,⁴
and Paul Rintamäki⁵

Abstract

The literature on long-run asset returns is particularly significant given the large body of evidence on the benefits of long-term investing in stocks, bonds, and other asset classes. This paper reviews the best practice for estimating these risk premiums and prepares estimates of the long-run returns to major asset classes. We also discuss some promising directions for future research.

Good indices should

- avoid biases (easy-data, survival, etc)
- be macro-consistent
- be replicable
- measure total returns (incl. dividends)

and steadily, particularly in this expanding asset classes—on, we discuss suggestions on magnitude of and we compare by proposing

Macroconsistency

Buy 10 stocks for 10 guilders each



One of the stocks halves



Next day, the stock recovers to 10 guilders



Amsterdam's EW index:

1983 base value = 100

The EW index was not macro-consistent and violated Dutch law; it was replaced

Return = -50% for the one share

other shares are unchanged

Return = -5% for the EW index portfolio

Index = $100 - 5\% = 95$

Return = +100% for the one share

other shares are unchanged

Return = +10% for the EW index portfolio

Index = $95 + 10\% = 104.5$

Replicability



Impact on FT30 share?

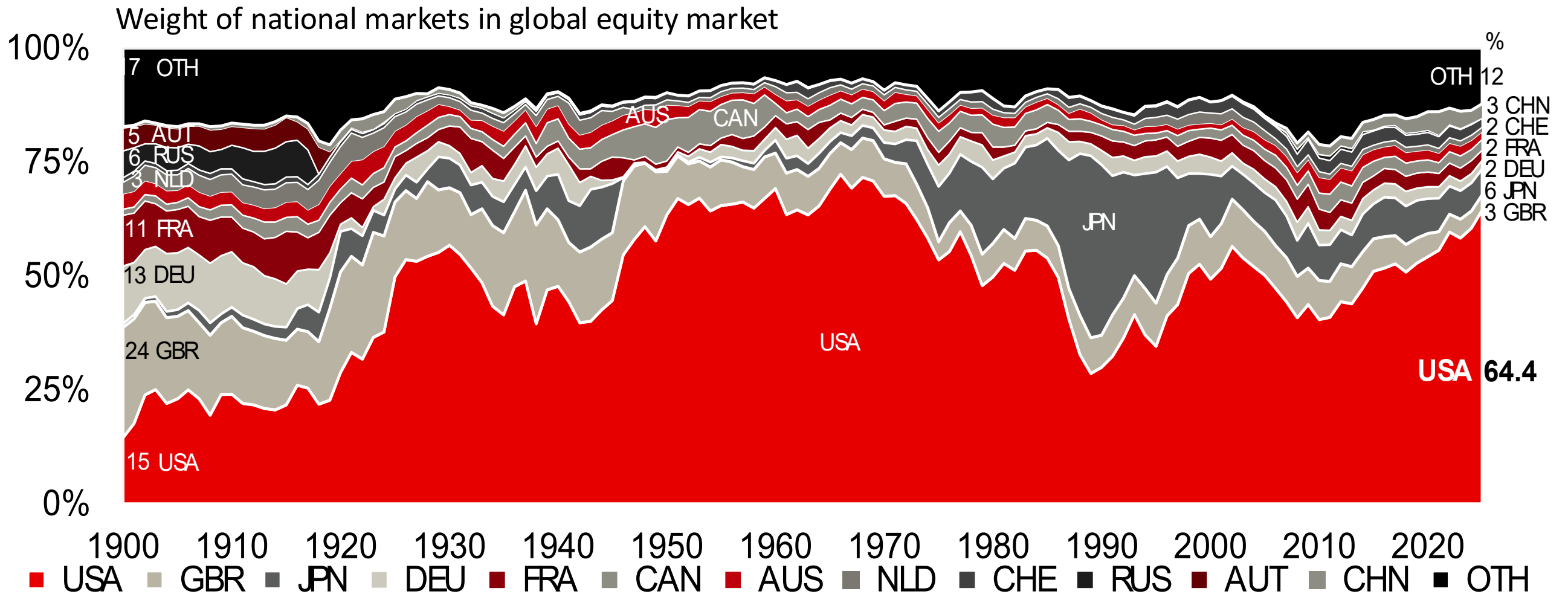
$$\text{Index return} = {}^{30}\sqrt{(1 + R_1)(1 + R_2) \dots (1 + R_{30})} - 1$$

$$= {}^{30}\sqrt{(1 + R_1)(1 + R_2) \dots (1 - 1)} - 1$$

$$= -100\%$$

One bankruptcy drives the index to zero. Many researchers have relied on this flawed index

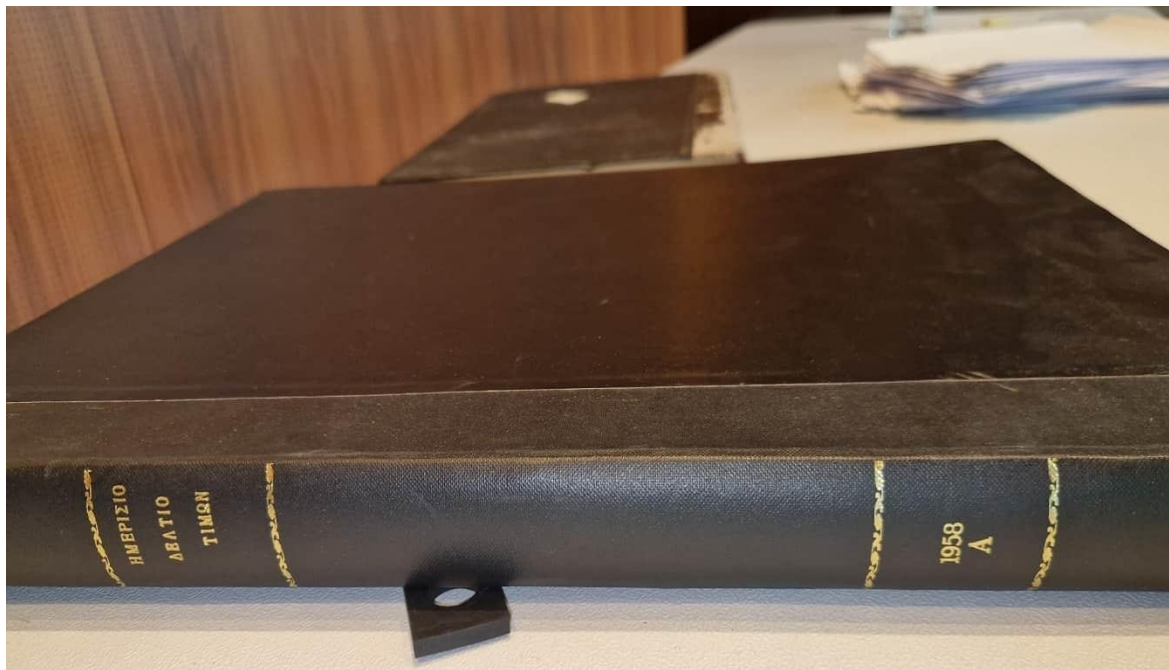
Success bias



US has exceptional weight: 64.4% of entire world and 72.6% of developed markets

Our stock market data for Greece

- 1841-80 (pre-history): NBG stock issues and dividends from Valaoritis (1902)
- 1881-1925: Equal-weighted total return index estimated by Michalis Riginos
- 1926-1995: Individual stock data from ASE transcribed by Spyros Skouras



ΕΤΟΣ 51^{ον}
ΑΥΞ. ΑΡΙΘΜ. 293

ΧΡΗΜΑΤΙΣΤΗΡΙΟΝ ΑΘΗΝΩΝ
ΕΠΙΣΗΜΟΝ ΔΕΛΤΙΟΝ ΤΙΜΩΝ
BOURSE D'ATHÈNES-COTE OFFICIELLE
MERCREDI 31 DECEMBRE 1930

51^η ANNÉE N° 293

ΟΜΟΛΟΓΙΑ ΕΘΝΙΚΩΝ ΔΑΝΕΙΩΝ Α) ΕΙΣ ΧΡΥΣΟΝ	ΤΙΜΑΙ ΠΡΩΤΗΣ ΣΥΝΕΔΡΙΑΣΕΩΣ COURS DE SEANCE DU MATIN		ΤΙΜΑΙ ΔΕΥΤΕΡΗΣ ΣΥΝΕΔΡΙΑΣΕΩΣ COURS DE SEANCE DU SOIR		ΔΕΣΙΓΝΑΤΙΟΝ ΤΩΝ ΑΞΙΩΝ DESIGNATION DES VALEURS	
	ΑΝΟΤΑΤΗ PLUS BAS	ΑΝΟΤΑΤΗ PLUS HAUT	ΑΝΟΤΑΤΗ PLUS BAS	ΑΝΟΤΑΤΗ PLUS HAUT	ΑΝΟΤΑΤΗ PLUS BAS	ΑΝΟΤΑΤΗ PLUS HAUT
10000000	145.00	145.00	145.00	145.00	10000000	145.00
5000000	145.00	145.00	145.00	145.00	5000000	145.00
1000000	145.00	145.00	145.00	145.00	1000000	145.00
500000	145.00	145.00	145.00	145.00	500000	145.00
100000	145.00	145.00	145.00	145.00	100000	145.00
50000	145.00	145.00	145.00	145.00	50000	145.00
10000	145.00	145.00	145.00	145.00	10000	145.00
5000	145.00	145.00	145.00	145.00	5000	145.00
1000	145.00	145.00	145.00	145.00	1000	145.00
500	145.00	145.00	145.00	145.00	500	145.00
100	145.00	145.00	145.00	145.00	100	145.00
50	145.00	145.00	145.00	145.00	50	145.00
10	145.00	145.00	145.00	145.00	10	145.00
5	145.00	145.00	145.00	145.00	5	145.00
1	145.00	145.00	145.00	145.00	1	145.00

Source: Athens Stock Exchange

Our stock market data for Greece

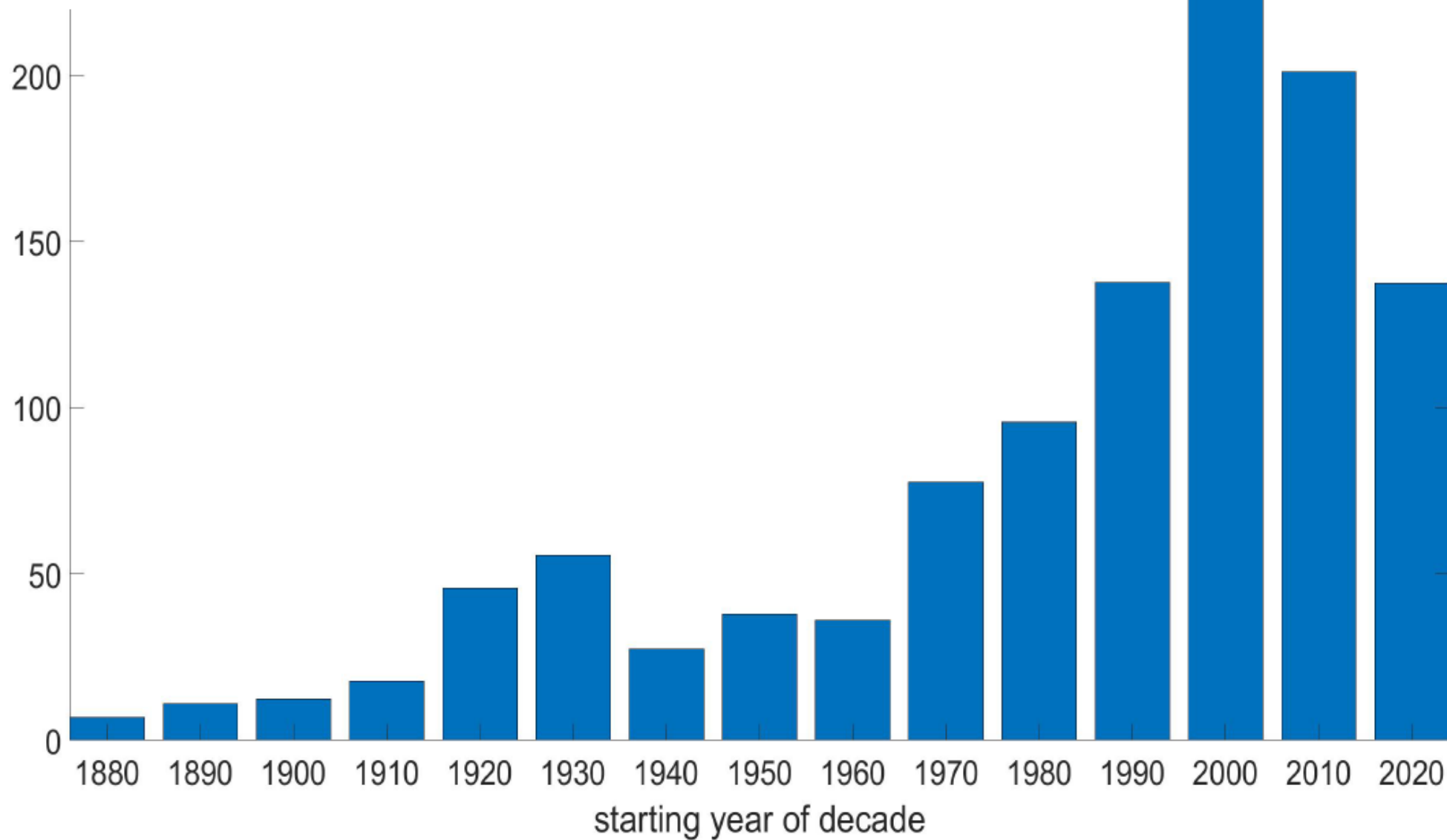
- 1841-80: NBG stock issues & dividends (Valaoritis, 1902)
- 1881-1925: EW return index estimated by Michalis
- 1926-95: Stock/bond data transcribed by Spyros Skouras
- 1996 onward: Extended using data from DataS Landis-Skouras (2021)



VALEUR NOMINALE	ΠΟΣΗΝ ΤΙΤΛΩΝ ΕΝ ΚΥΚΛΟΦΟΡΙΑ, (°)	ΜΟΝΤΑΝΤ DE TITRES EN CIRCULATION	ΤΟΚΟΜΕΡΙΑ ΚΑΙ ΜΕΡΙΣΜΑΤΑ ΣΥΝΔΙΚΑ ΚΡΗΣΕΩΣ 1928	COUPONS EXERCICE 1928	ΤΟΚΟΜΕΡΙΑ ΚΑΙ ΜΕΡΙΣΜΑΤΑ ΣΥΝΔΙΚΑ ΚΡΗΣΕΩΣ 1929	COUPONS EXERCICE 1929	ΤΟΚΟΜΕΡΙΑ ΚΑΙ ΜΕΡΙΣΜΑΤΑ Σ' ΕΞΑΜΗΝΙΑΣ 1930	COUPONS 1ER SEMESTRE 1930	ΧΡΟΝΟΛΟΓΙΑ ΠΑΡΑΦΩΝΗΣ ΤΕΛΕΥΤΑΙΟΥ ΜΕΡΙΣΜΑΤΟΣ	DATE DU DERNIER COUPON PAYE
500	145061		29. —	22. 60	18. 50	1- 7-30				
500	126178		29. —	22. 50	18. 50	1- 7-30				
500	195753		25. 40	20. —	15. 70	1- 7-30				
500	217343		30. —	18. 40	3. 20	1- 10-30				
500	82690		37. 50	22. 50	4. —	15-12-30				
500	13397		37. 50	23. —	4. —	1- 10-30				
1500	27715		82. 50	82. 50	31. 25	1- 10-30				
500	108039		20. —	20. —	10. —	1- 7-30				
100	134140		5. —	5. —	2. 50	14- 7-30				
500	183367		20. —	20. —	10. —	1- 10-30				
500	800875		25. —	25. —	12. 50	1- 9-30				
20-1-	482050		1 5. 0	1. 8. 0	0. 14 0	1- 11-30				
500	21206		35. —	35. —	17. 50	1- 11-30				
1000	10000		80. —	80. —	40. —	1- 10-30				
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500	33779		30. —	30. —	15. —	1- 8-30				

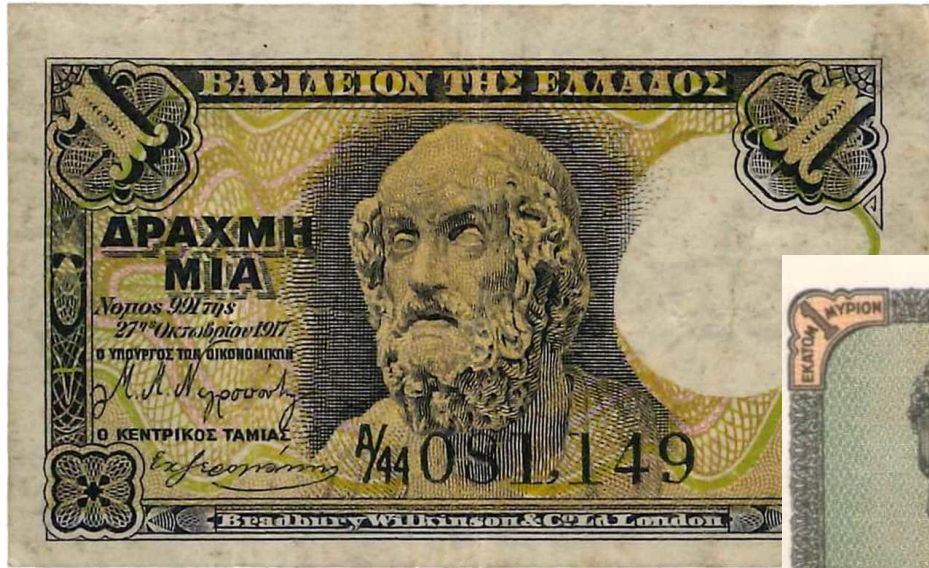
Index composition

Number of common
stocks in the index



Currency debasement

1 drachma



1 million drachmae

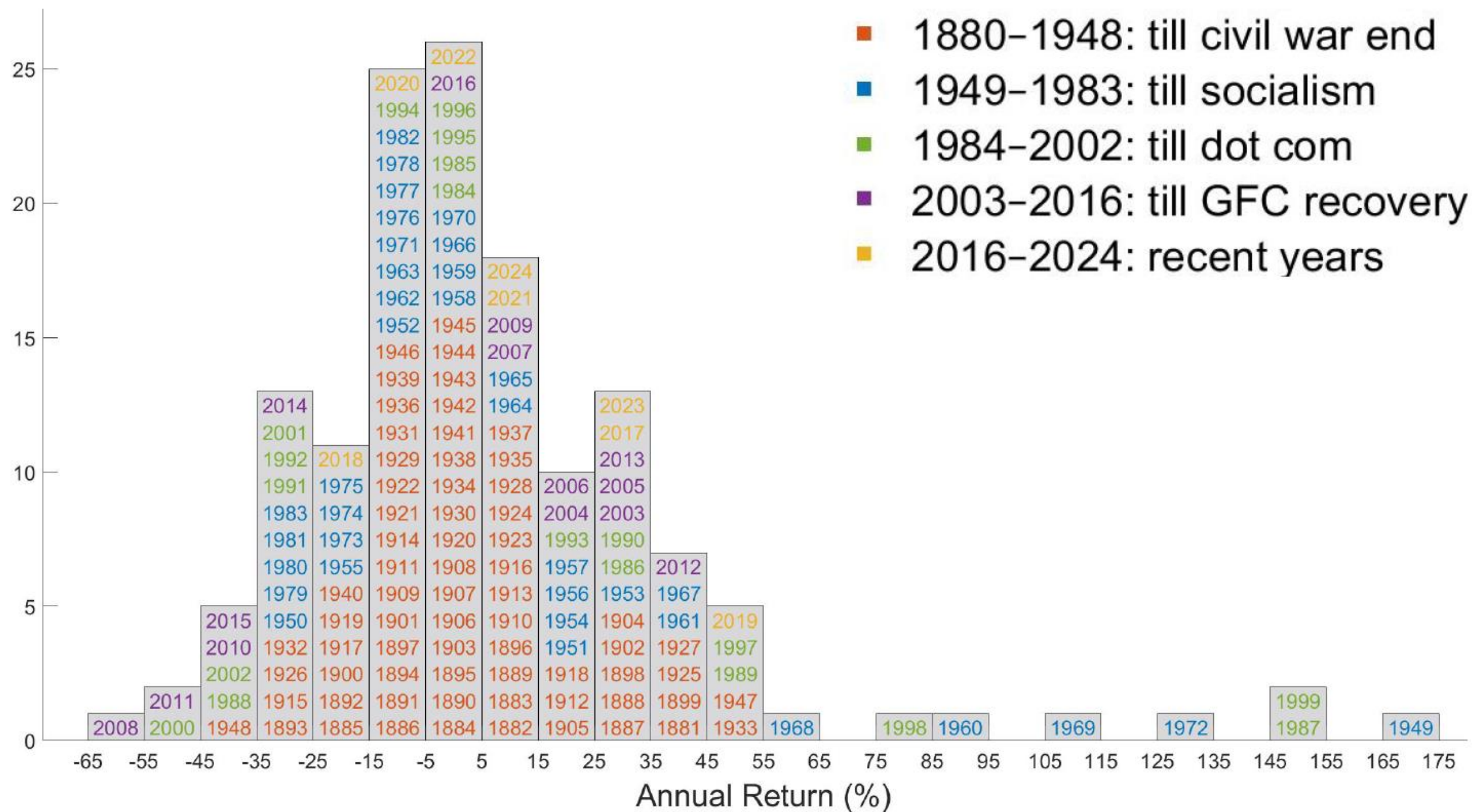


100 billion drachmae



Inflation from SEEMHN (2014), Bank of Greece GDP deflator (1841-1923) & CPI (1924–)

Real returns on the ASE

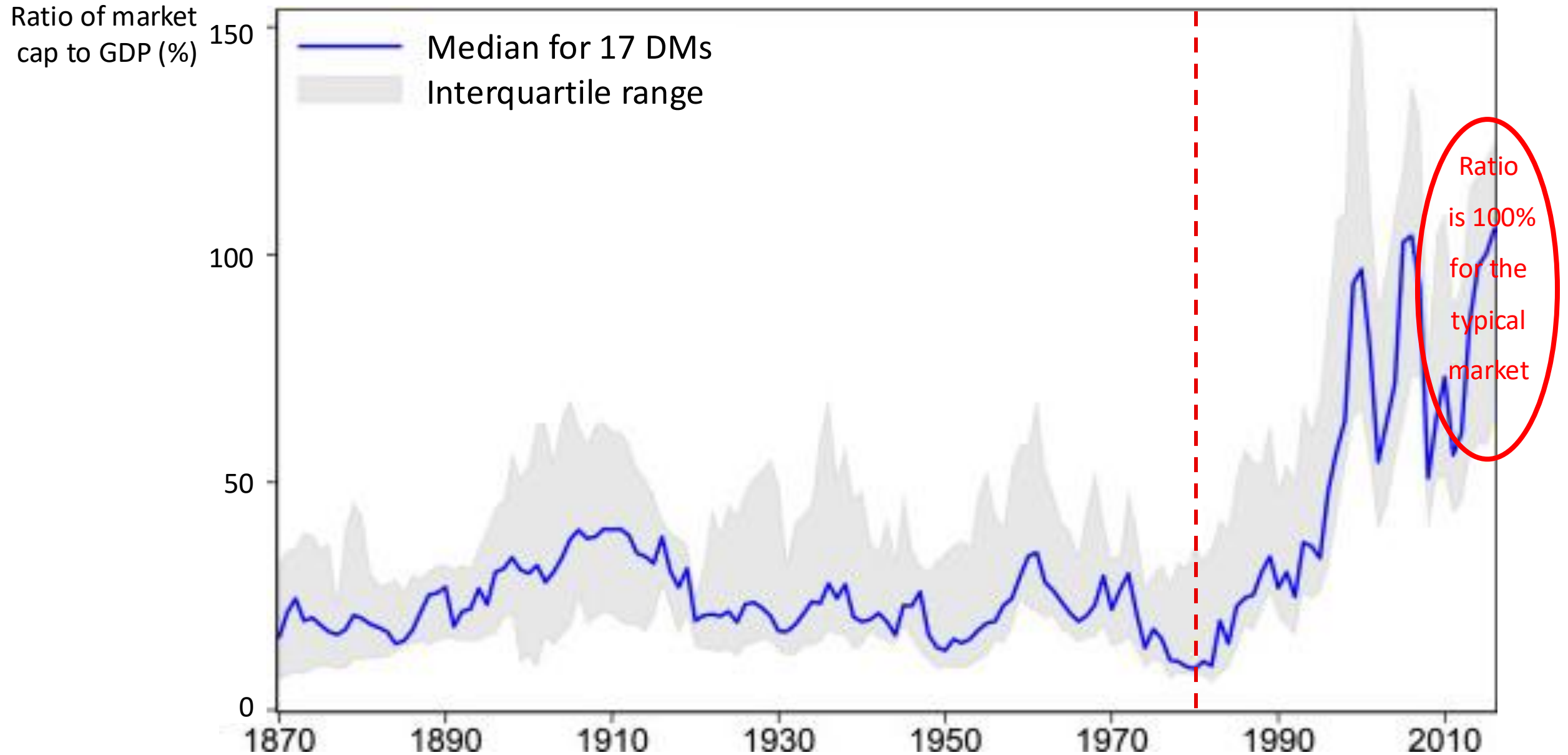


Real total returns from the Greek stock market

Cumulative return
(logarithmic scale)

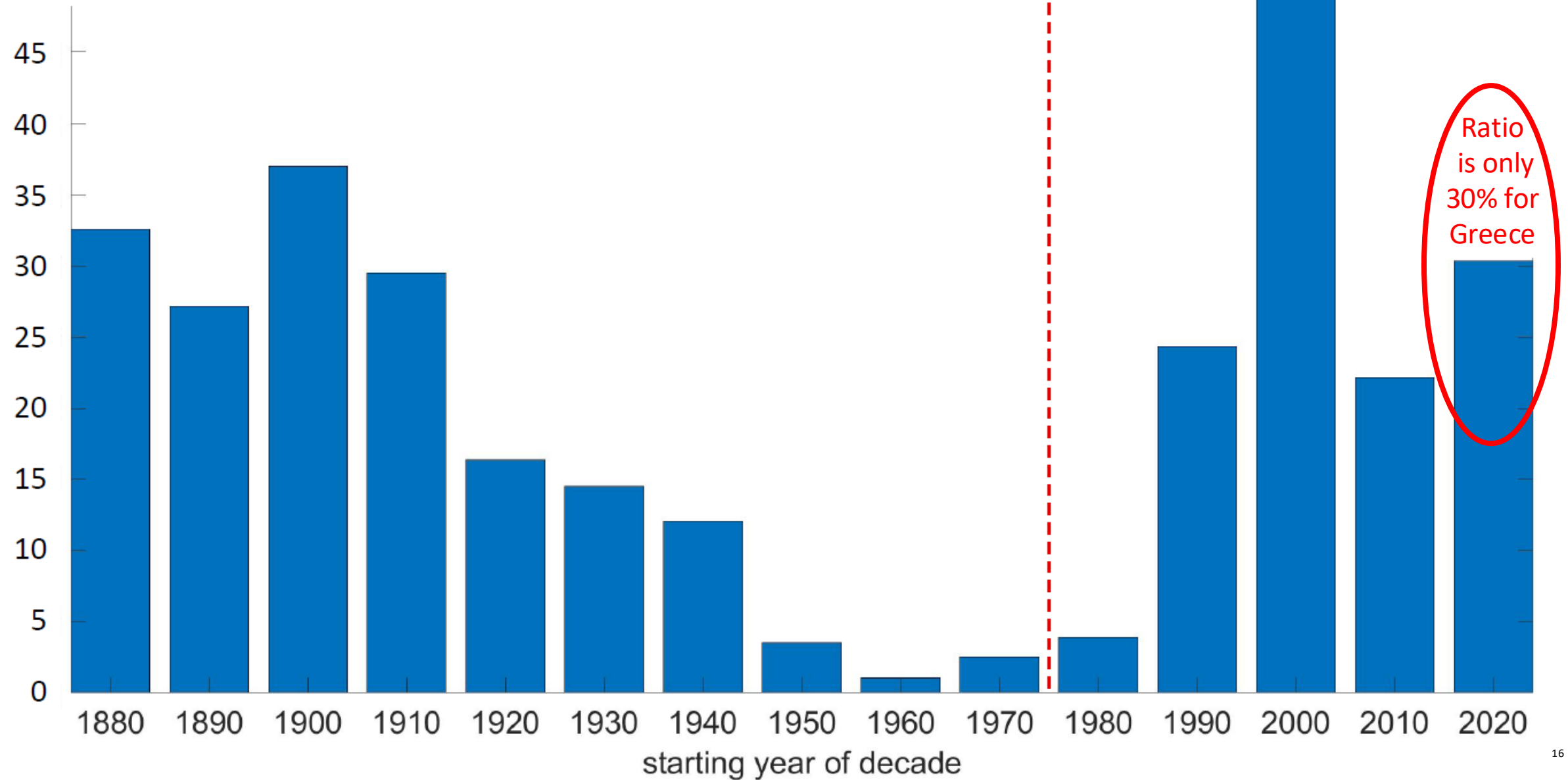


Ratio of market-cap to GDP for 17 markets

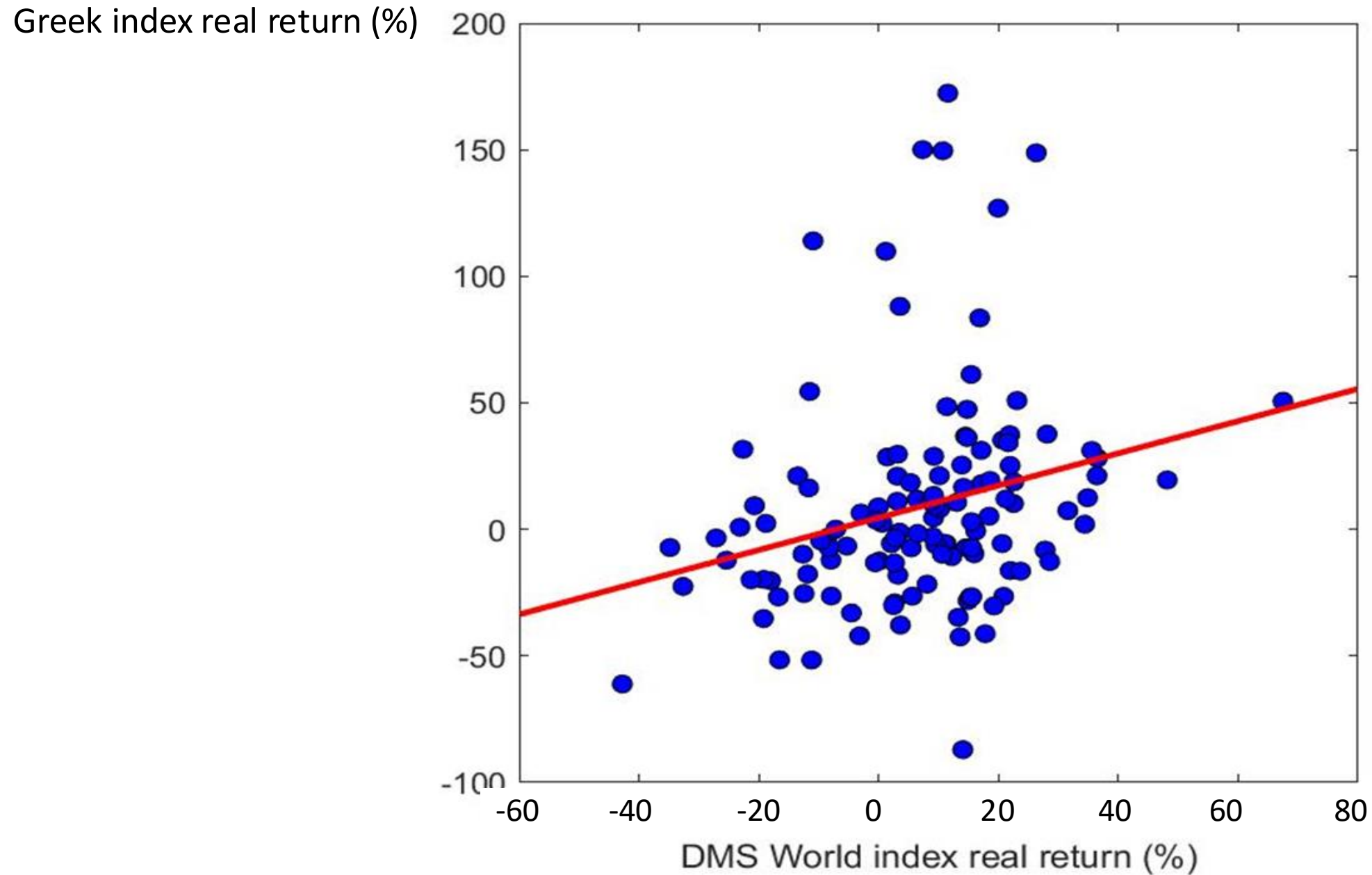


Ratio of market-cap to GDP for Greece

Ratio of market
cap to GDP (%)



Correlation of Greek with World index returns



Real total returns on the Greek stock market since 1880

Panel A: 1880-2024

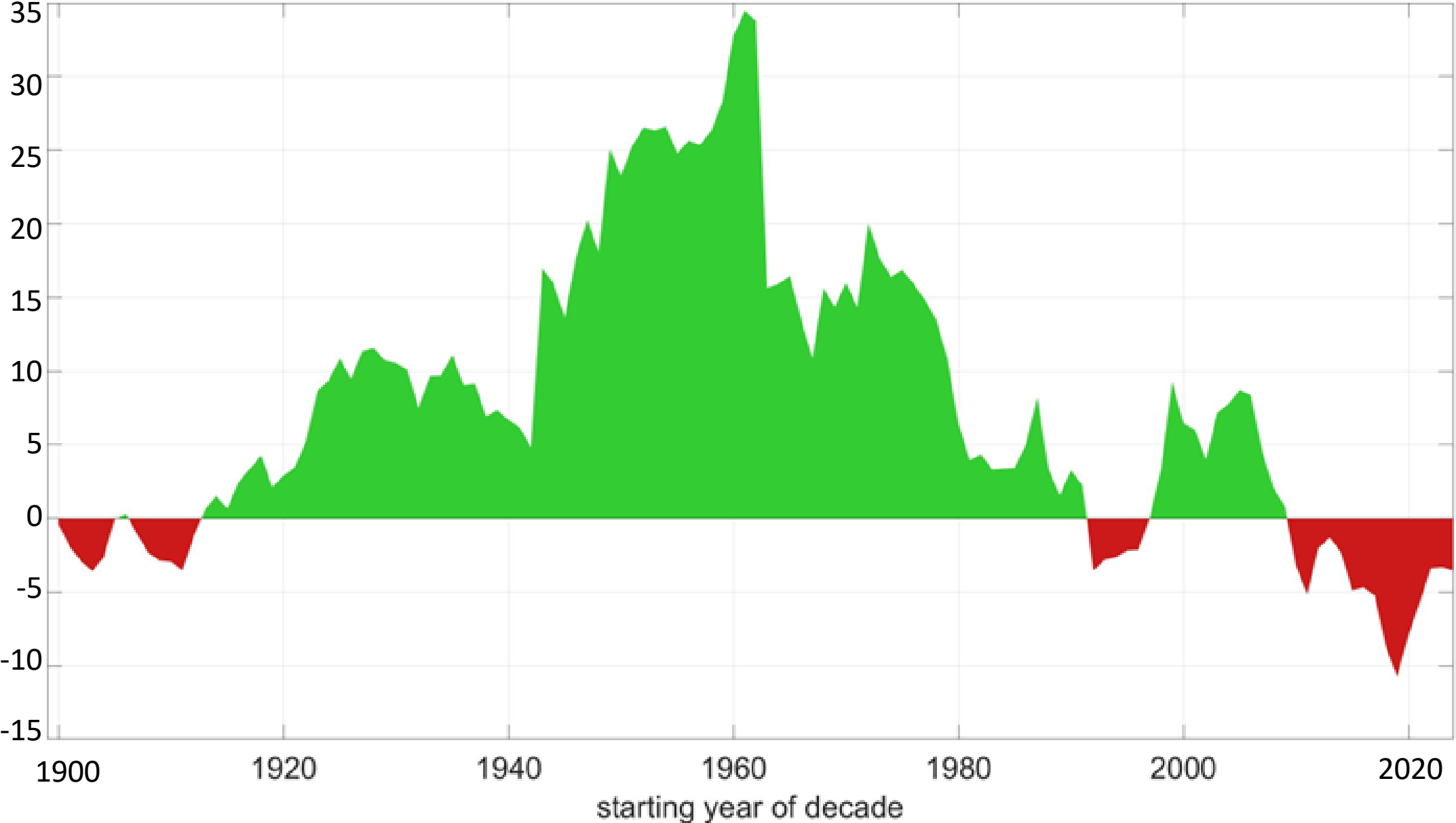
	Market	ex Finance Sector	Finance Sector	NBG
Geometric mean	1.8 (2.7)	2.4 (2.7)	0.7 (3.6)	-1.4 (4.3)
Standard deviation	36.8 (1.9)	37.2 (1.9)	49.1 (2.5)	44.4 (3.1)
Arithmetic mean	7.0 (3.1)	7.8 (3.1)	9.5 (4.1)	8.3 (3.7)

Performance across cycles

	1841-80	1880-1948	1948-83	1983-2002	2002-16	2016-24
Panel A: Athens stock market						
Geometric mean (%)		-0.6 (2.7)	7.1 (6.3)	6.6 (11.5)	-9.9 (10.7)	11.9 (9.8)
Panel B: National Bank of Greece						
Geometric mean (%)	10.7 (0.0)	1.7 (2.5)	5.7 (7.0)	10.1 (12.2)	-42.4 (19.6)	11.8 (29.5)
Panel C: Market ex-Finance						
Geometric mean (%)		-0.3 (3.2)	5.5 (5.9)	5.1 (12.0)	-0.5 (9.0)	13.9 (7.4)
Panel D: Finance sector only						
Geometric mean (%)		2.2 (3.2)	9.5 (6.9)	9.1 (11.8)	-33.0 (15.8)	3.8 (20.7)

Equity excess return for Greece 1900–2024

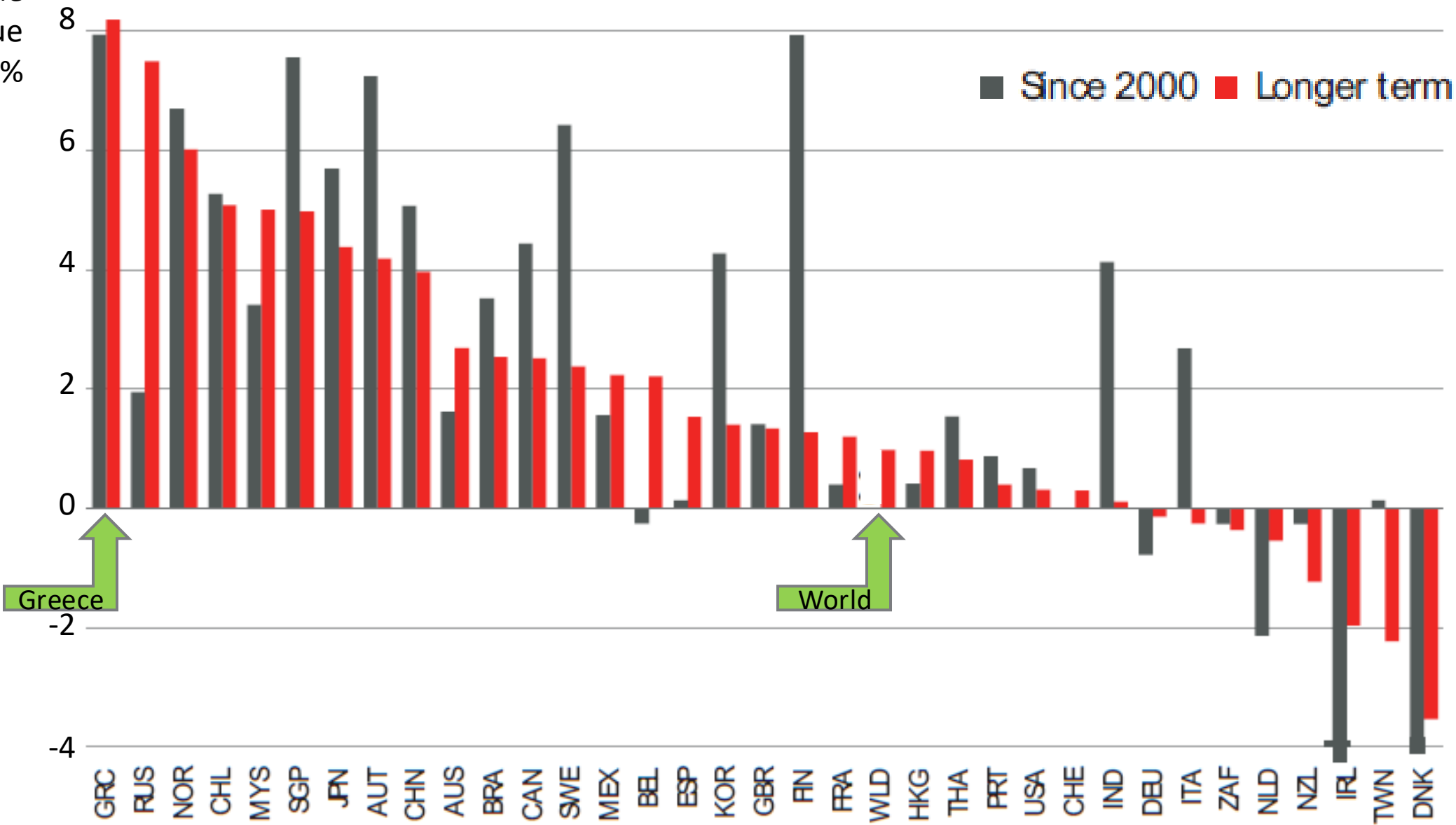
Excess return % relative
to savings deposit rate
(rolling 20-year window)



Note: Hyperinflationary years omitted

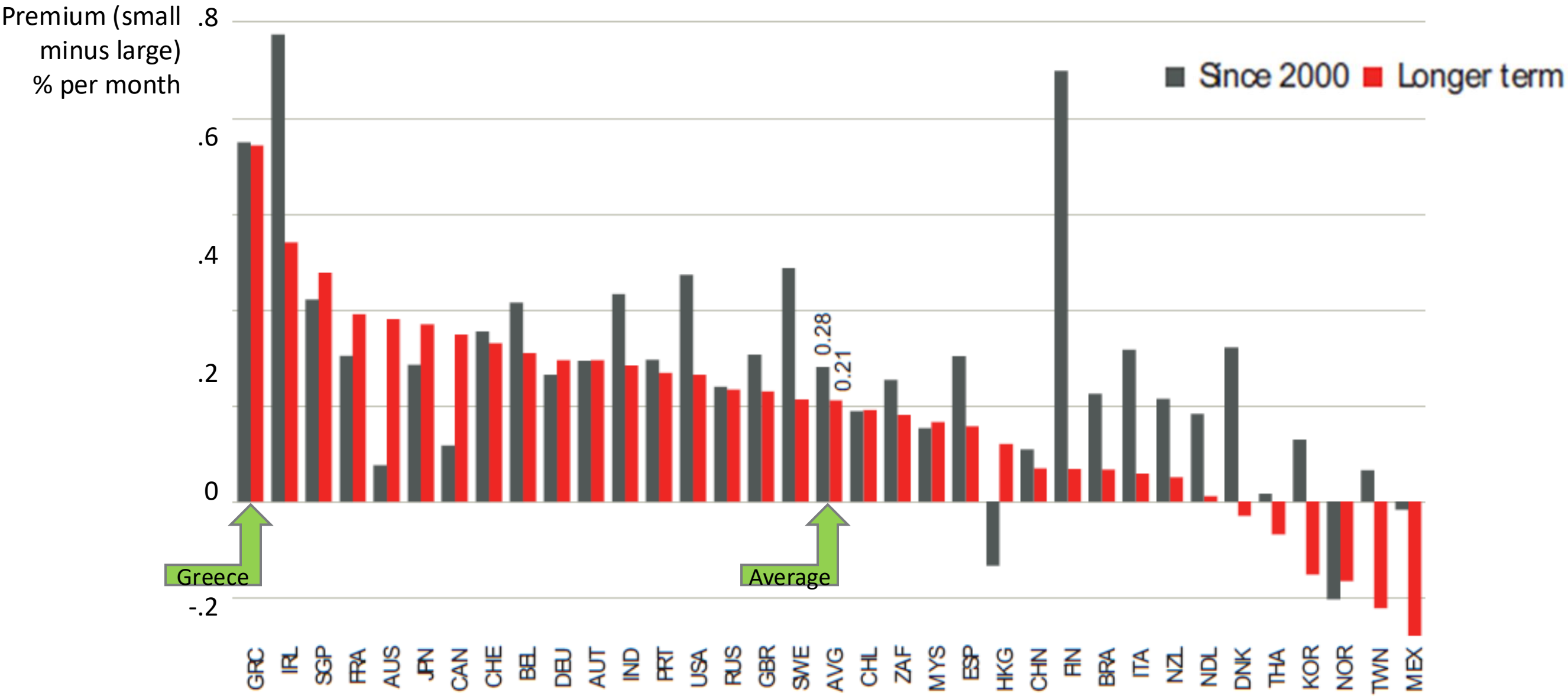
Value premium 1975–2024

Annualized value premium (value minus growth) %



Source: Dimson-Marsh Staunton Global Investment Returns Yearbook 2025

Smallcap premium to end-2024

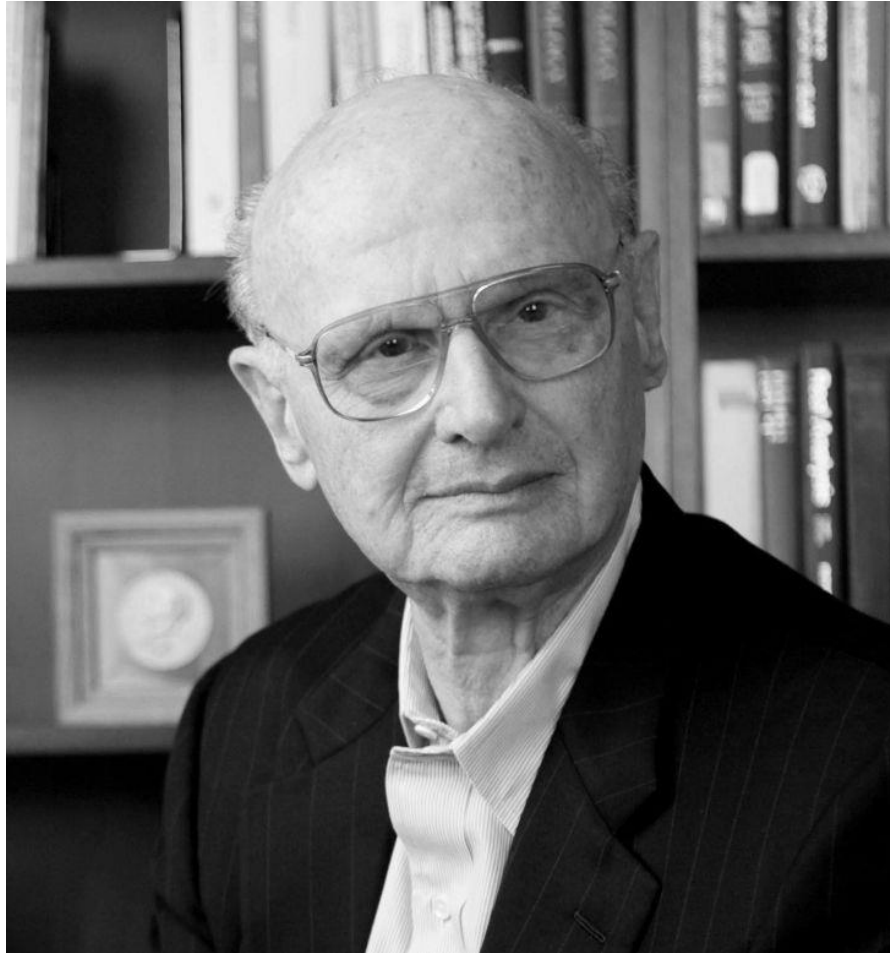


Source: Dimson-Marsh Staunton Global Investment Returns Yearbook 2025

Summary

- We bridge a gap in the financial history of Greece
 - Our record of financial market returns spans almost 1½ centuries
 - The Athens market has had a volatile and hyperinflationary history
- We analyse the long-term record of major asset classes
 - We estimate returns on broad sectors and on other asset classes (not reported today)
 - Common stocks have provided an equity premium compared to cash deposits
- We build on the work of others to whom we are grateful
 - We thank Michalis Riginos and our colleagues at AUEB, Cambridge and LBS
 - Please contact us at e.dimson@jbs.cam.ac.uk and at skouras@aueb.gr

Conclusion



“Diversification is the only
free lunch in investing”

Harry Markowitz.

There should be a little bit of
Greece in every portfolio.