Εισαγωγή

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Γιατί διεθνείς κεφαλαιαγορές;

1. Οι εγχώριες αγορές διαφέρουν από τις ξένες αγορές
2. Οι ξένες αγορές μας αφορούν

Οι εγχώριες αγορές διαφέρουν από τις ξένες αγορές

Μηχανισμοί

- Συναλλαγματικοί και πολιτικοί κίνδυνοι
- Ατέλειες στην προσβασιμότητα
- Διαφορετικές επενδυτικές ευκαιρίες

Πηγή:

- Αυτοδυναμία των εθνών

Οι ξένες αγορές μας αφορούν

Παγκοσμιοποίηση και ολοκλήρωση

- Κατανάλωσης
- Παραγωγής
- Επένδυσης
  - Προσβασιμότητα σε αγορές πολλών χωρών
  - Εταιρείες σε κεφαλαιαγορές πολλαπλών χωρών
  - Σημαντική επιρροή ακόμα και σε καθαρά εγχώρια παραγωγή και κατανάλωση

Βοηθούν στην κατανόηση εγχώριων αγορών

Παγκοσμιοποίηση κατανάλωσης

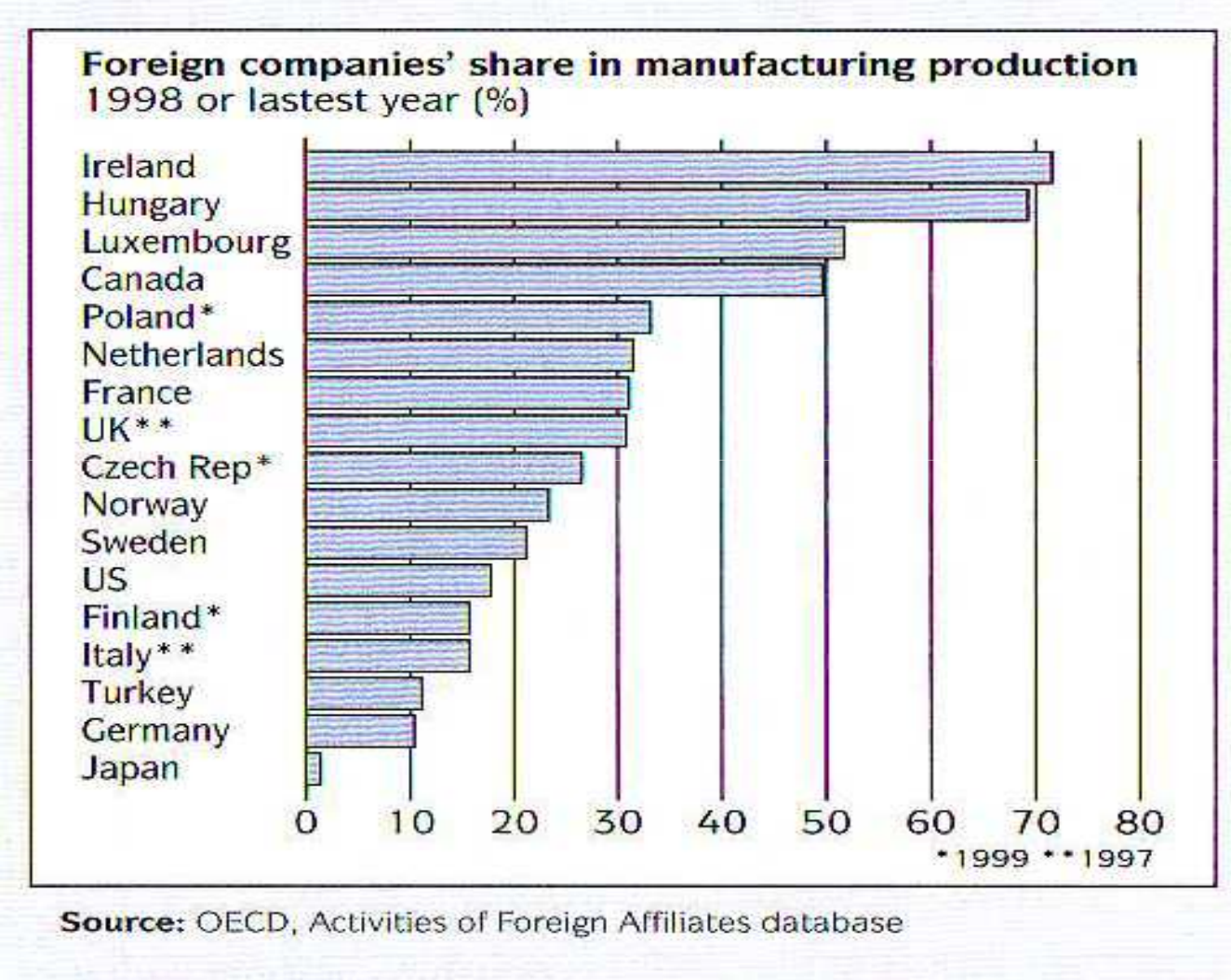
EXHIBIT 1.3

Long-Term Openness in Perspective (Merchandise Exports/GDP at 1990 Prices, in Percent)

Country	1870	1913	1929	1950	1973	2001
United States	2.5	3.7	3.6	3.0	5.0	7.2
Canada	12.0	12.2	15.8	13.0	19.9	41.1
Australia	7.4	12.8	11.2	9.1	11.2	17.6
United Kingdom	12.0	17.7	13.3	11.4	14.0	19.0
Germany	9.5	15.6	12.8	6.2	23.8	31.1
France	4.9	8.2	8.6	7.7	15.4	24.7
Spain	3.8	8.1	5.0	1.6	5.0	19.0
Japan	0.2	2.4	3.5	2.3	7.9	10.7
Korea	0.0	1.0	4.5	1.0	8.2	36.0
Taiwan	0.0	2.5	5.2	2.5	10.2	45.2
Thailand	2.1	6.7	6.6	7.0	4.5	59.4
Argentina	9.4	6.8	6.1	2.4	2.1	9.9
Brazil	11.8	9.5	7.1	4.0	2.6	10.3
Mexico	3.7	10.8	14.8	3.5	2.2	28.7
World	5.0	8.7	9.0	7.0	11.2	19.7

Source: Various issues of *World Financial Markets*, JP Morgan, and *International Financial Statistics*, IMF.

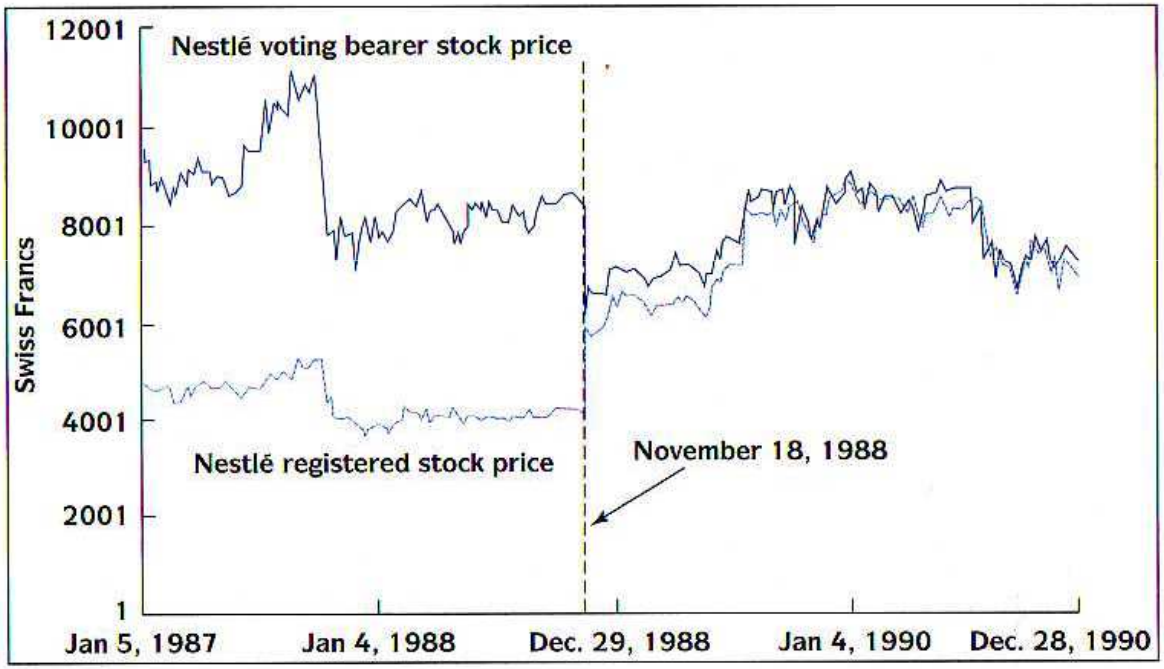
Παγκοσμιοποίηση παραγωγής



Παγκοσμιοποίηση επένδυσης

EXHIBIT 1.2

Daily Prices of Nestlé's Bearer and Registered Shares



Source: Reprinted from *Journal of Financial Economics*, Volume 37, Issue 3, Claudio Loderer and Andreas Jacobs, "The Nestlé Crash," pp. 315–339, 1995, with kind permission from Elsevier Science S.A., P.O. Box 564, 1001 Lausanne, Switzerland.

Ιδιοκτησία Μετοχών στο Χρηματιστήριο Αθηνών

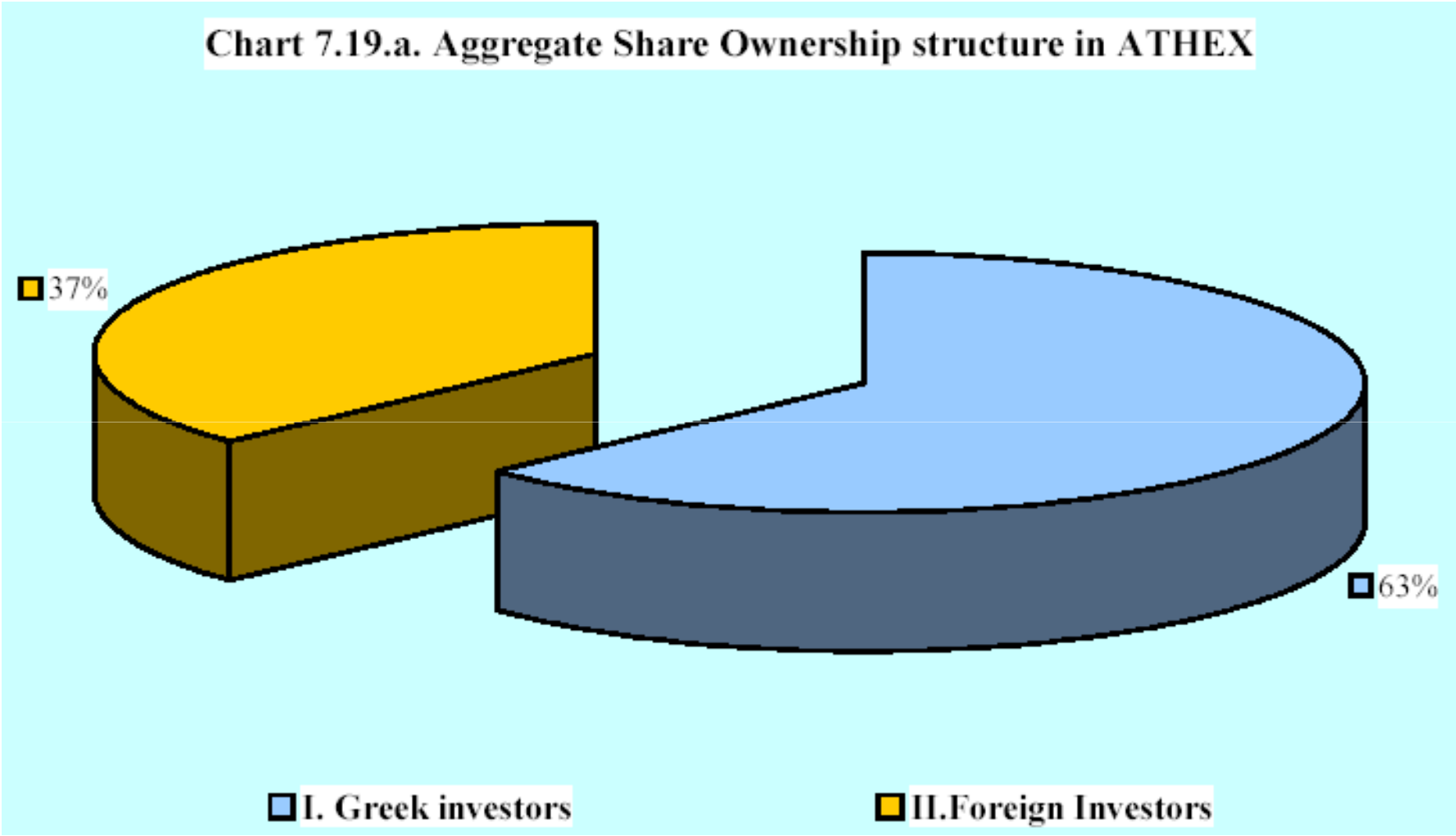
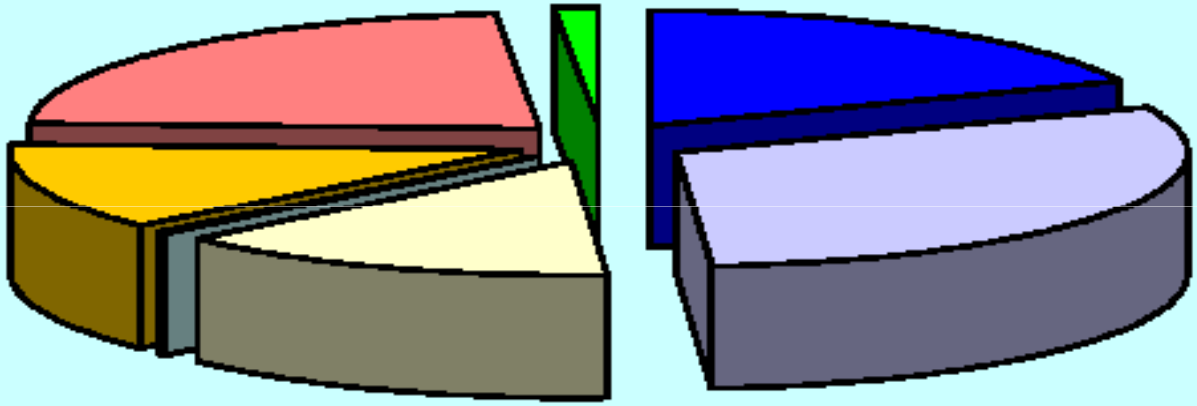


Chart 7.19.b. Share Ownership structure in ATHEX, as at 31/12/2002



- Greek private investors
- Greek institutional investors
- Foreign legal entities
- Other institutonal legal entities
- Greek legal entities
- Foreign private investors
- Foreign institutional investors

Κατανόηση

(«Στατιστικός» λόγος)

Μελέτη μίας και μόνο χώρας μπορεί να δώσει ιδιαίτερα μεροληπτική εικόνα για την συμπεριφορά κεφαλαιαγορών

Περισσότερο παρά ποτέ

1. Παγκοσμιοποίηση αγορών
2. Ευρώ
3. Απελευθέρωση εμπορίου
4. Ιδιωτικοποιήσεις

Ιστορική Αναδρομή

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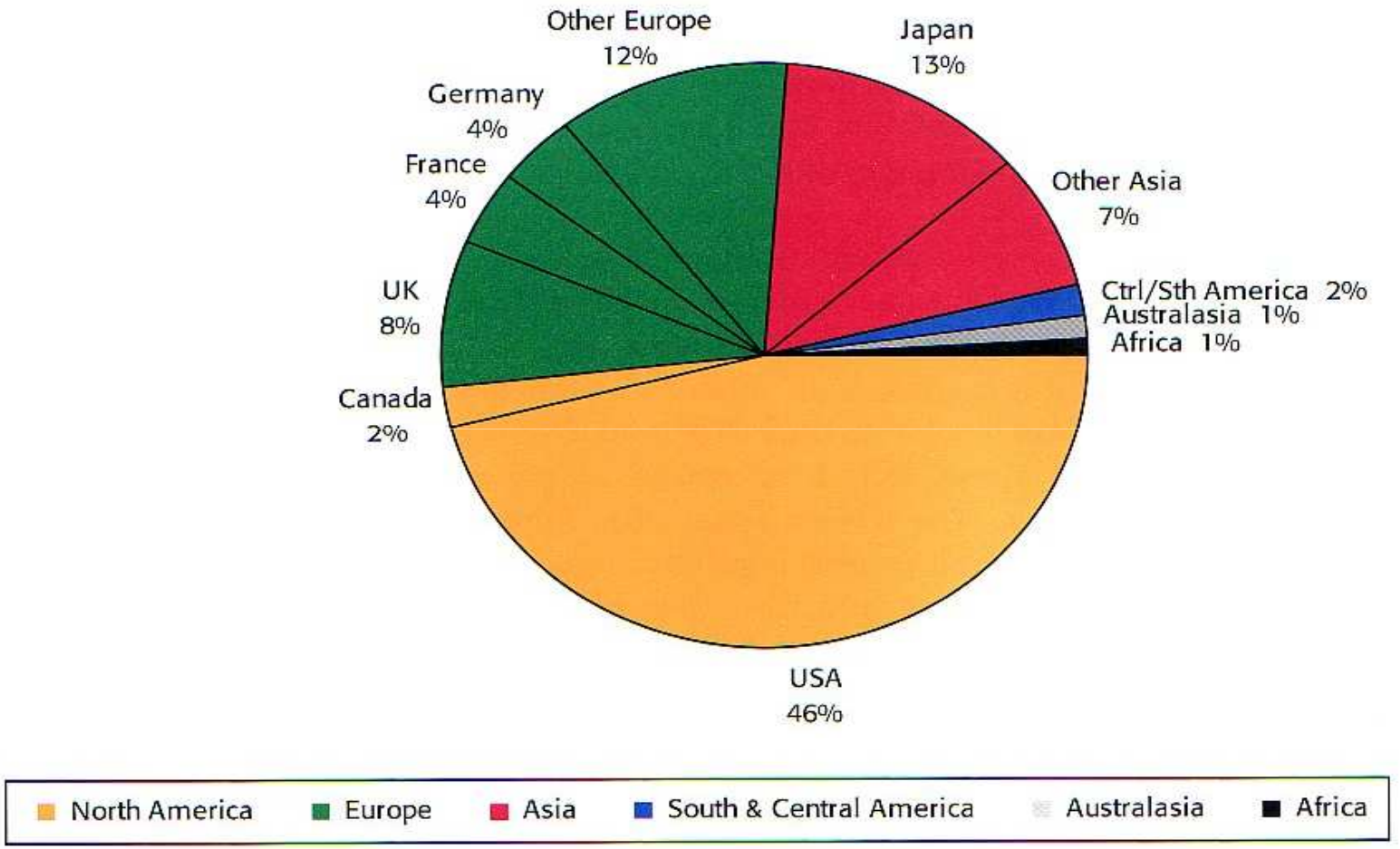
Αγορές μετοχών σήμερα

Table 2-1: Capitalization of world stock markets at start-2000

Country/region	Market capitalization $ billion	Percent of world	Rank in world	GDP in 1999 $bn	Percent of GDP	Covered in this book
United States	16,635	46.1	1	9,152	35.6	✓
Japan	4,547	12.6	2	4,347	16.9	✓
United Kingdom	2,933	8.1	3	1,442	5.6	✓
France	1,475	4.1	4	1,432	5.6	✓
Germany	1,432	4.0	5	2,112	8.2	✓
Canada	801	2.2	6	635	2.5	✓
Italy	728	2.0	7	1,171	4.6	✓
The Netherlands	695	1.9	8	394	1.5	✓
Switzerland	693	1.9	9	259	1.0	✓
Hong Kong	609	1.7	10	159	0.6	
Australia	478	1.3	11	404	1.6	✓
Spain	432	1.2	12	596	2.3	✓
Taiwan	376	1.0	13	288	1.1	
Sweden	373	1.0	14	239	0.9	✓
Finland	349	1.0	15	130	0.5	
China	331	0.9	16	990	3.9	
South Korea	309	0.9	17	407	1.6	
South Africa	262	0.7	18	131	0.5	✓
Brazil	228	0.6	19	752	2.9	
Greece	204	0.6	20	125	0.5	
Belgium	185	0.5	22	248	1.0	✓
Denmark	105	0.3	27	174	0.7	✓
Ireland	65	0.2	32	93	0.4	✓
World subtotal	**34,248**	**94.9**		**25,680**	**100**	✓
Other Asia-Pacific	1,065	3.0	21*	na	na	
Other Europe	365	1.0	31*	na	na	
Other South/Central America	359	1.0	24*	na	na	
Other Africa	62	0.2	41*	na	na	
World total	**36,099**	**100**	**1-111**	na	na	

Source: Global Financial Data (market capitalizations); World Bank (GDPs). * Indicates highest ranked country in this residual/regional grouping

Figure 2-1: World markets: geographical groupings



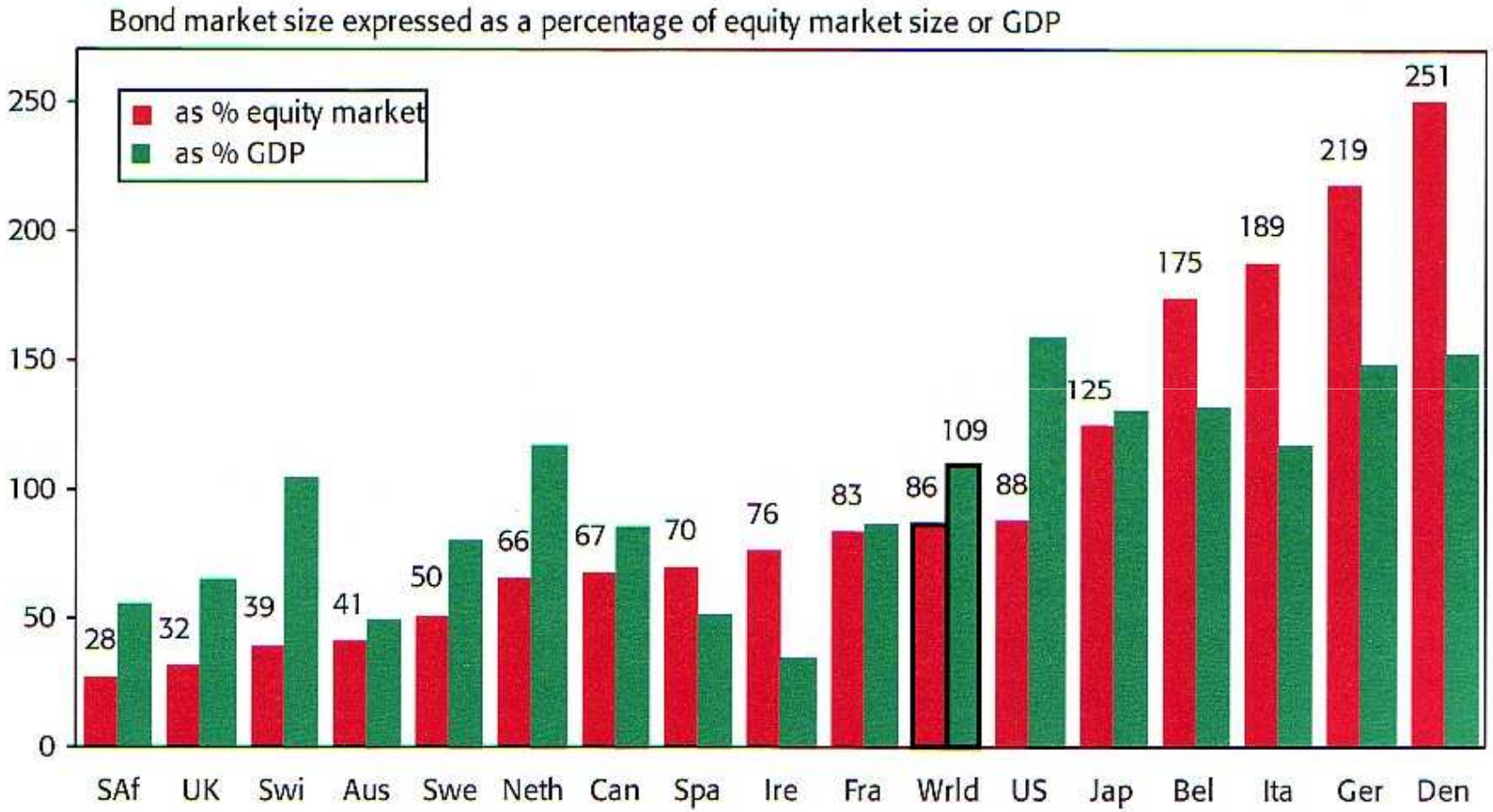
Αγορές ομολόγων σήμερα

Table 2-2: Value of world bond markets at start-2000

Country/region	Total outstanding $ billion	% of world	Rank in world	Bond value as % GDP	% bonds which are Government	Covered in this book
United States	14,595	47.0	1	159	53	✓
Japan	5,669	18.3	2	130	72	✓
Germany	3,131	10.1	3	148	25	✓
Italy	1,374	4.4	4	117	68	✓
France	1,227	4.0	5	86	58	✓
United Kingdom	939	3.0	6	65	50	✓
Canada	539	1.7	7	85	73	✓
The Netherlands	458	1.5	8	116	38	✓
Belgium	324	1.0	9	131	60	✓
Spain	304	1.0	10	51	73	✓
Switzerland	269	0.9	11	104	18	✓
Denmark	264	0.9	12	152	31	✓
South Korea	227	0.7	13	56	52	
Brazil	209	0.7	14	28	na	
Australia	198	0.6	15	49	42	✓
Sweden	188	0.6	16	79	50	✓
Austria	149	0.5	17	72	54	
India	136	0.4	18	30	70	
Greece	88	0.3	19	70	78	
China	73	0.2	20	7	67	
South Africa	72	0.2	21	55	65	✓
Ireland	32	0.1	31	34	74	✓
Other Asia-Pacific	310	1.0	22*	29	46	
Other Europe	235	0.8	24*	28	70	
Other South/Central America	44	0.1	30*	6	na	
World total (40 countries)	**31,054**	**100**	**1-40**	**109**	**55**	✓

Source: World Bank and Merrill Lynch (2000). We have reallocated Merrill Lynch's Eurozone Eurobond total to the individual member countries based on the previous year's (pre-euro) split. * Indicates highest ranked country in this residual/regional grouping.

Figure 2-2: Size of world bond markets relative to equity markets and GDP at start-2000



Εξέλιξη

Table 2-3: Founding dates of the world's stock markets

The Netherlands	1611	Argentina	1872	Indonesia	1912
Germany	1685	New Zealand	1872	Korea	1921
United Kingdom	1698	Brazil	1877	Slovenia	1924
France	1724	India	1877	Uruguay	1926
Austria	1771	**Japan**	1878	Philippines	1927
United States	1792	Norway	1881	Columbia	1929
Ireland	1799	**South Africa**	1887	Luxembourg	1929
Belgium	1801	Egypt	1890	Malaysia	1929
Denmark	1808	Hong Kong	1890	Romania	1929
Italy	1808	Chile	1892	Israel	1934
Russia	1810	Greece	1892	Pakistan	1947
Switzerland	1850	Venezuela	1893	Lebanon	1948
Spain	1860	Mexico	1894	Taiwan	1953
Canada	1861	Yugoslavia	1894	Kenya	1954
Hungary	1864	Sri Lanka	1900	Nigeria	1960
Turkey	1866	**Sweden**	1901	Kuwait	1962
Australia	1871	Portugal	1901	Thailand	1975
Czech Republic	1871	Singapore	1911		
Poland	1871	Finland	1912		

Source: Goetzmann and Jorion (1999), based on the founding dates of exchanges now within the borders of the identified countries with some additions/modifications by the authors. Bold face type indicates countries covered in this book.

Founding Dates For World Equity Markets

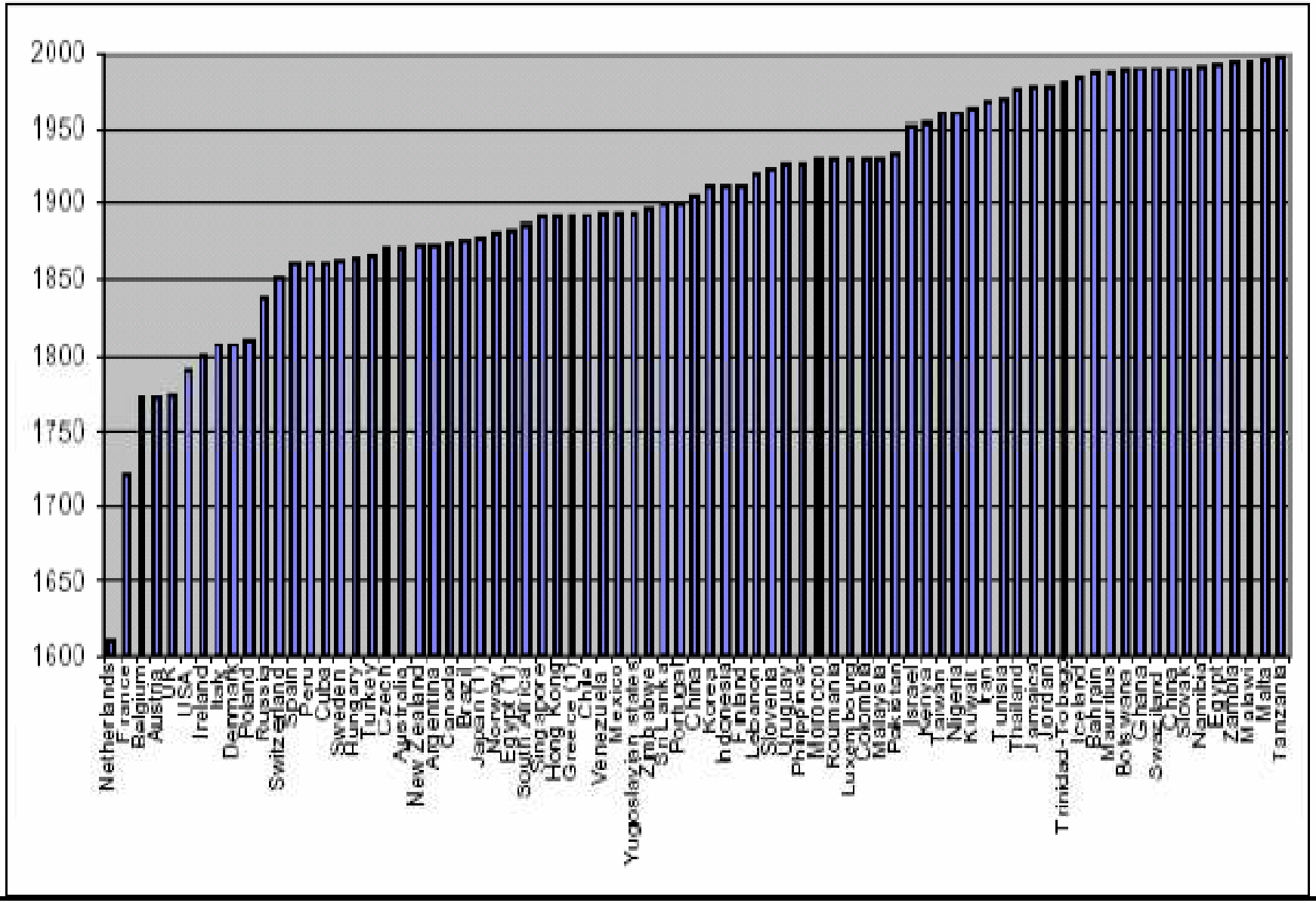
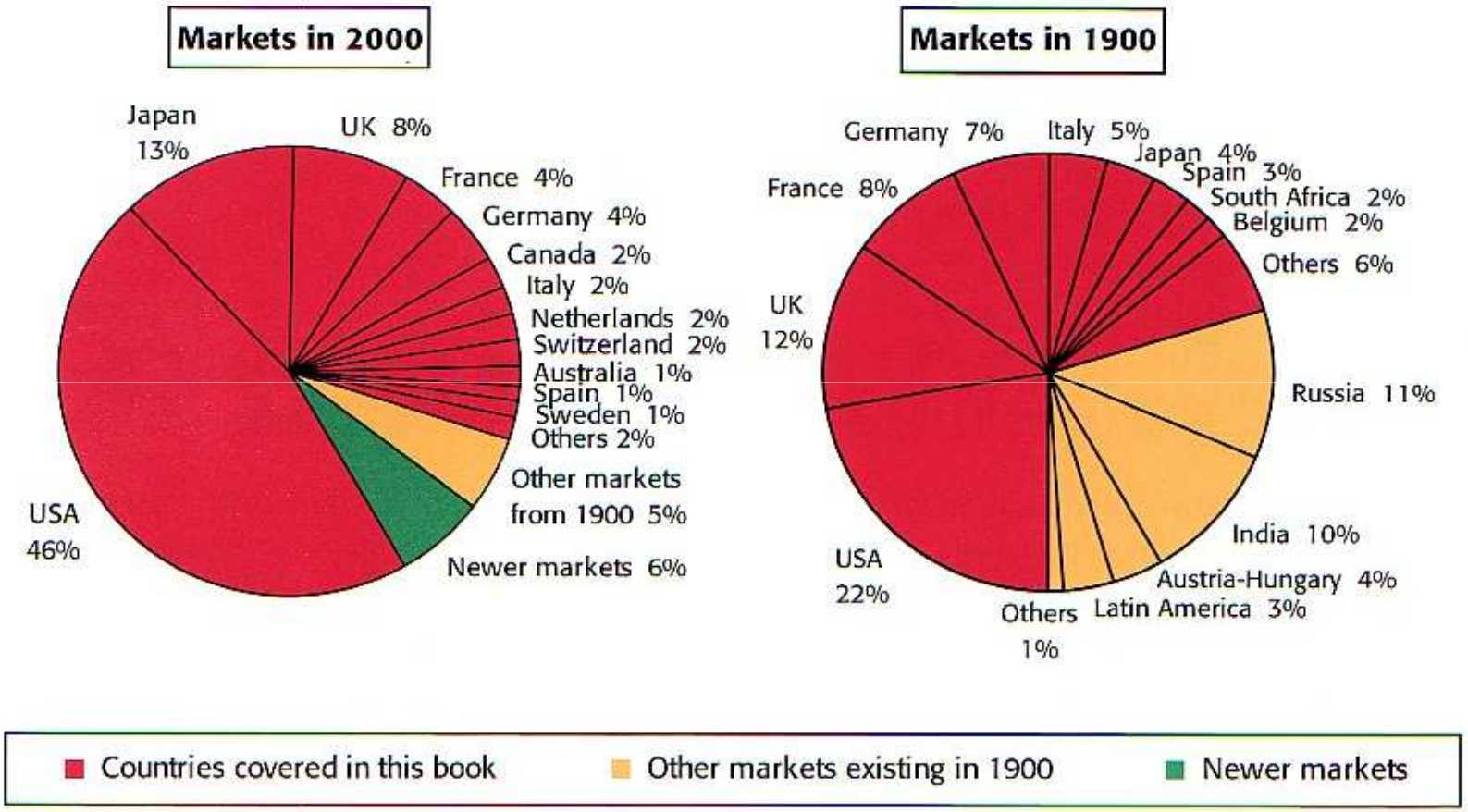
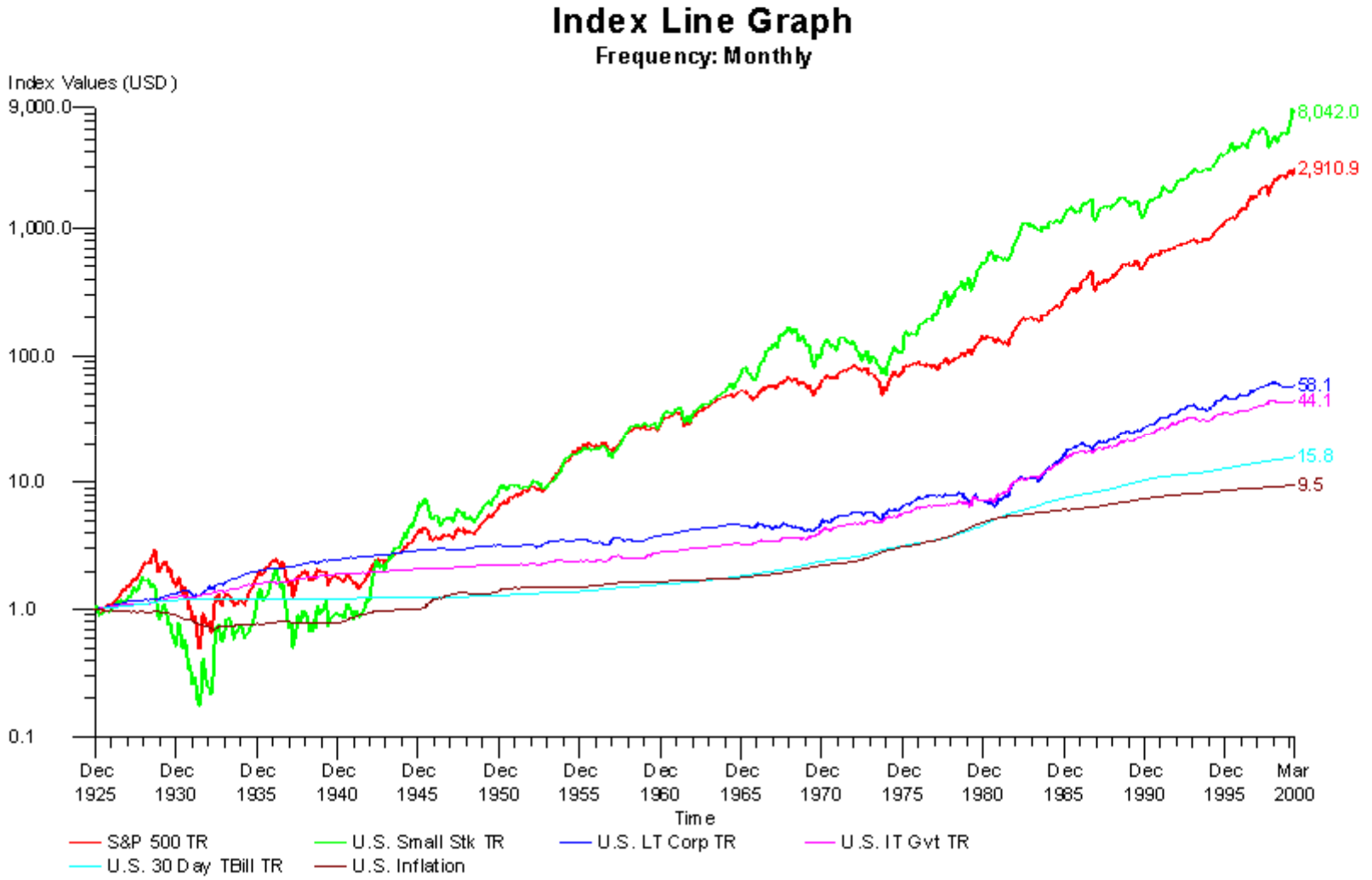


Figure 2-3: Importance of the sixteen countries covered in this book in 2000 and in 1900



НПА


Index Line Graph
Frequency: Monthly
Index Values (USD)
9,000.0
1,000.0
100.0
10.0
1.0
0.1
8,042.0
2,910.9
58.1
44.1
15.8
9.5
Dec 1925
Dec 1930
Dec 1935
Dec 1940
Dec 1945
Dec 1950
Dec 1955
Dec 1960
Dec 1965
Dec 1970
Dec 1975
Dec 1980
Dec 1985
Dec 1990
Dec 1995
Mar 2000
Time
S&P 500 TR
U.S. Small Stk TR
U.S. LT Corp TR
U.S. IT Gvt TR
U.S. 30 Day TBill TR
U.S. Inflation

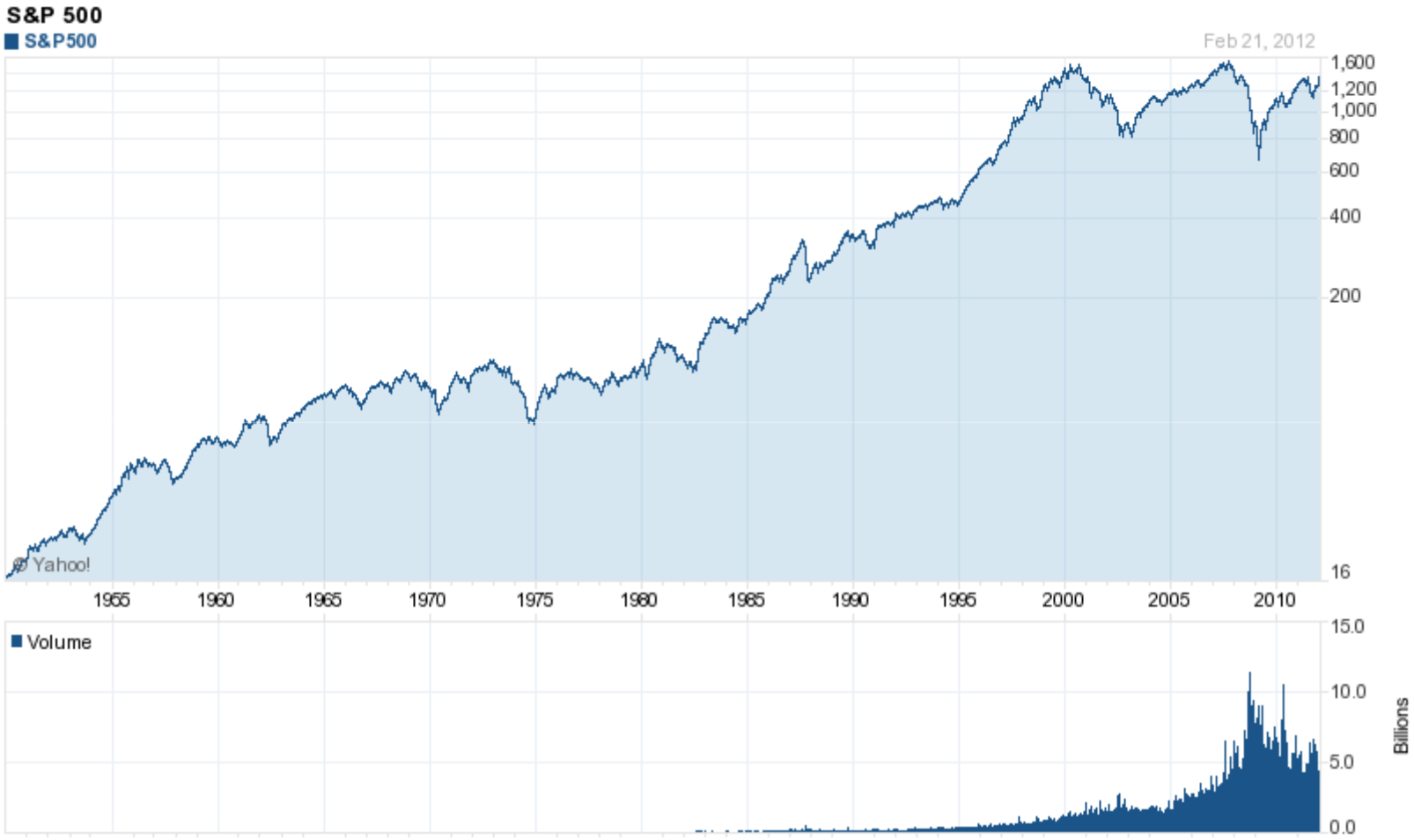
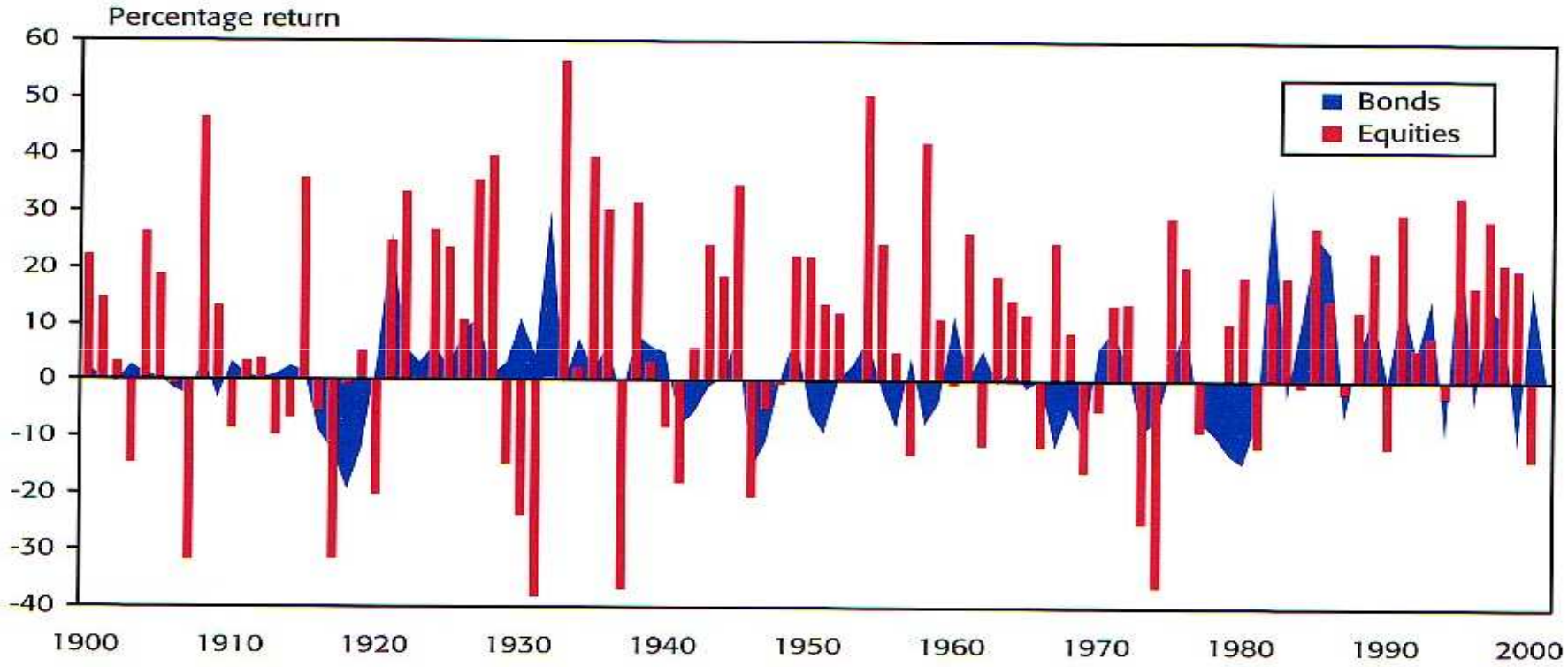
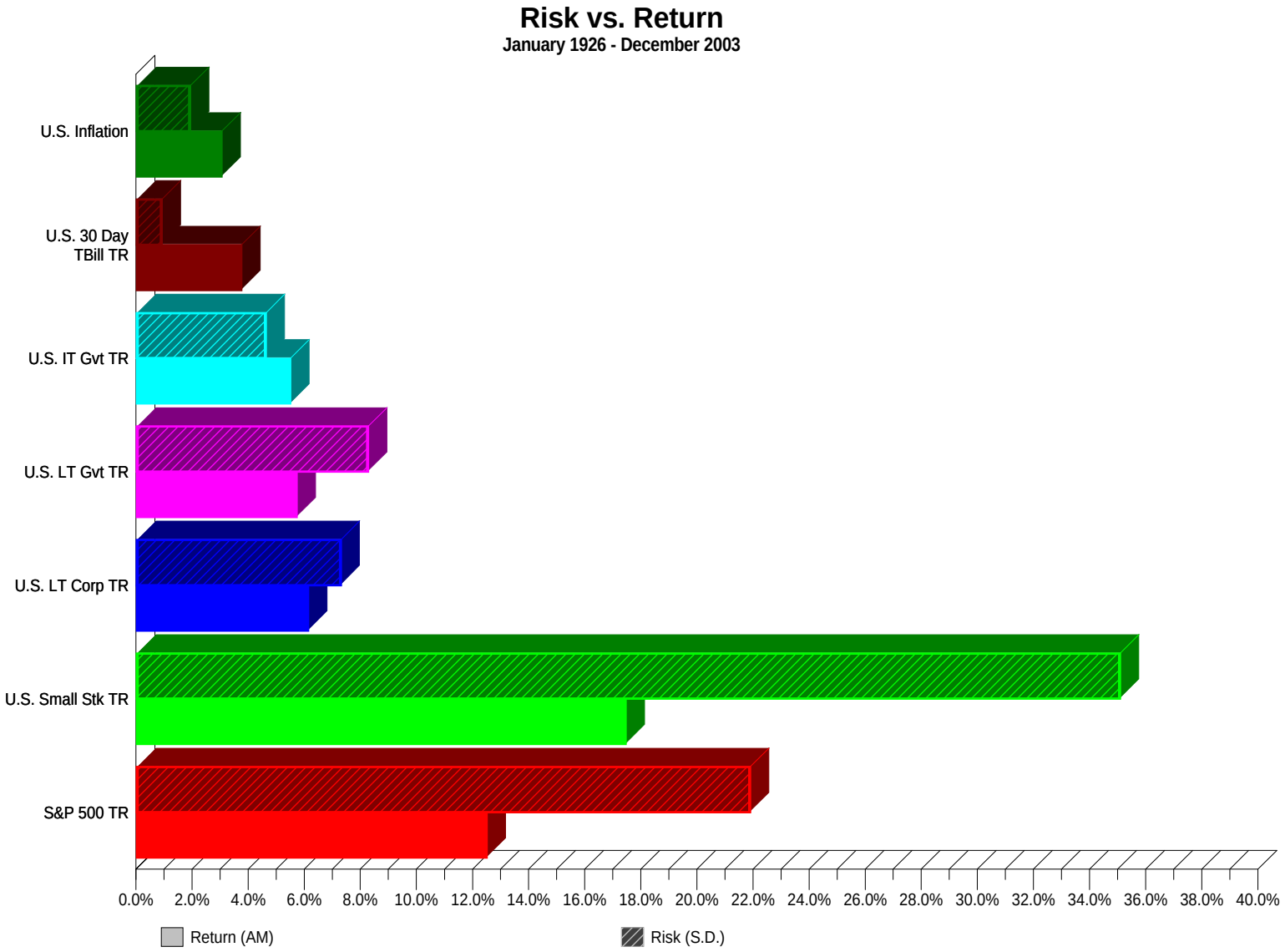

S&P 500
S&P500
Feb 21, 2012
1,600
1,200
1,000
800
600
400
200
16
© Yahoo!
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
Volume
15.0
10.0
5.0
0.0
Billions

Figure 4-8: Time series of annual real returns on US equities and bonds, 1900–2000

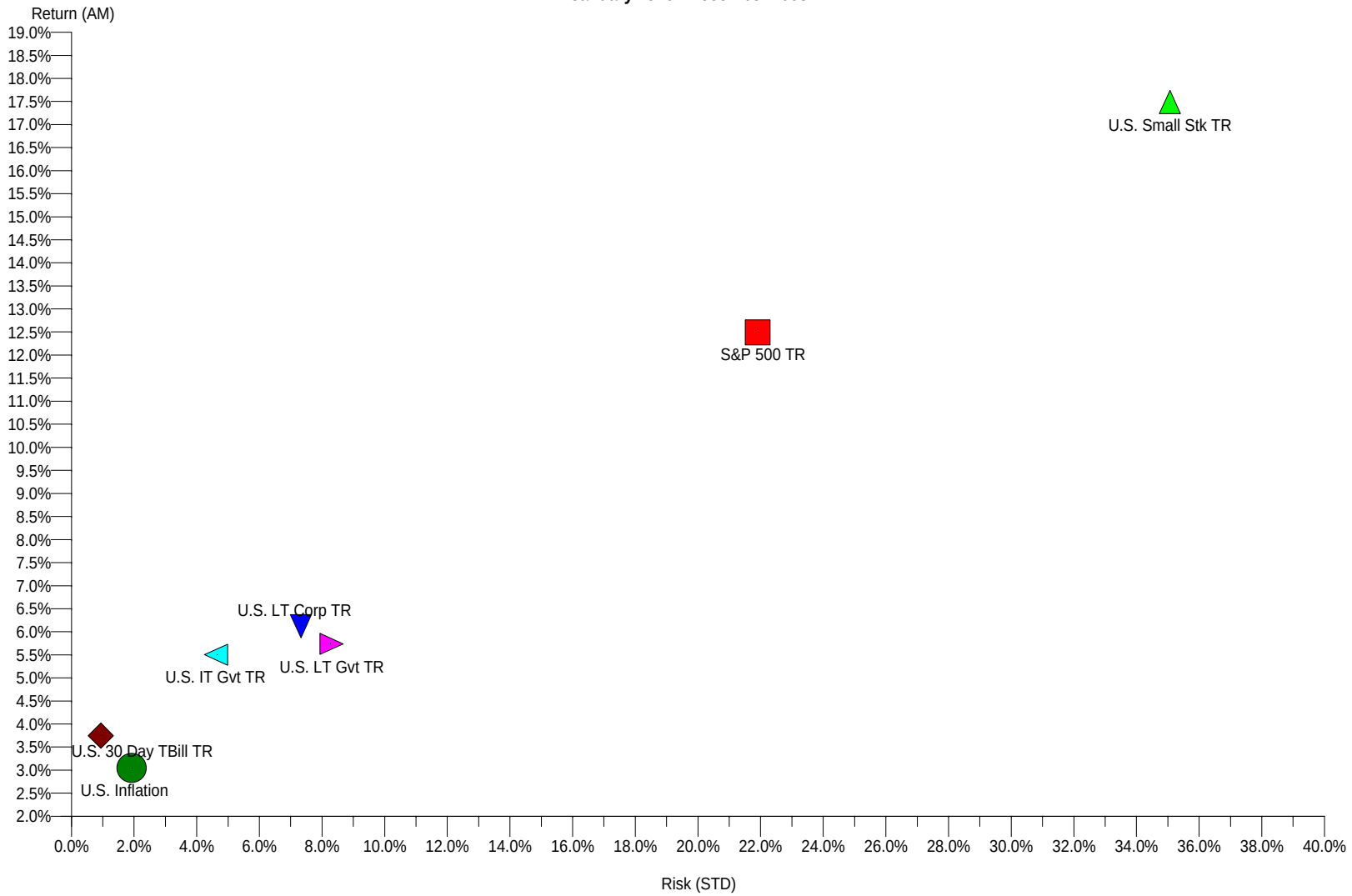




TR – Total return

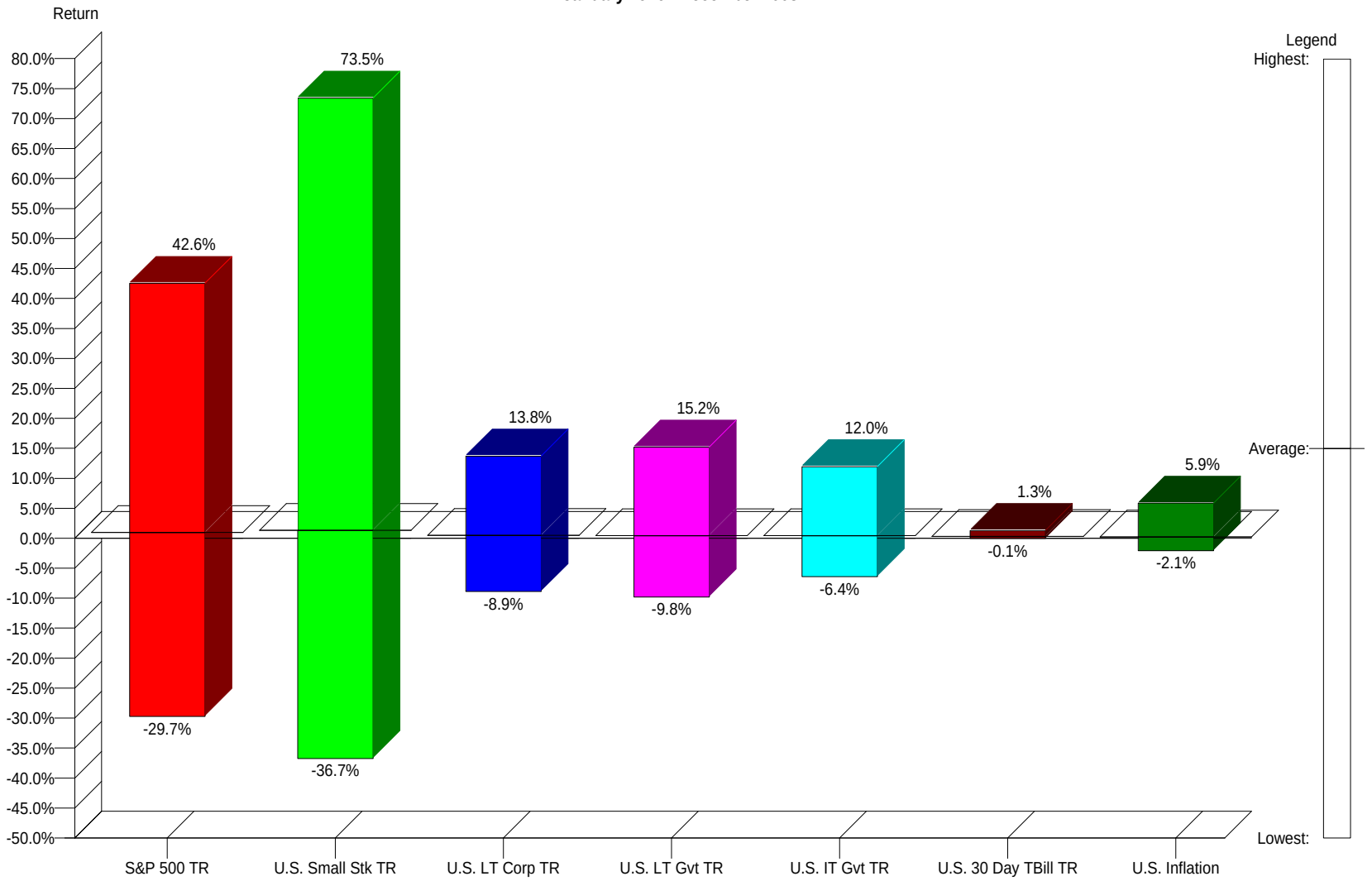
Risk vs. Return

January 1926 - December 2003



Range of Returns Bar Graph

January 1926 - December 2003



Correlation Matrix

	Periods	S&P 500	Small Stk	Corp Bond	Long Gvt	IT Gvt	30 Day TBill	US Inflation
S&P 500 TR	936	1.00	0.83	0.21	0.14	0.10	-0.02	-0.01
U.S. Small Stk TR	936	0.83	1.00	0.17	0.07	0.05	-0.04	0.01
U.S. LT Corp TR	936	0.21	0.17	1.00	0.85	0.78	0.09	-0.05
U.S. LT Gvt TR	936	0.14	0.07	0.85	1.00	0.85	0.11	-0.06
U.S. IT Gvt TR	936	0.10	0.05	0.78	0.85	1.00	0.21	-0.02
U.S. 30 Day TBill TR	936	-0.02	-0.04	0.09	0.11	0.21	1.00	0.27
U.S. Inflation	936	-0.01	0.01	-0.05	-0.06	-0.02	0.27	1.00

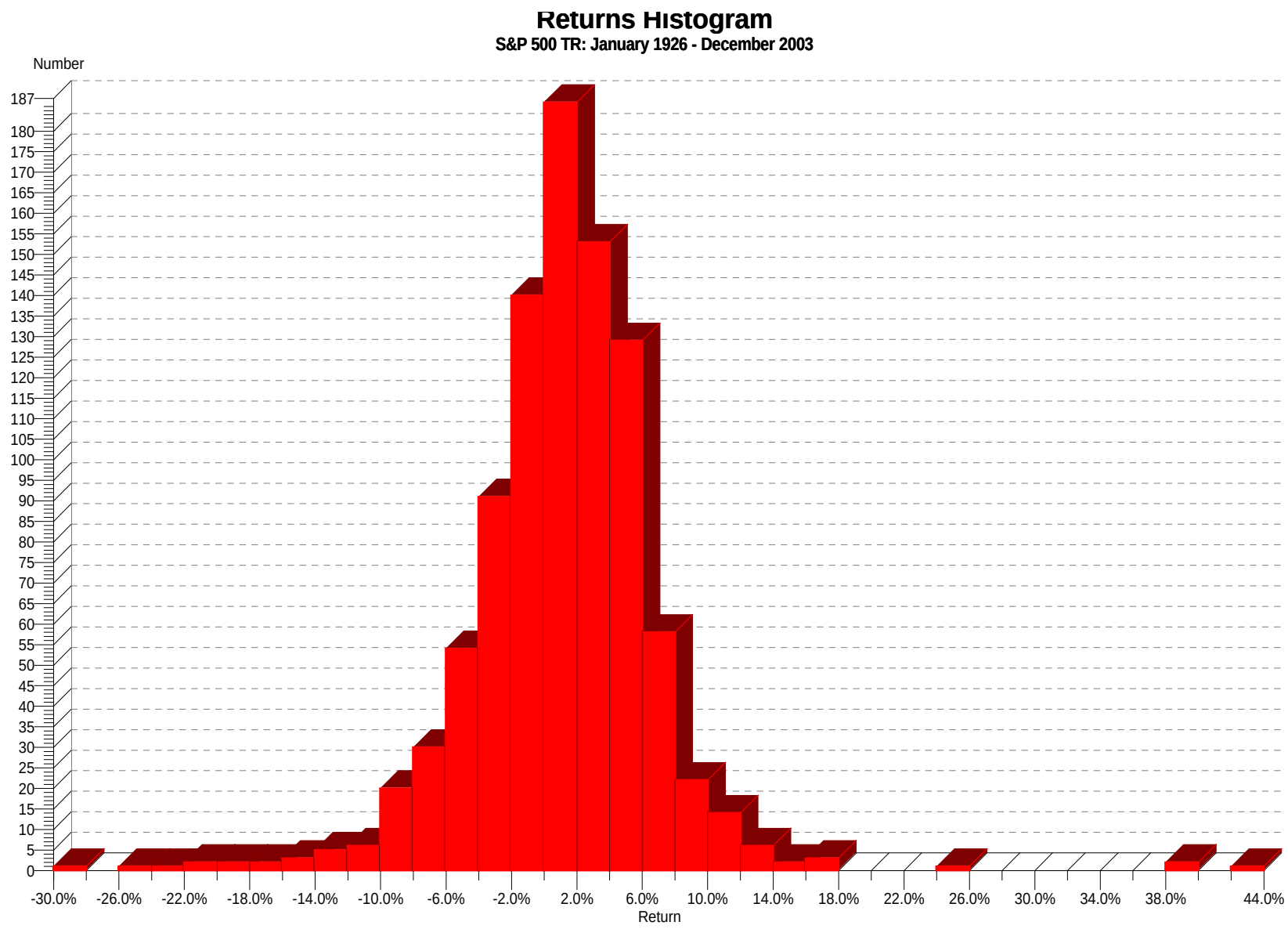
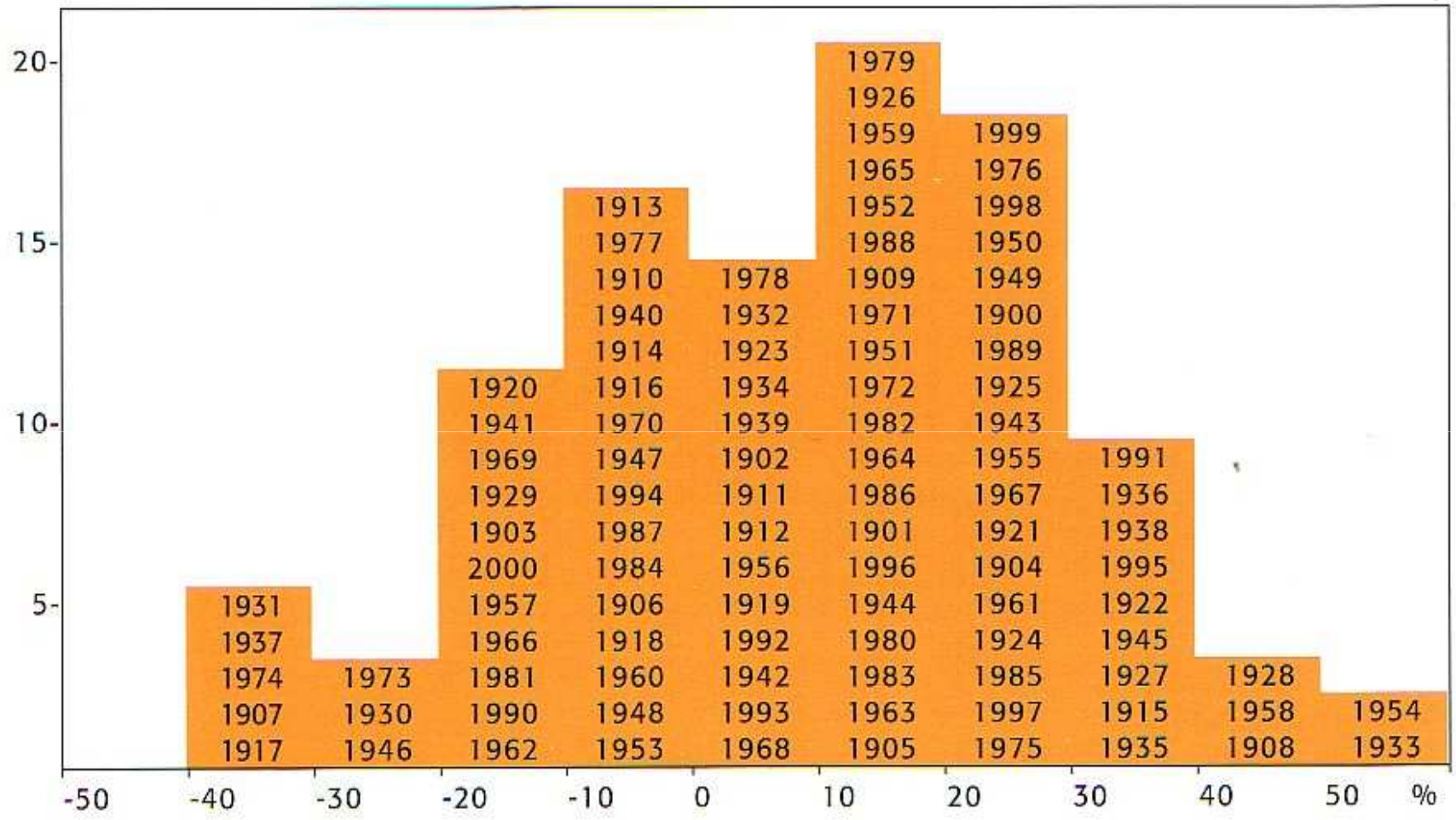
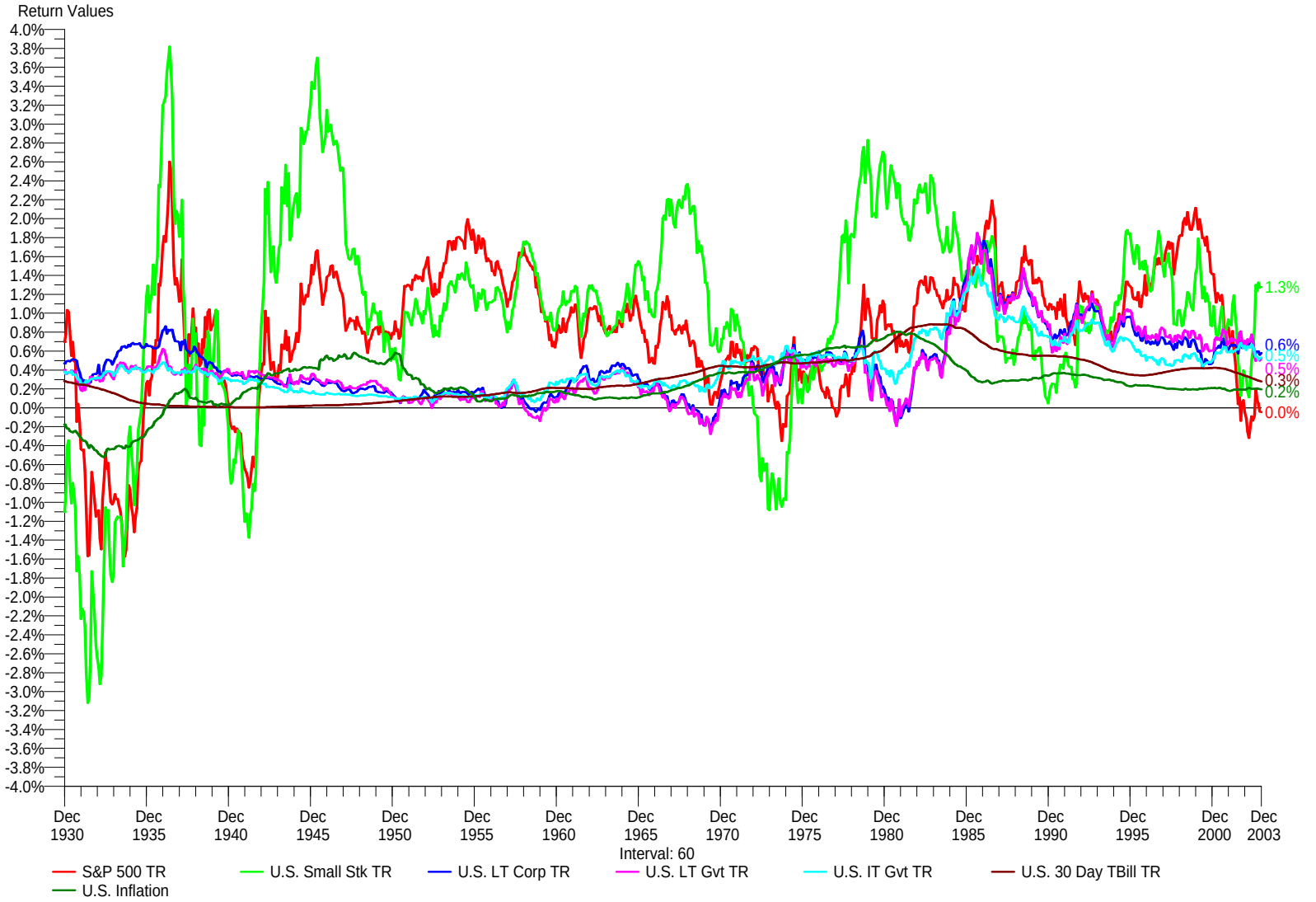
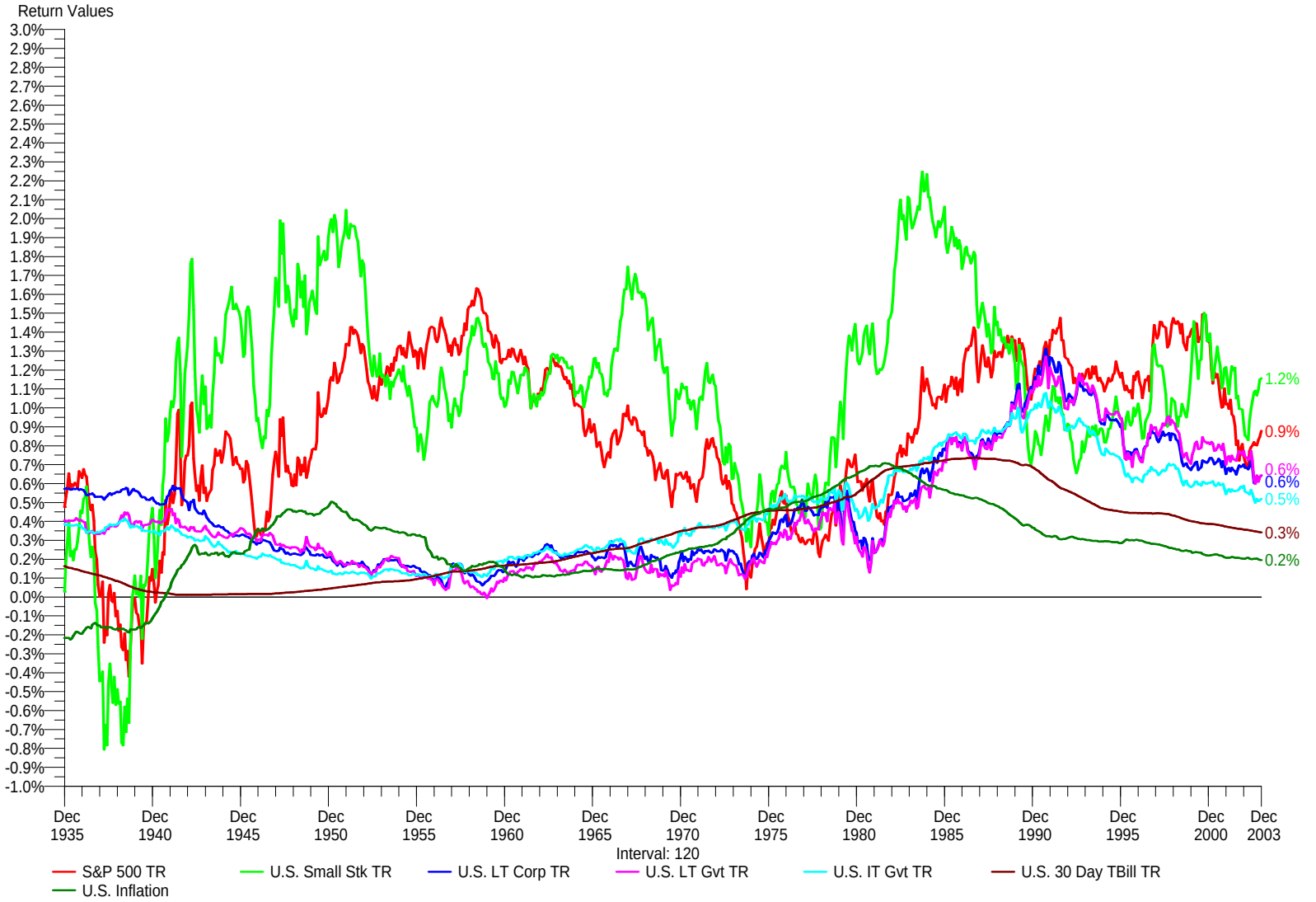
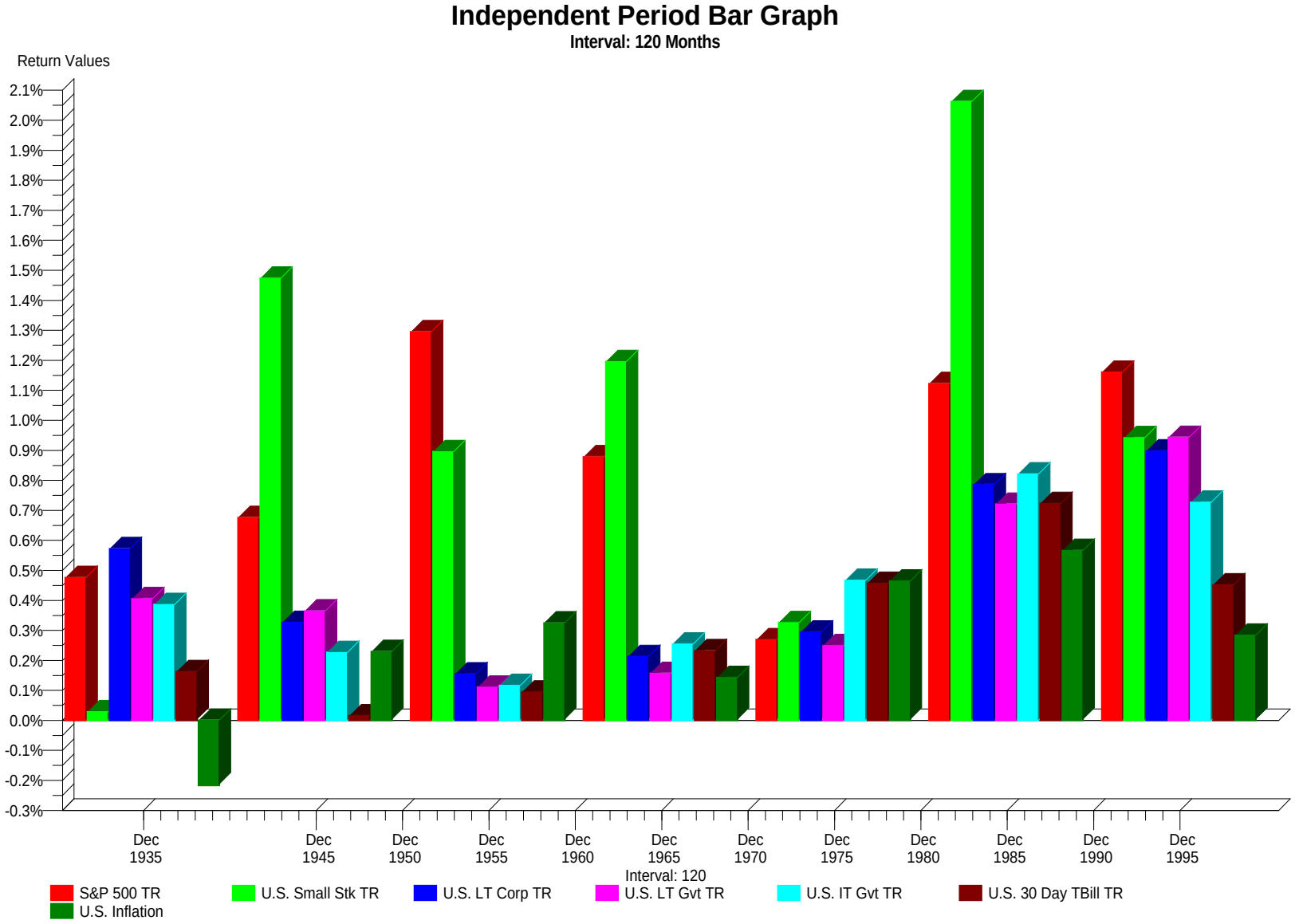

Returns Histogram
S&P 500 TR: January 1926 - December 2003
Number
187
180
175
170
165
160
155
150
145
140
135
130
125
120
115
110
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
-30.0%
-26.0%
-22.0%
-18.0%
-14.0%
-10.0%
-6.0%
-2.0%
2.0%
6.0%
10.0%
14.0%
18.0%
22.0%
26.0%
30.0%
34.0%
38.0%
44.0%
Return

Figure 4-9: Histogram of annual US real equity returns, 1900–2000




Rolling Line Graph
Interval: 60 Months
Return Values
4.0%
3.8%
3.6%
3.4%
3.2%
3.0%
2.8%
2.6%
2.4%
2.2%
2.0%
1.8%
1.6%
1.4%
1.2%
1.0%
0.8%
0.6%
0.4%
0.2%
0.0%
-0.2%
-0.4%
-0.6%
-0.8%
-1.0%
-1.2%
-1.4%
-1.6%
-1.8%
-2.0%
-2.2%
-2.4%
-2.6%
-2.8%
-3.0%
-3.2%
-3.4%
-3.6%
-3.8%
-4.0%
1.3%
0.6%
0.5%
0.5%
0.3%
0.2%
0.0%
Dec 1930
Dec 1935
Dec 1940
Dec 1945
Dec 1950
Dec 1955
Dec 1960
Dec 1965
Dec 1970
Dec 1975
Dec 1980
Dec 1985
Dec 1990
Dec 1995
Dec 2000
Dec 2003
Interval: 60
S&P 500 TR
U.S. Small Stk TR
U.S. LT Corp TR
U.S. LT Gvt TR
U.S. IT Gvt TR
U.S. 30 Day TBill TR
U.S. Inflation


Rolling Line Graph
Interval: 120 Months
Return Values
3.0%
2.9%
2.8%
2.7%
2.6%
2.5%
2.4%
2.3%
2.2%
2.1%
2.0%
1.9%
1.8%
1.7%
1.6%
1.5%
1.4%
1.3%
1.2%
1.1%
1.0%
0.9%
0.8%
0.7%
0.6%
0.5%
0.4%
0.3%
0.2%
0.1%
0.0%
-0.1%
-0.2%
-0.3%
-0.4%
-0.5%
-0.6%
-0.7%
-0.8%
-0.9%
-1.0%
1.2%
0.9%
0.6%
0.6%
0.5%
0.3%
0.2%
Dec 1935
Dec 1940
Dec 1945
Dec 1950
Dec 1955
Dec 1960
Dec 1965
Dec 1970
Dec 1975
Dec 1980
Dec 1985
Dec 1990
Dec 1995
Dec 2000
Dec 2003
Interval: 120
S&P 500 TR
U.S. Small Stk TR
U.S. LT Corp TR
U.S. LT Gvt TR
U.S. IT Gvt TR
U.S. 30 Day TBill TR
U.S. Inflation


Independent Period Bar Graph
Interval: 120 Months
Return Values
2.1%
2.0%
1.9%
1.8%
1.7%
1.6%
1.5%
1.4%
1.3%
1.2%
1.1%
1.0%
0.9%
0.8%
0.7%
0.6%
0.5%
0.4%
0.3%
0.2%
0.1%
0.0%
-0.1%
-0.2%
-0.3%
Dec 1935
Dec 1945
Dec 1950
Dec 1955
Dec 1960
Dec 1965
Dec 1970
Dec 1975
Dec 1980
Dec 1985
Dec 1990
Dec 1995
Interval: 120
S&P 500 TR
U.S. Small Stk TR
U.S. LT Corp TR
U.S. LT Gvt TR
U.S. IT Gvt TR
U.S. 30 Day TBill TR
U.S. Inflation

Διεθνείς αποδόσεις

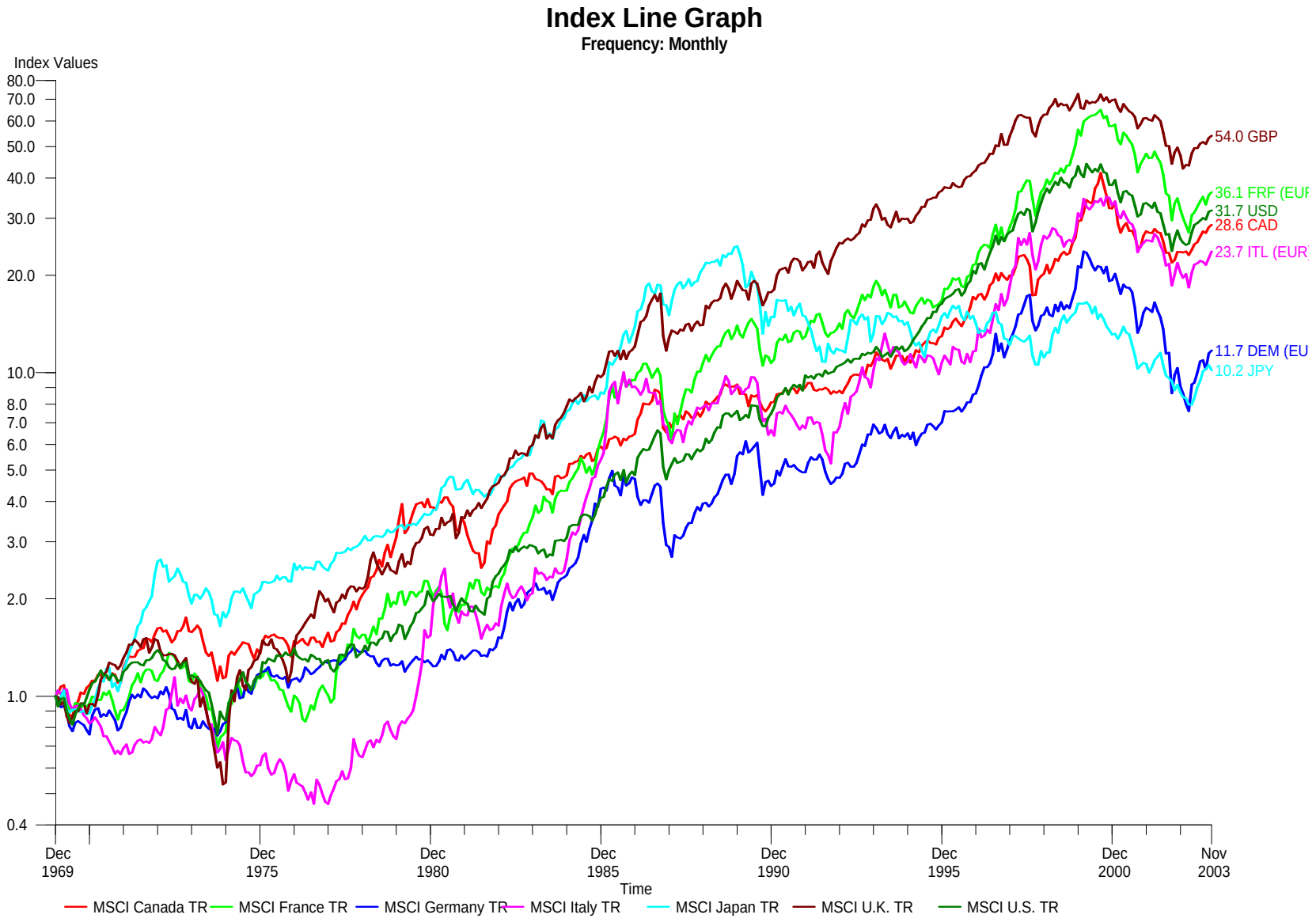
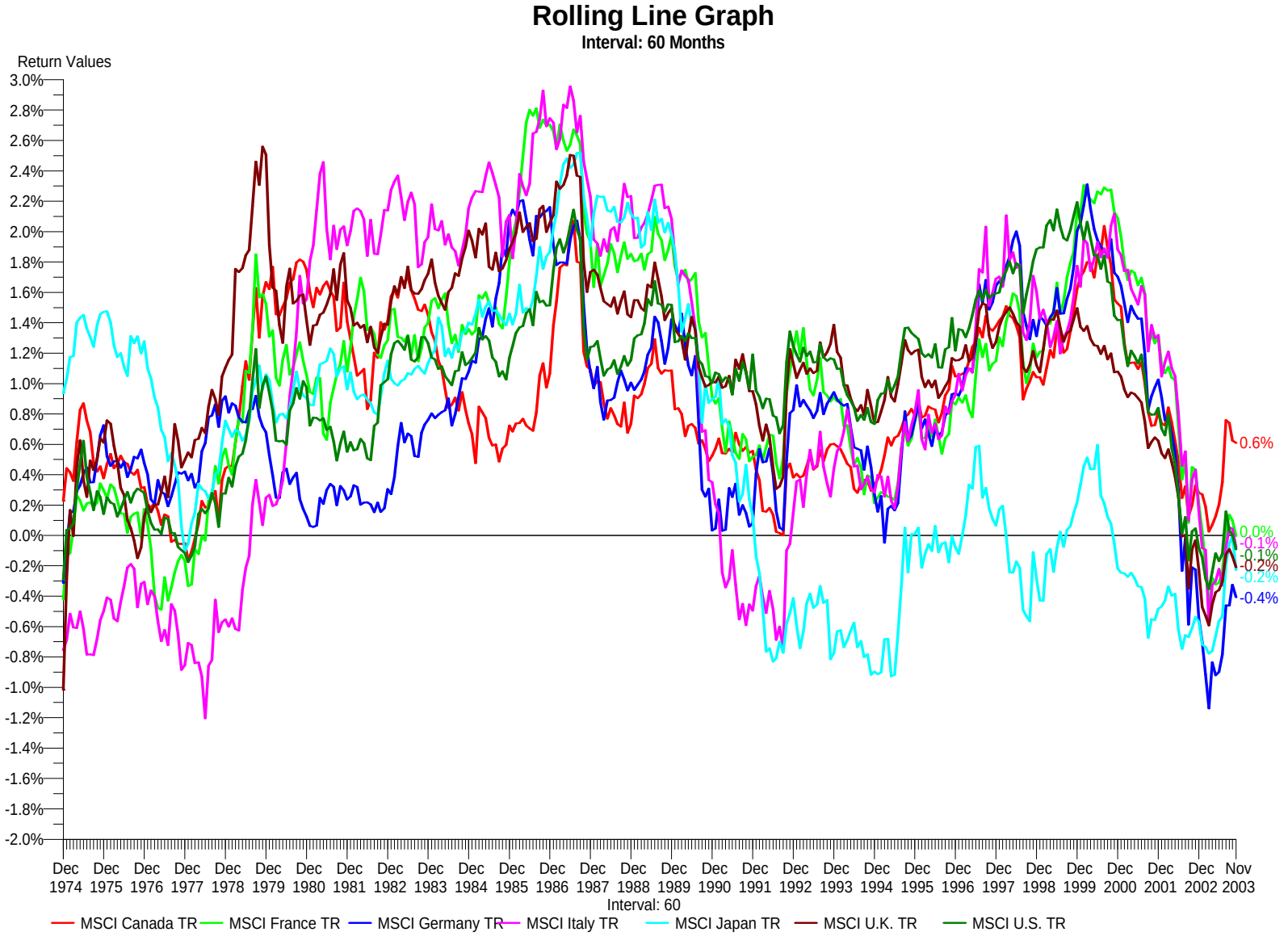

Index Line Graph
Frequency: Monthly
Index Values
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.4
54.0 GBP
36.1 FRF (EUF
31.7 USD
28.6 CAD
23.7 ITL (EUR
11.7 DEM (EU
10.2 JPY
Dec 1969
Dec 1975
Dec 1980
Dec 1985
Dec 1990
Dec 1995
Dec 2000
Nov 2003
Time
MSCI Canada TR
MSCI France TR
MSCI Germany TR
MSCI Italy TR
MSCI Japan TR
MSCI U.K. TR
MSCI U.S. TR


Chart
260
240
220
200
180
160
140
120
100
80
60
40
Dec 29, 2000
Dec 29, 2002
Dec 29, 2004
Dec 29, 2006
Dec 29, 2008
Add/Remove Indices >
GERMANY Standard Core
CANADA Standard Core
SPAIN Standard Core
USA Standard Core
FRANCE Standard Core
UNITED KINGDOM Standard Core
Update Chart Attributes...
Term:
5 year
Start Date:
Dec 29, 2000
End Date:
Dec 06, 2010
Index Level:
Price
Currency:
USD
Frequency:
Monthly


Rolling Line Graph
Interval: 60 Months
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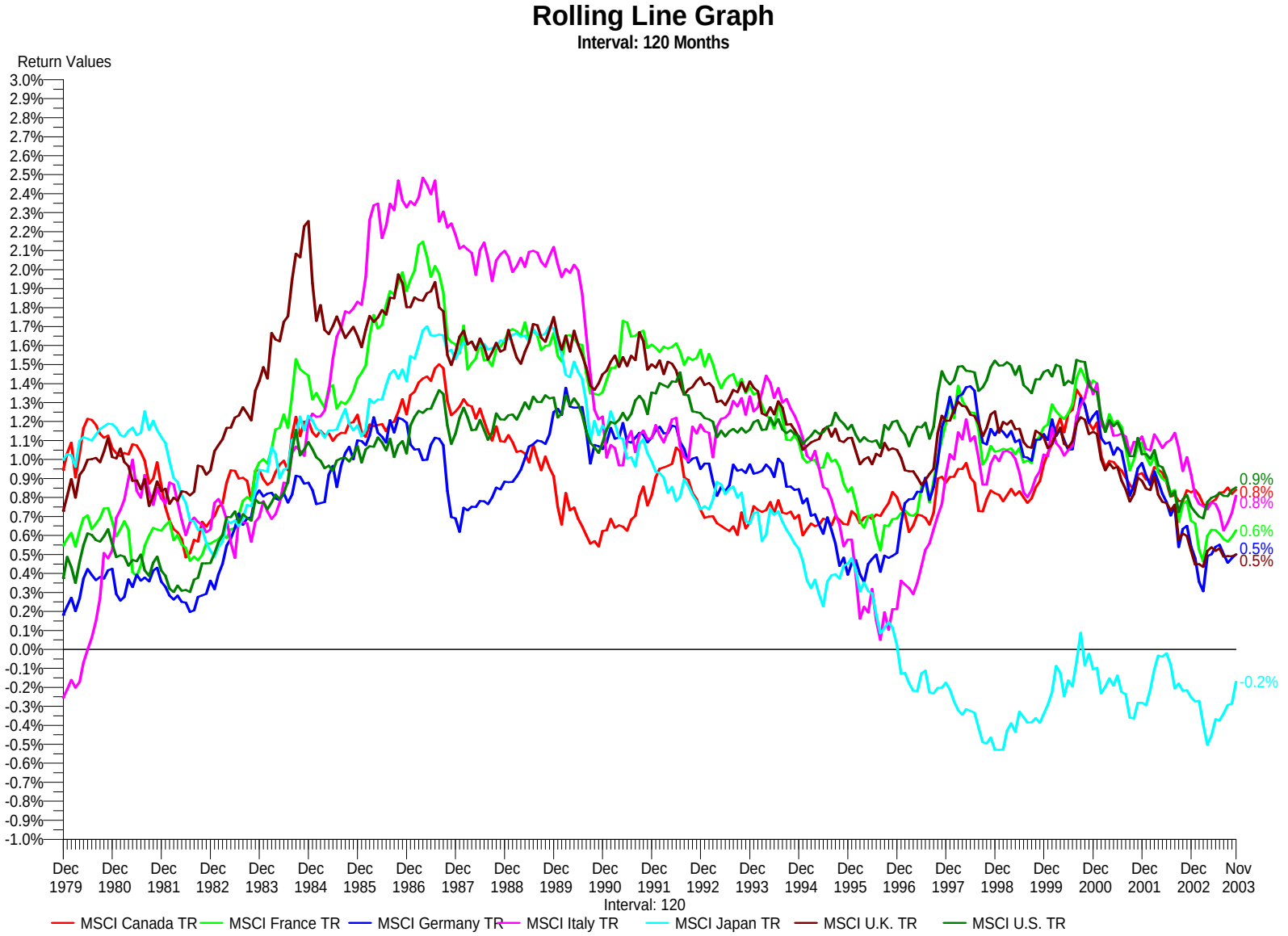
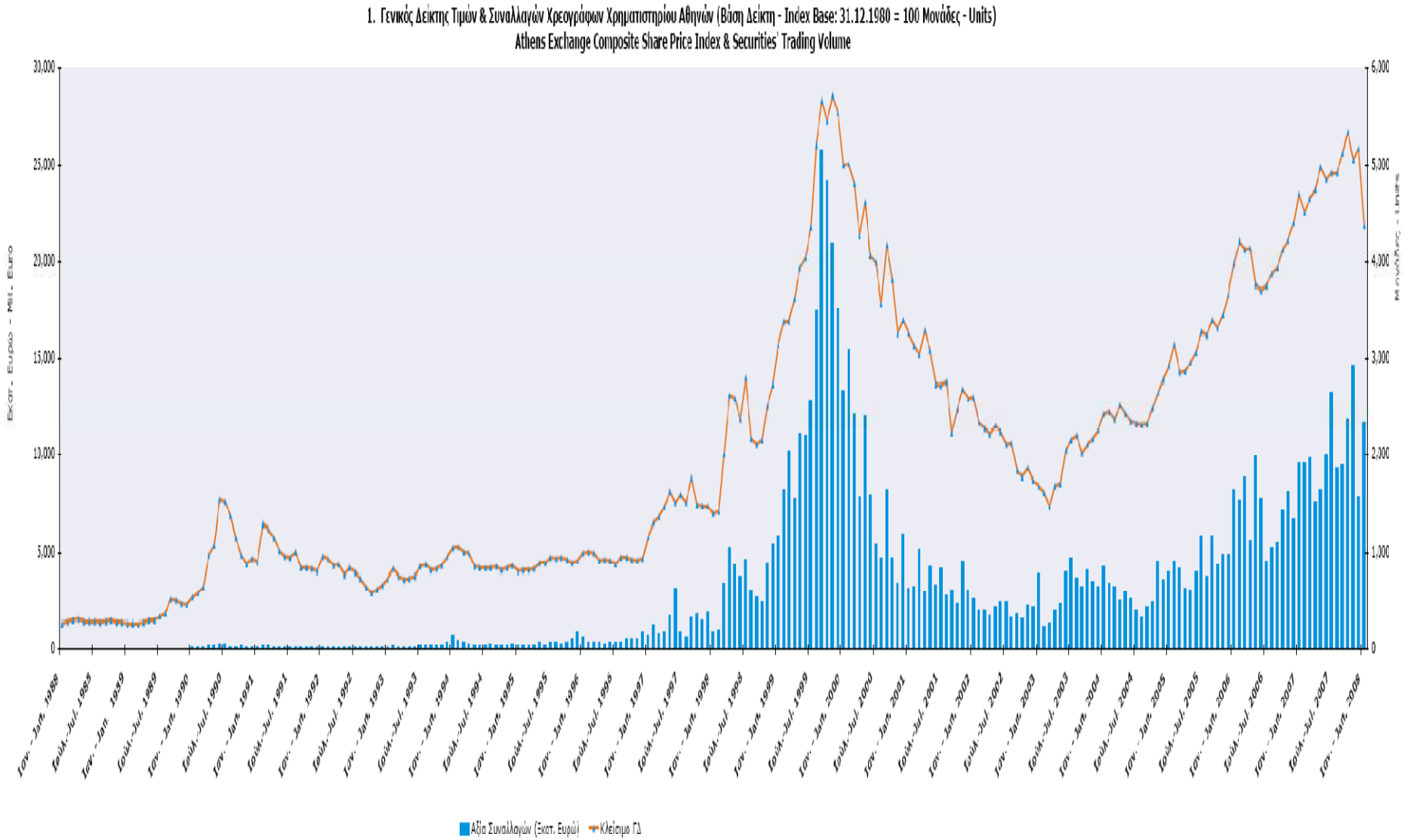
2.8%
2.6%
2.4%
2.2%
2.0%
1.8%
1.6%
1.4%
1.2%
1.0%
0.8%
0.6%
0.4%
0.2%
0.0%
-0.2%
-0.4%
-0.6%
-0.8%
-1.0%
-1.2%
-1.4%
-1.6%
-1.8%
-2.0%
Dec 1974
Dec 1975
Dec 1976
Dec 1977
Dec 1978
Dec 1979
Dec 1980
Dec 1981
Dec 1982
Dec 1983
Dec 1984
Dec 1985
Dec 1986
Dec 1987
Dec 1988
Dec 1989
Dec 1990
Dec 1991
Dec 1992
Dec 1993
Dec 1994
Dec 1995
Dec 1996
Dec 1997
Dec 1998
Dec 1999
Dec 2000
Dec 2001
Dec 2002
Nov 2003
Interval: 60
MSCI Canada TR
MSCI France TR
MSCI Germany TR
MSCI Italy TR
MSCI Japan TR
MSCI U.K. TR
MSCI U.S. TR
0.6%
0.0%
-0.1%
-0.1%
-0.2%
-0.2%
-0.4%


Rolling Line Graph
Interval: 120 Months
Return Values
3.0%
2.9%
2.8%
2.7%
2.6%
2.5%
2.4%
2.3%
2.2%
2.1%
2.0%
1.9%
1.8%
1.7%
1.6%
1.5%
1.4%
1.3%
1.2%
1.1%
1.0%
0.9%
0.8%
0.7%
0.6%
0.5%
0.4%
0.3%
0.2%
0.1%
0.0%
-0.1%
-0.2%
-0.3%
-0.4%
-0.5%
-0.6%
-0.7%
-0.8%
-0.9%
-1.0%
0.9%
0.8%
0.8%
0.6%
0.5%
0.5%
-0.2%
Dec 1979
Dec 1980
Dec 1981
Dec 1982
Dec 1983
Dec 1984
Dec 1985
Dec 1986
Dec 1987
Dec 1988
Dec 1989
Dec 1990
Dec 1991
Dec 1992
Dec 1993
Dec 1994
Dec 1995
Dec 1996
Dec 1997
Dec 1998
Dec 1999
Dec 2000
Dec 2001
Dec 2002
Nov 2003
Interval: 120
MSCI Canada TR
MSCI France TR
MSCI Germany TR
MSCI Italy TR
MSCI Japan TR
MSCI U.K. TR
MSCI U.S. TR

Ελλάδα


1. Γενικός Δείκτης Τιμών & Συναλλαγών Χρεογράφων Χρηματιστηρίου Αθηνών (Βάση Δείκτη - Index Base: 31.12.1980 = 100 Μονάδες - Units)
Athens Exchange Composite Share Price Index & Securities' Trading Volume
Εκατ. Ευρώ - Mil. Euro
Μονάδες - Units
30,000
25,000
20,000
15,000
10,000
5,000
0
6,000
5,000
4,000
3,000
2,000
1,000
0
Αξία Συναλλαγών (Εκατ. Ευρώ)
Κλείσιμο ΓΔ


OVERLAY
INDICATORS
ANNOTATIONS
SETTINGS
1D
1W
1M
3M
6M
1Y
3Y
5Y
YTD
[?]Add a Comparison
Add
ASE:IND
Open 1492.4399
High 1503.87
Low 1482.1999
Close 1489.459
Print
7500
5000
2500
04/05/2011
MAY
SEP
2008
MAY
SEP
2009
MAY
SEP
2010
MAY
SEP
2011
MAY
SEP
2012
Volume 15351429
300M
200M
100M

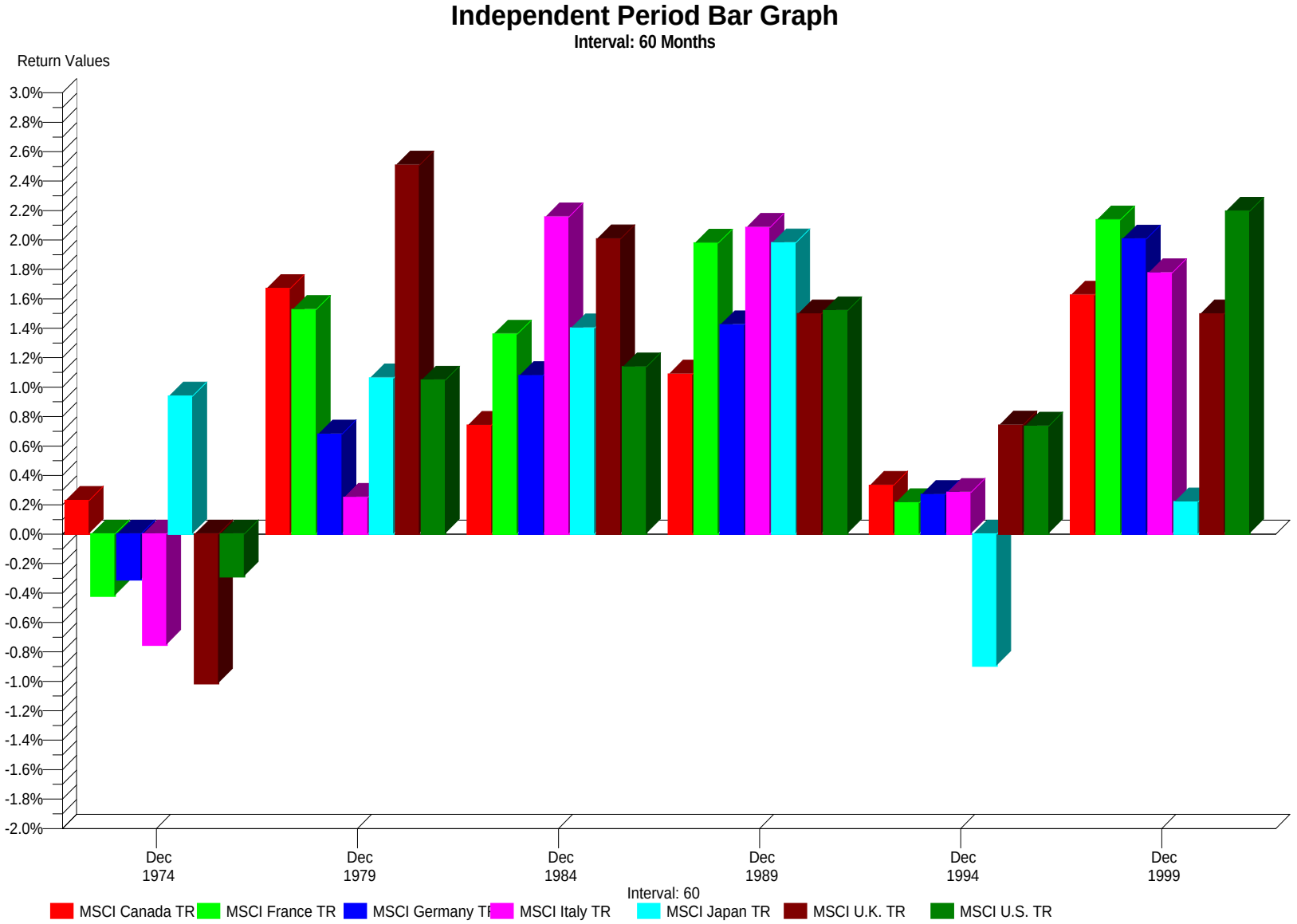

Independent Period Bar Graph
Interval: 60 Months
Return Values
3.0%
2.8%
2.6%
2.4%
2.2%
2.0%
1.8%
1.6%
1.4%
1.2%
1.0%
0.8%
0.6%
0.4%
0.2%
0.0%
-0.2%
-0.4%
-0.6%
-0.8%
-1.0%
-1.2%
-1.4%
-1.6%
-1.8%
-2.0%
Dec 1974
Dec 1979
Dec 1984
Dec 1989
Dec 1994
Dec 1999
Interval: 60
MSCI Canada TR
MSCI France TR
MSCI Germany TR
MSCI Italy TR
MSCI Japan TR
MSCI U.K. TR
MSCI U.S. TR

Figure 4-5: Nominal and real equity returns around the world, 1900–2000

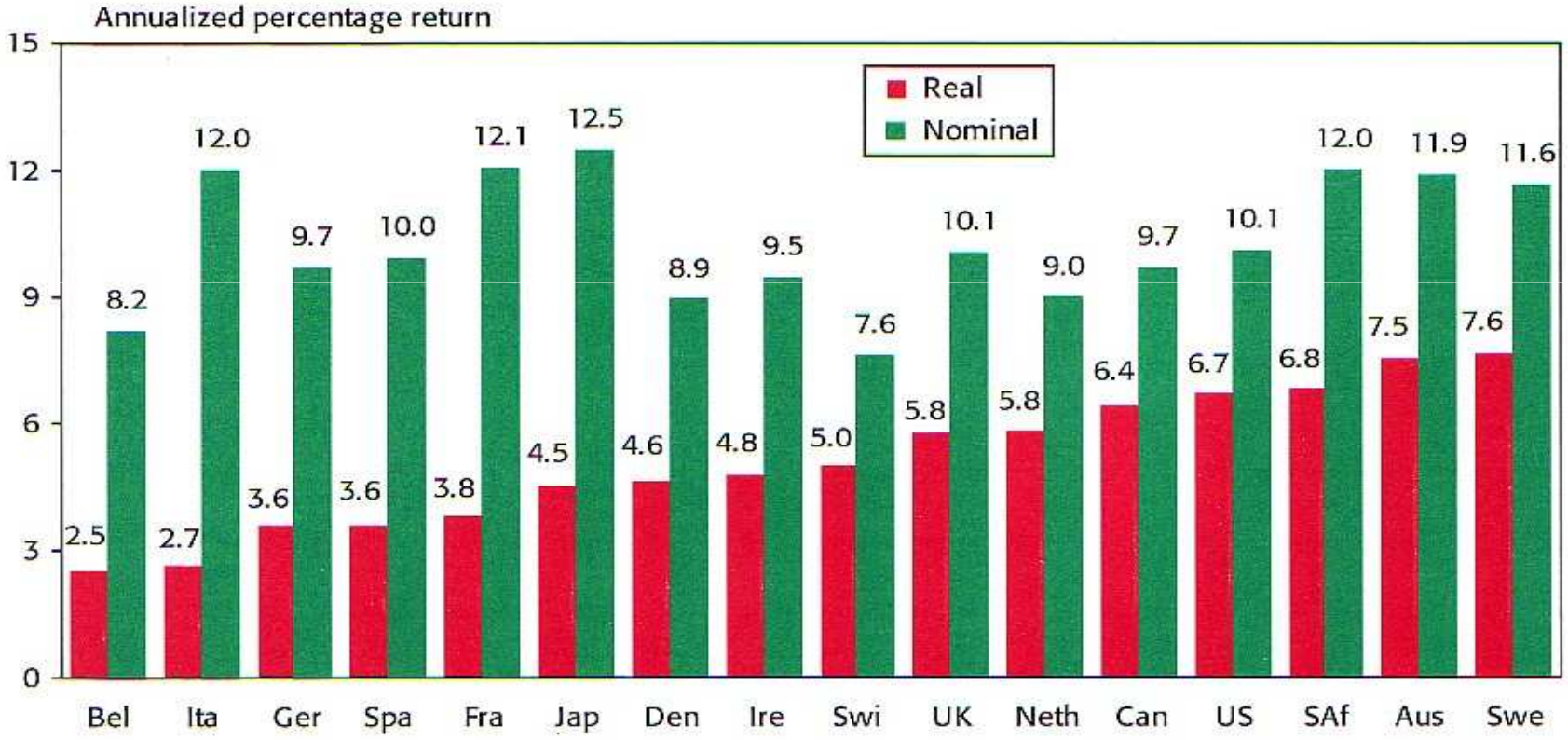


Figure 4-7: Real returns on equities versus bonds internationally, 1900–2000

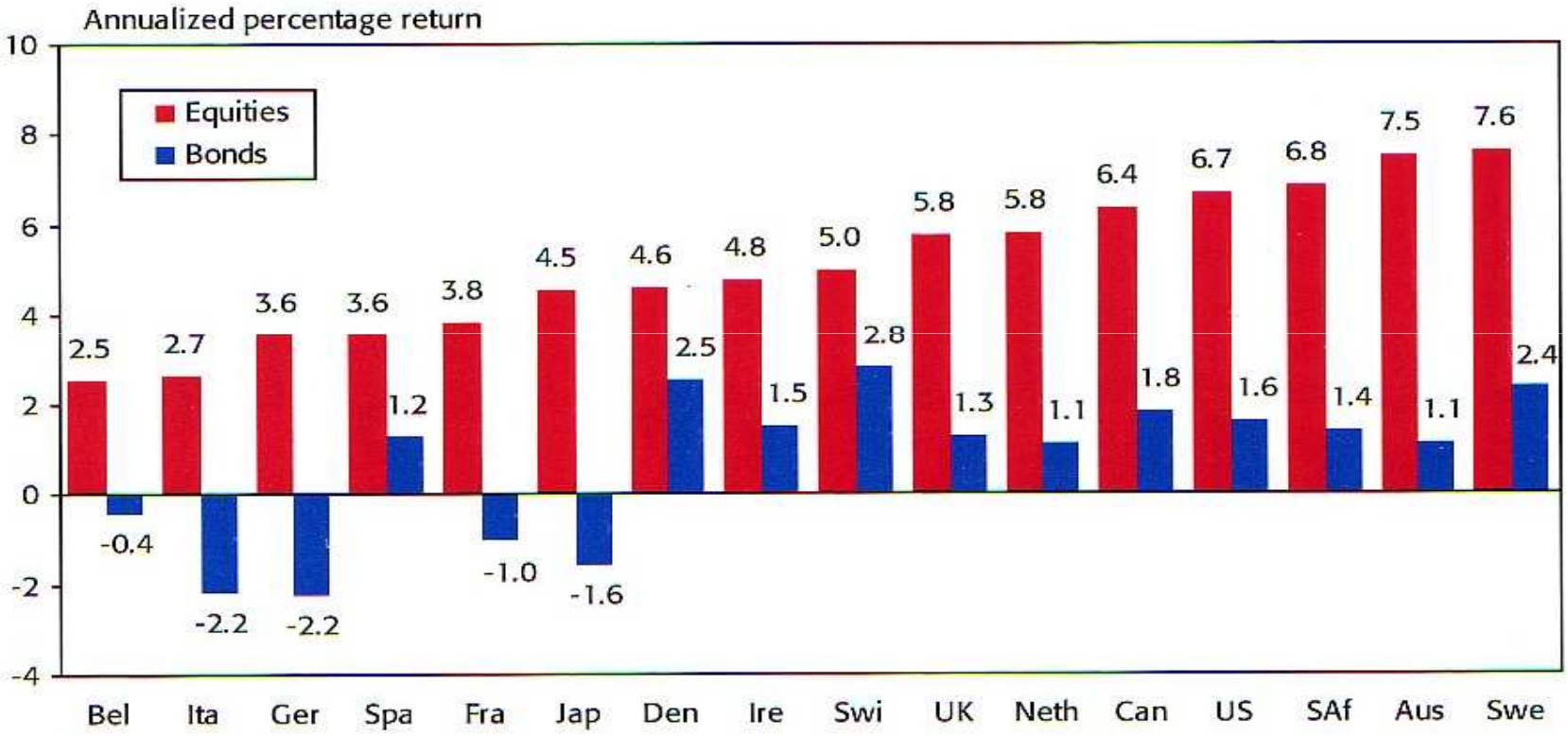
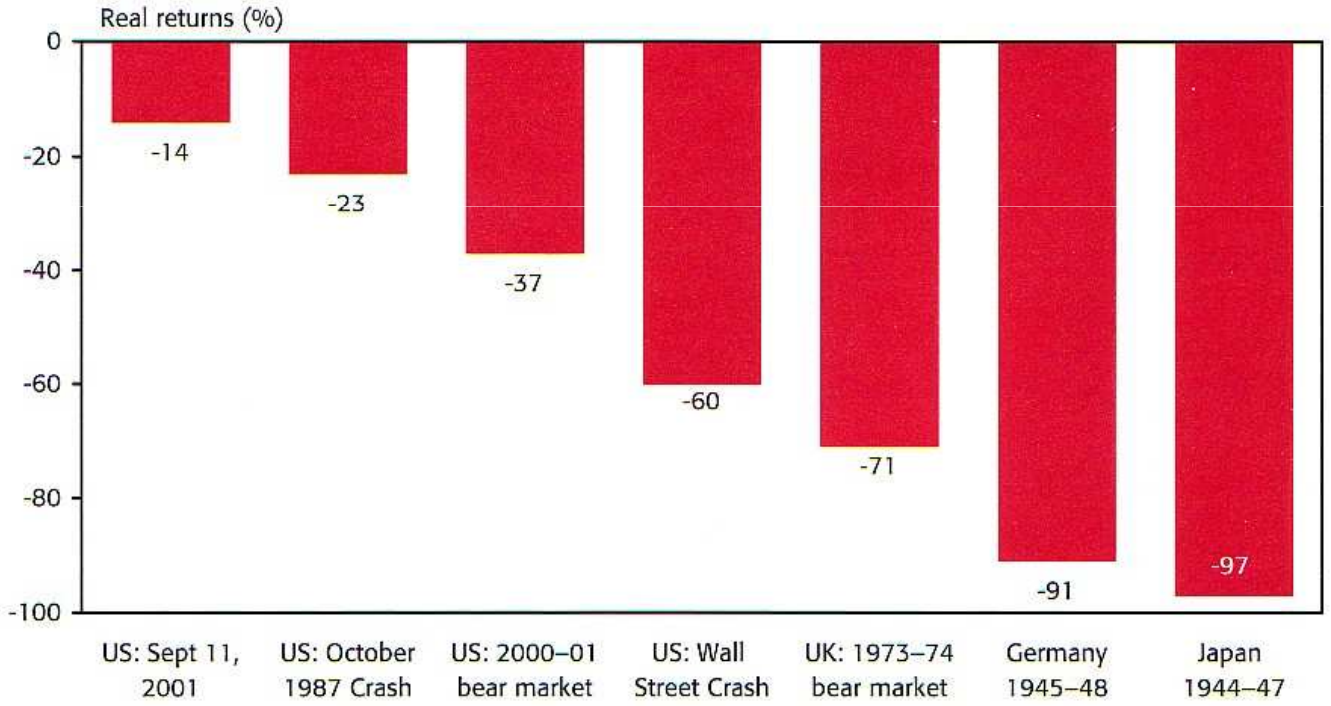


Figure 4-12: Selected periods of large losses on equities around the world



Αγορές Συναλλάγματος

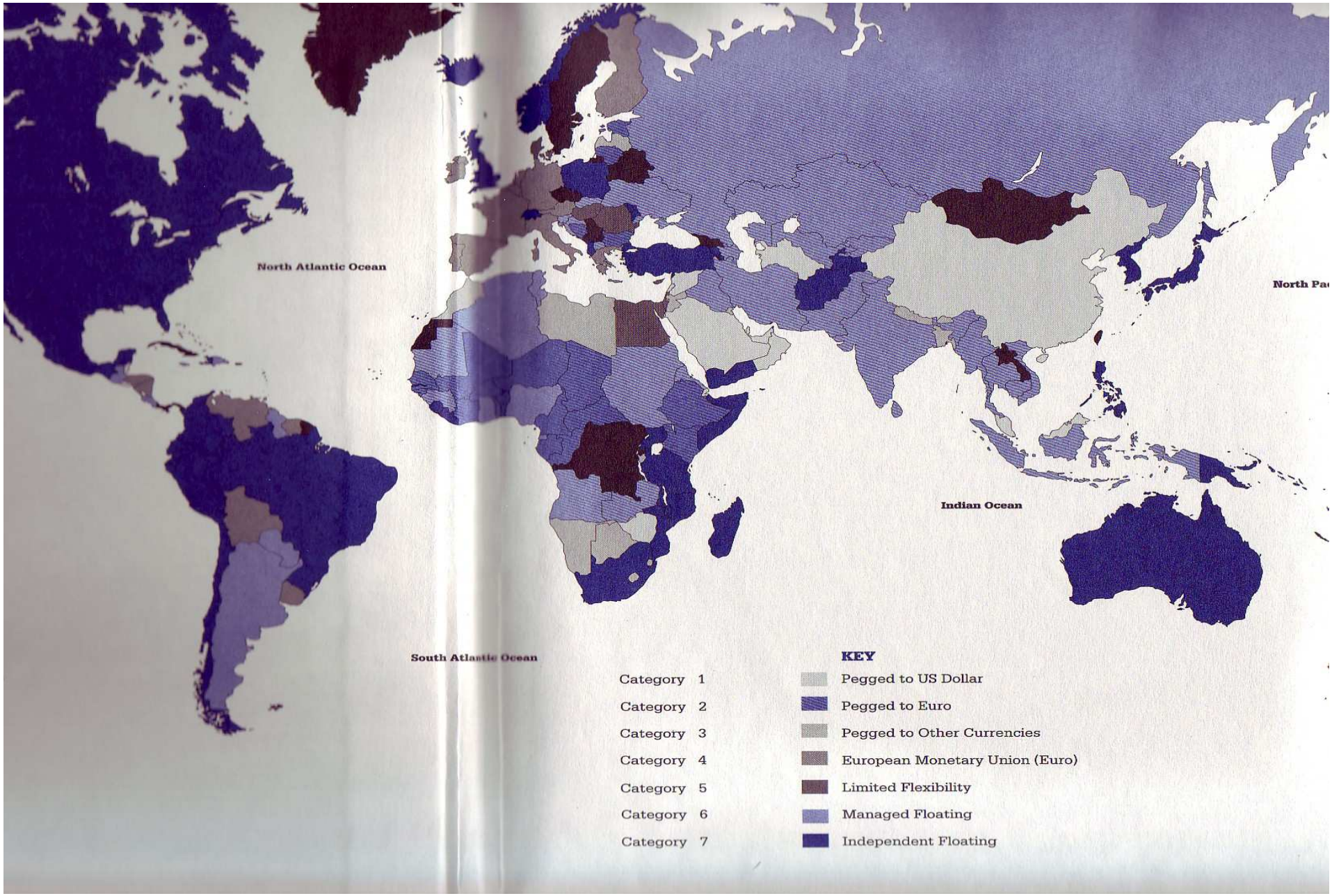
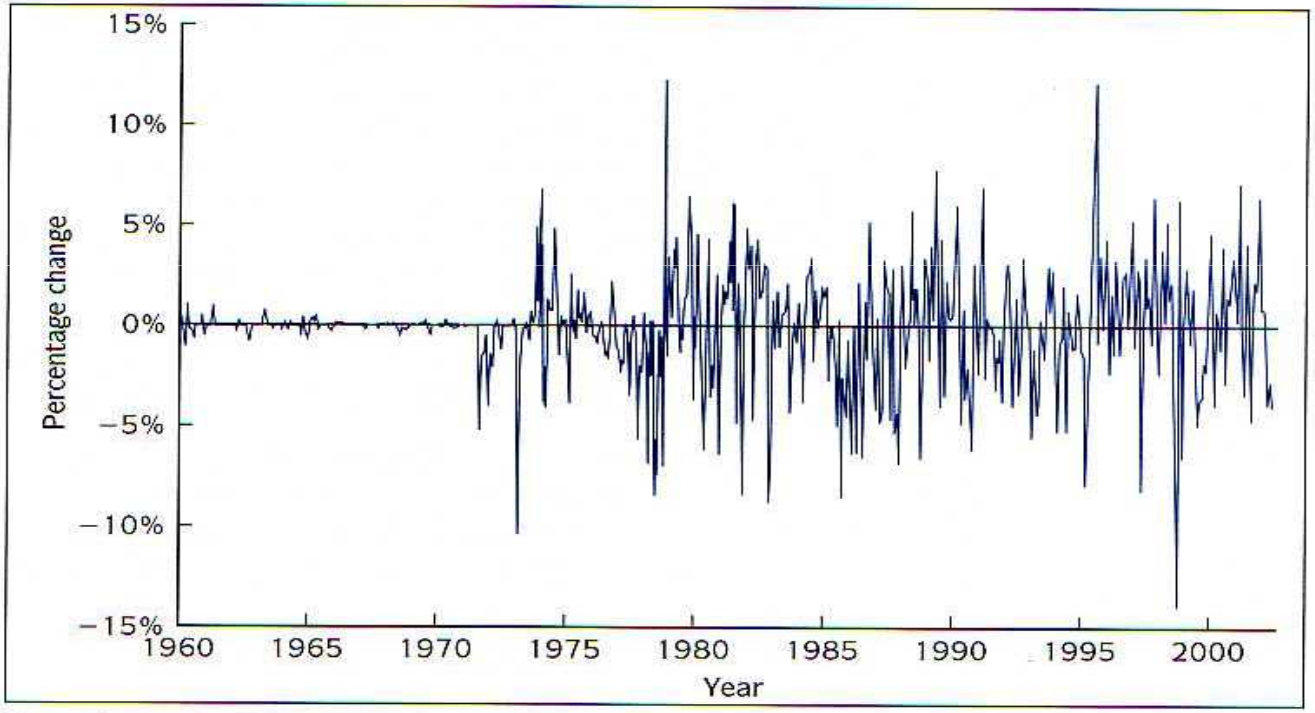

North Atlantic Ocean
North Pa
Indian Ocean
South Atlantic Ocean
KEY
Category 1
Category 2
Category 3
Category 4
Category 5
Category 6
Category 7
Pegged to US Dollar
Pegged to Euro
Pegged to Other Currencies
European Monetary Union (Euro)
Limited Flexibility
Managed Floating
Independent Floating

EXHIBIT 1.1

Monthly Percentage Change in Japanese Yen–U.S. Dollar Exchange Rate



Source: International Monetary Fund, *International Financial Statistics,* various issues.

Figure 7-6: Volatility of annual changes in the real exchange rate: 1950–71 vs. 1972–2000

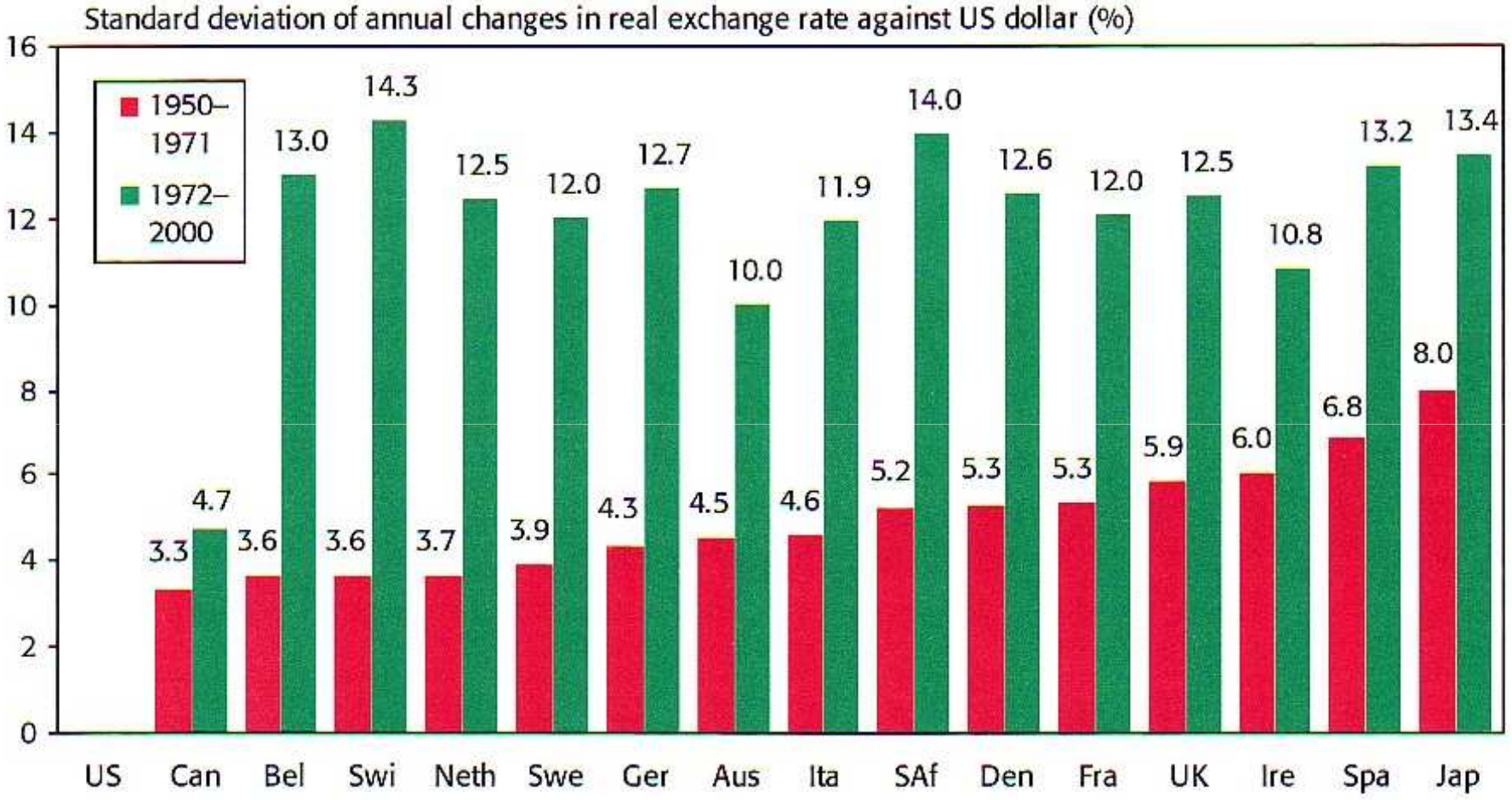


Figure 7-1: Nominal exchange rates against the US dollar (rebased to 1900 =1)

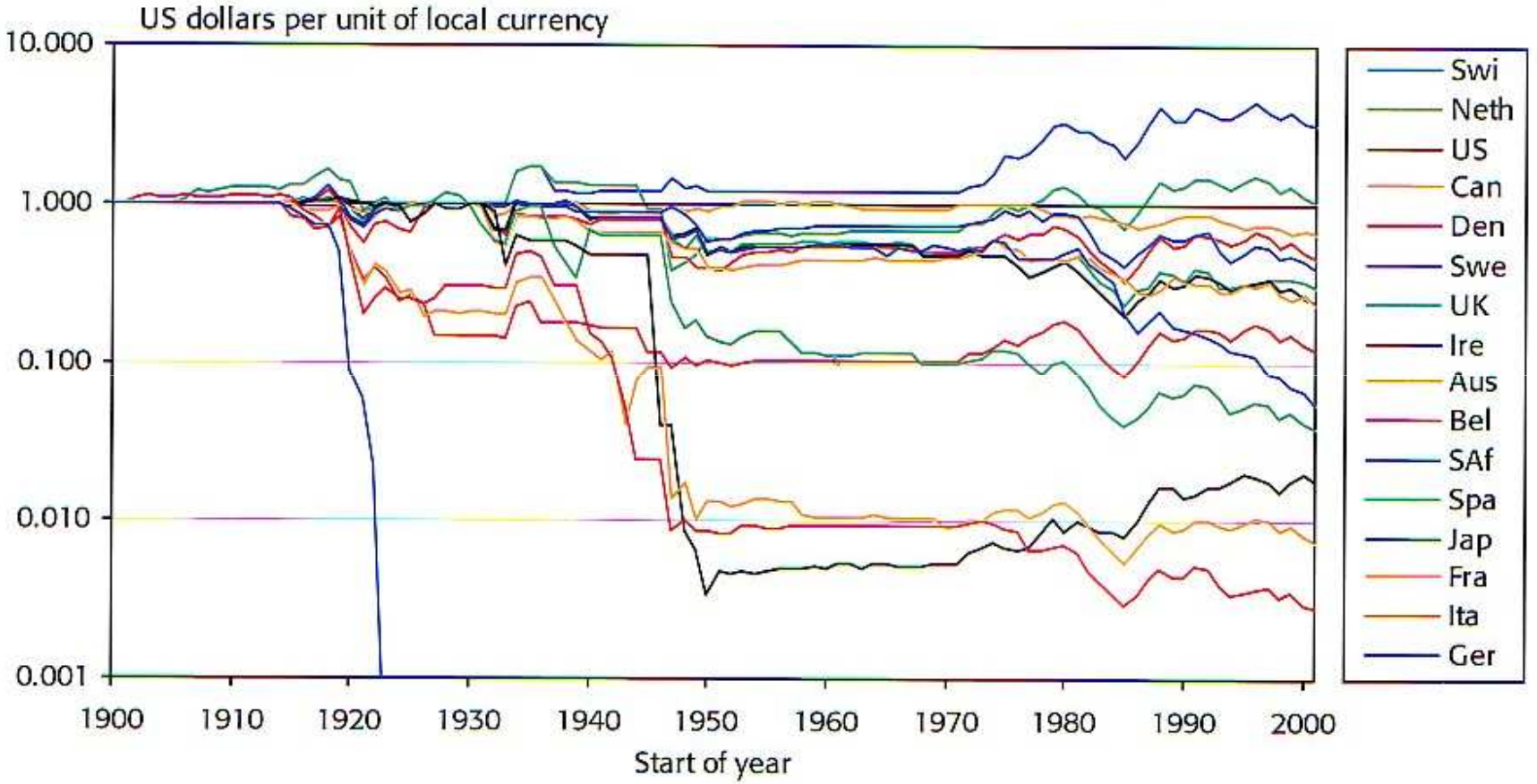


Figure 7-5: Real exchange rates relative to the US dollar (rebased to 1900 = 1)

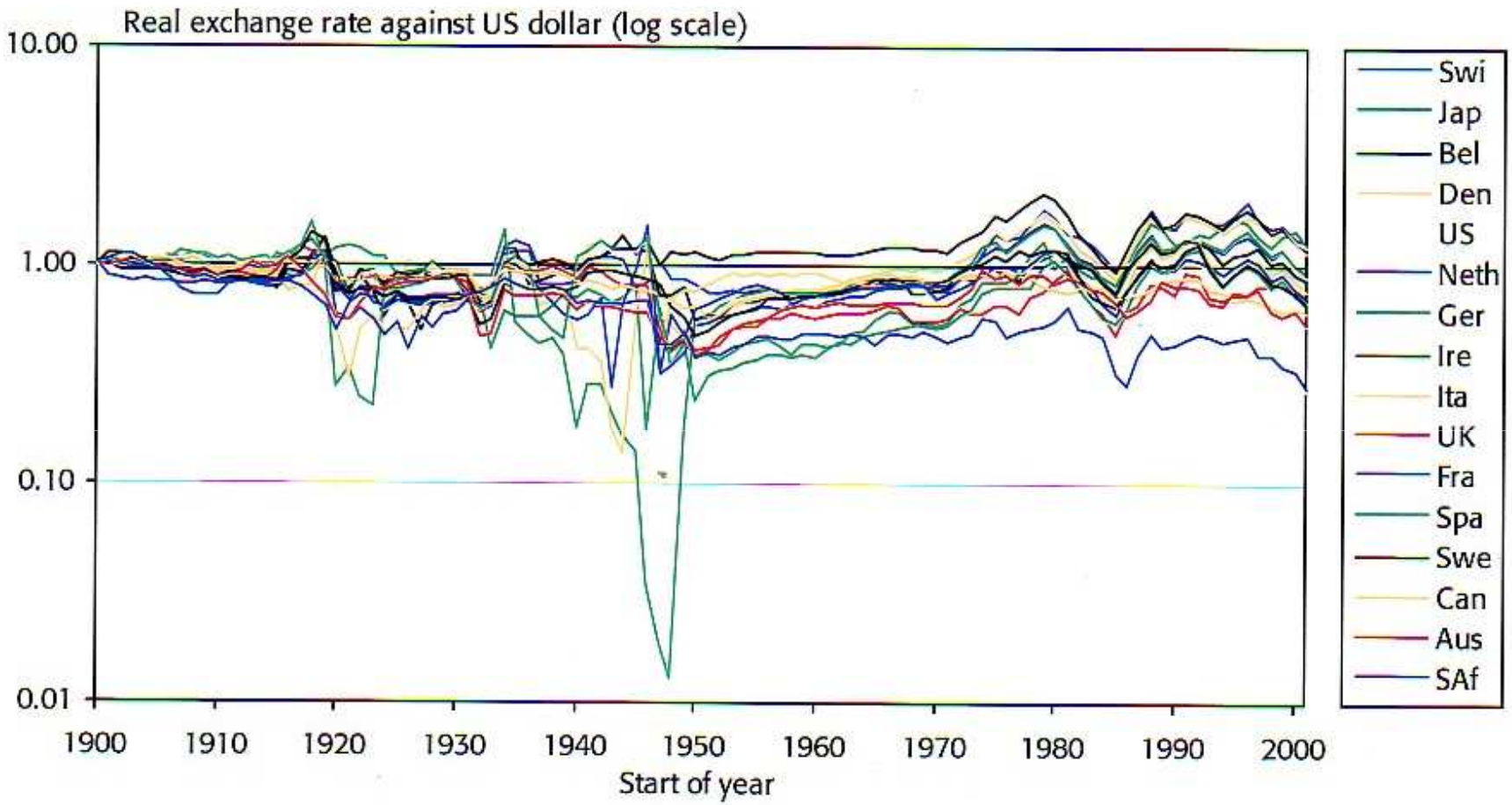
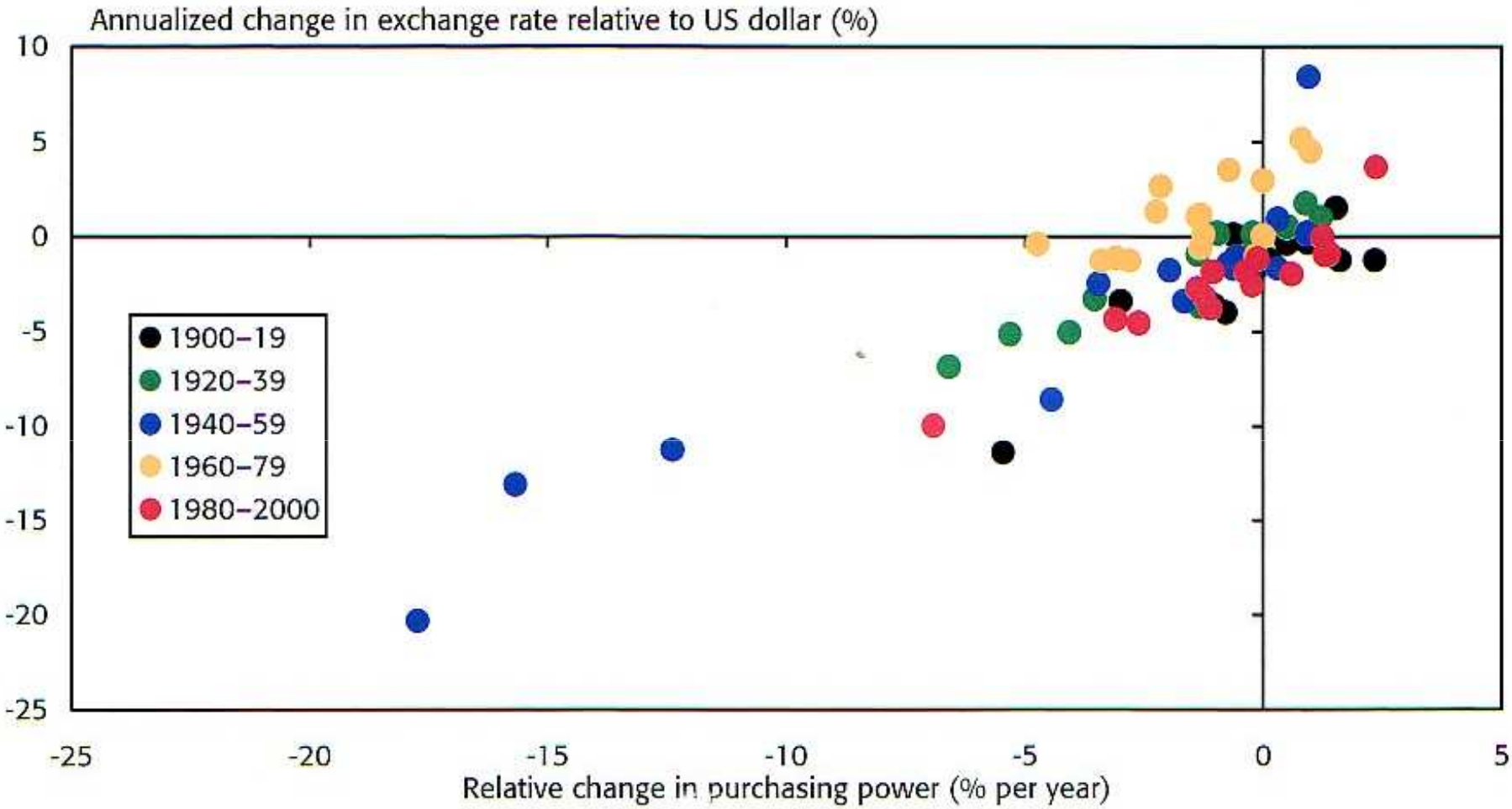


Figure 7-4: Purchasing power parity over the period 1900–2000



Economist

The Hamburger Standard (based on March 25, 2006 BigMac Prices)

Country	BigMac Price		Actual Exchange Rate 1 USD =	Over(+) / Under(-) Valuation against the dollar, %	Purchasing Power Price
	in Local Currency	in US dollars			
United States	$3.10	3.10	1.00	-	-
Argentina	Peso 7.00	2.2509	3.1098	-27.3265	2.26
Australia	A$3.25	2.5151	1.2922	-18.7432	1.05
Brazil	Real6.40	3.0223	2.1176	-2.7201	2.06
Britain	£1.94	3.7824	1.9497‡	21.8561	0.625
Canada	C$3.52	2.9986	1.1739	-2.8878	1.14
China	Yuan10.50	1.352	7.7661	-56.3487	3.39
Euro area	€2.94	3.8192	0.7698	23.718	0.9524
Hong Kong	HK$12.00	1.5356	7.8144	-50.476	3.87
Hungary	Forint 560	2.8522	196.339	-7.8125	181
Indonesia	Rupiah14,600	1.6089	9074.41	-48.0958	4,710
Japan	¥250	2.0509	121.899	-33.8797	80.6
Malaysia	M$5.50	1.5737	3.4949	-49.3548	1.77
Mexico	Peso29.0	2.6322	11.0173	-15.1335	9.35
New Zealand	NZ$4.45	3.0454	1.4612	-1.4509	1.44
Poland	Zloty6.50	2.1541	3.0175	-30.406	2.10
Russia	Rouble48.00	1.819	26.3887	-41.2627	15.5
Singapore	s$3.60	2.3428	1.5366	-24.5087	1.16
South Africa	Rand13.95	1.9254	7.2452	-37.8899	4.50
South Korea	Won2,500	2.6345	948.947	-15.0637	806
Sweden	Skr33.0	4.6965	7.0265	50.8575	10.6
Switzerland	SFr6.30	5.0388	1.2503	62.361	2.03
Taiwan	NT$75.00	2.2662	33.0945	-26.8761	24.2
Thailand	Baht60.0	1.7741	33.8207	-42.6387	19.4

‡ Dollars per pound

Purchasing Power Parity (PPP): is a measure of the relative purchasing power of different currencies. It is measured by the price of the same goods in different countries, translated by the FX rate (or exchange rate) of that country's currency against a "base currency".

How to read this table:
In this case, the goods is the Big Mac. For example, if a BigMac costs €2.75 in the countries that use Euro and costs $2.65 in US, then the PPP exchange rate would be 2.75/2.65 = 1.0377.
If the actual exchange rate is lower, then the BigMac theory says that you should expect the value of the Euro to go up until it reaches the PPP exchange rate. If the actual exchange rate is higher, then the BigMac theory says that you should expect the value of the Euro to go down until it reaches the PPP exchange rate.

The Over/Under valuation against the dollar is calculated as:

$$\frac{(\text{PPP} - \text{Exchange Rate})}{\text{Exchange Rate}} \times 100$$

Ισοτιμία αγοραστικής δύναμης

Απόλυτη ΙΑΔ:

$$S=P\_\$/P\_\ \varepsilon$$

P_$ - Τιμή προϊόντων στην Αμερική (σε $)

P_ε - Τιμή προϊόντων στην Ευρώπη (σε Ε)

Σχετική ΙΑΔ:

$$\Delta S/S= \Delta(P\_\$/P\_\varepsilon)/(P\_\$/P\_\varepsilon)$$

ή κατά προσέγγιση

$$\Delta S/S=\pi\_\$ - \pi\_\varepsilon$$

π_$ - πληθωρισμός προϊόντων στην Αμερική (σε $)

π_ε - πληθωρισμός προϊόντων στην Ευρώπη (σε Ε)

www.economist.com/markets/Bigmac/Index.cfm

Αποκλίσεις από ισοτιμία αγοραστικής δύναμης

Πραγματική Συναλλάγματική ισοτιμία q (κ.π.)

$$q= 1+\pi_{\$} - \pi_{\varepsilon} - \Delta S/S$$

Αν ισχύει η (Σ)ΙΑΔ, τότε q=1

(υπό κάποιες συνθήκες)

1. Τέλειες χρηματαγορές
2. Τέλειες αγορές προϊόντων
3. Ίδια καταναλωτική συμπεριφορά σε όλες τις χώρες
4. Οι προσδοκίες για τις τιμές στο μέλλον είναι σωστές
5. Οι αγορές είναι σε ισορροπία

Τέλειες = ανταγωνιστικές, χωρίς κόστη συναλλαγών, δασμούς και περιορισμούς, ασύμμετρη πληροφόρηση

Εμπειρικά στοιχεία

- Αρμπιτράζ προϊόντων είναι περιορισμένο
- ΙΑΔ
  - περισσότερο για κάποια προϊόντα
  - περισσότερο για κάποιες χώρες
  - έχει χρησιμότητα ως προσεγγιστική υπόθεση ακόμα και αν δεν ισχύει ακριβώς

Figure 7-7: Real equity returns in US dollars and local currency, 1900–2000

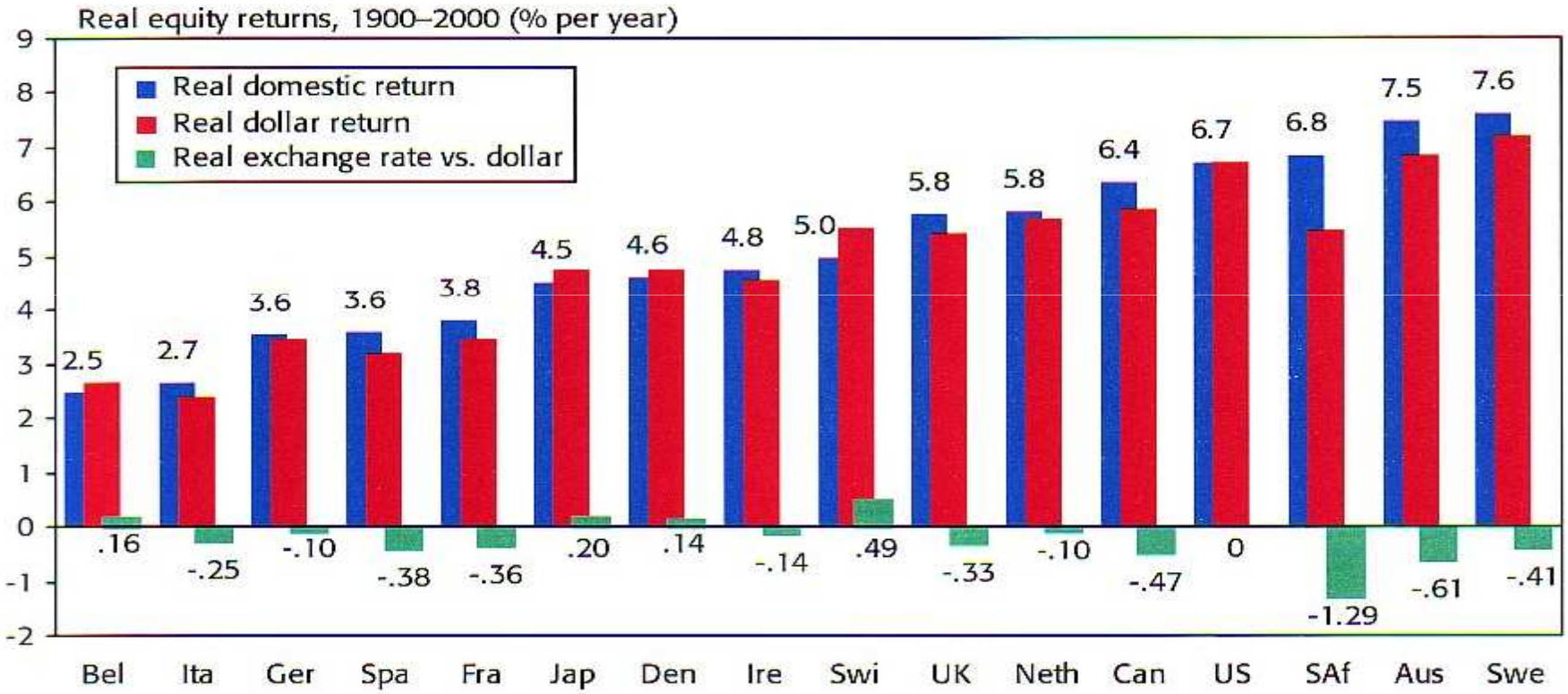
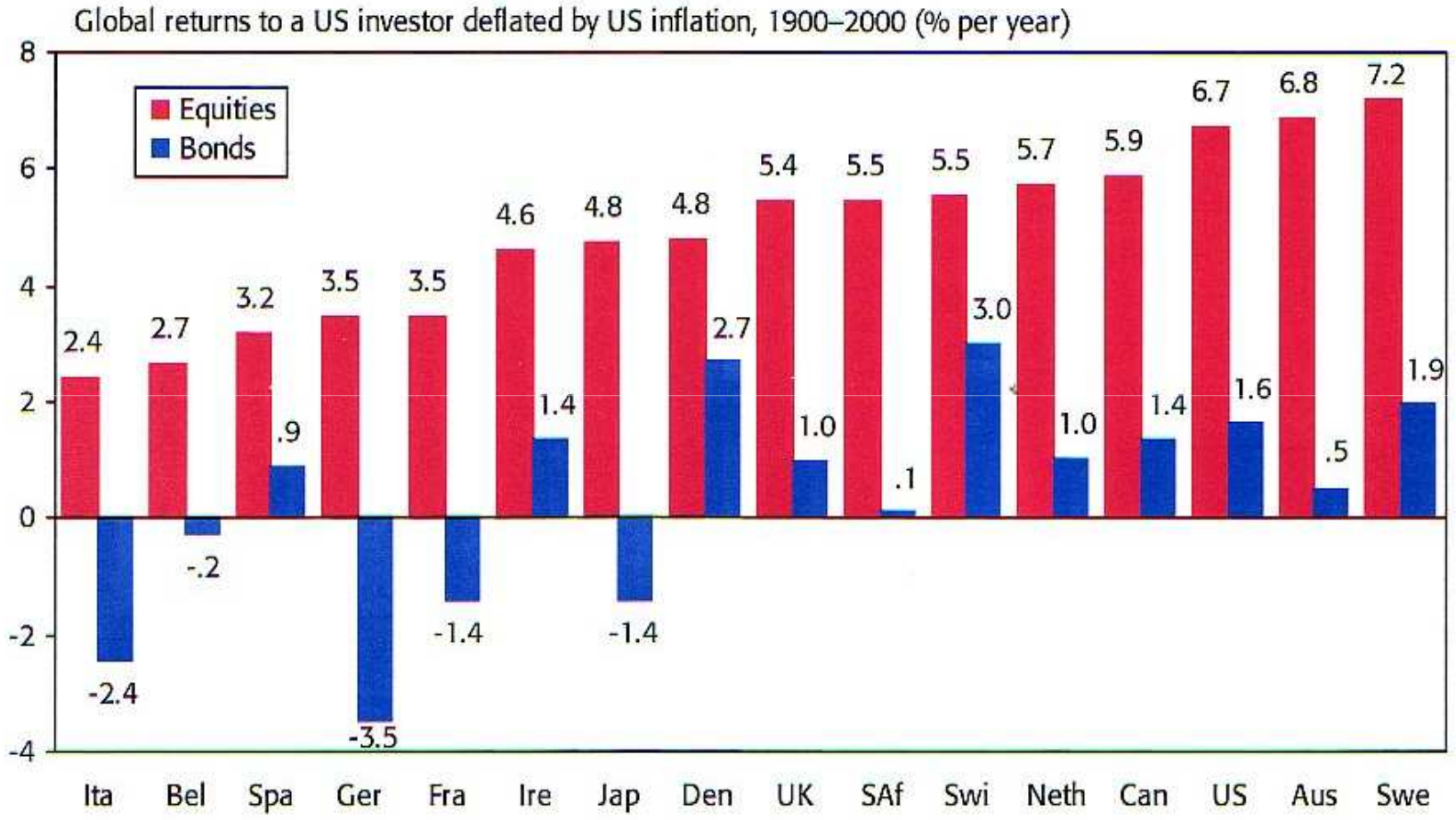
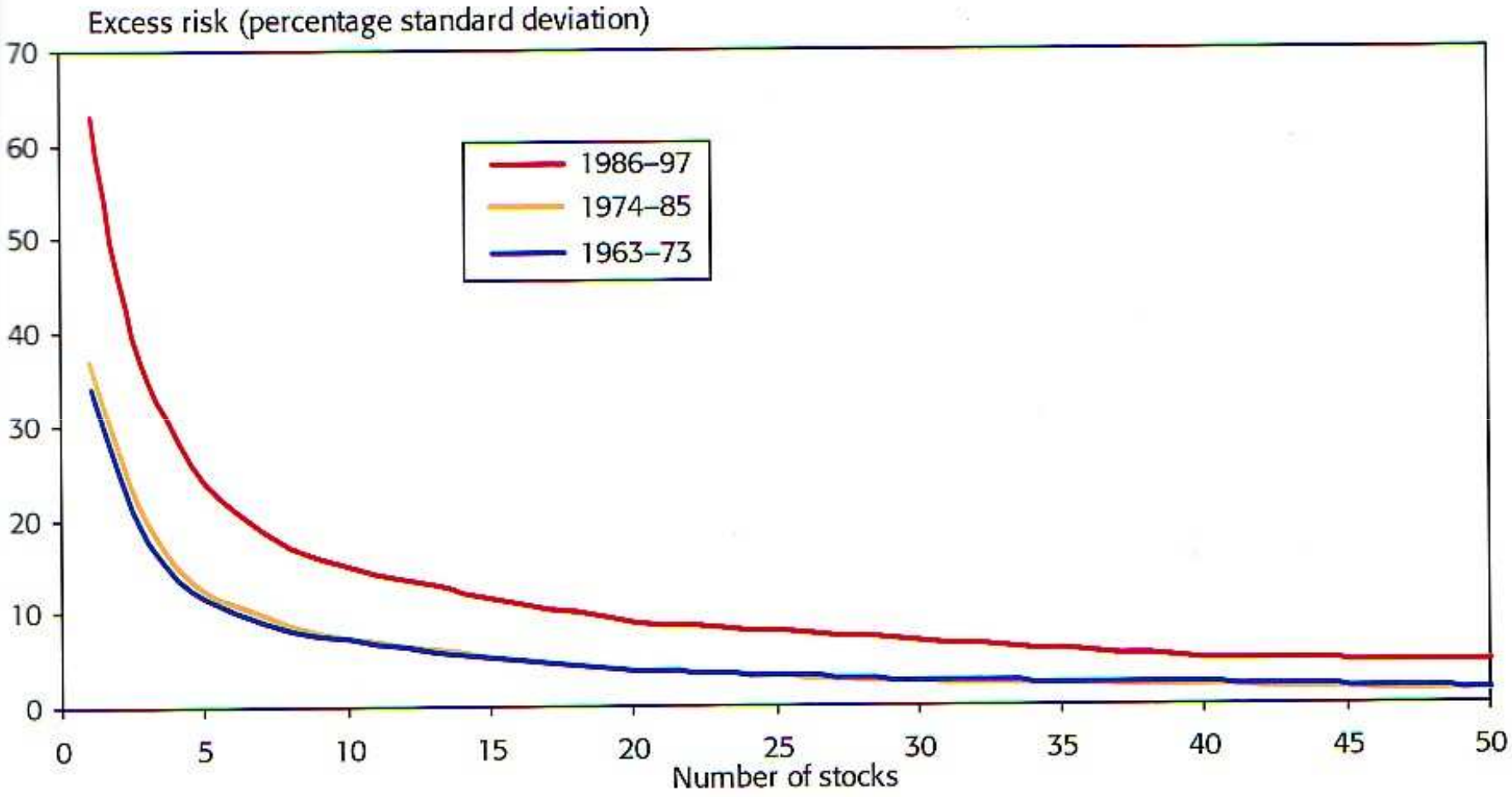


Figure 7-8: Equity and bond returns in real dollar terms, 1900–2000

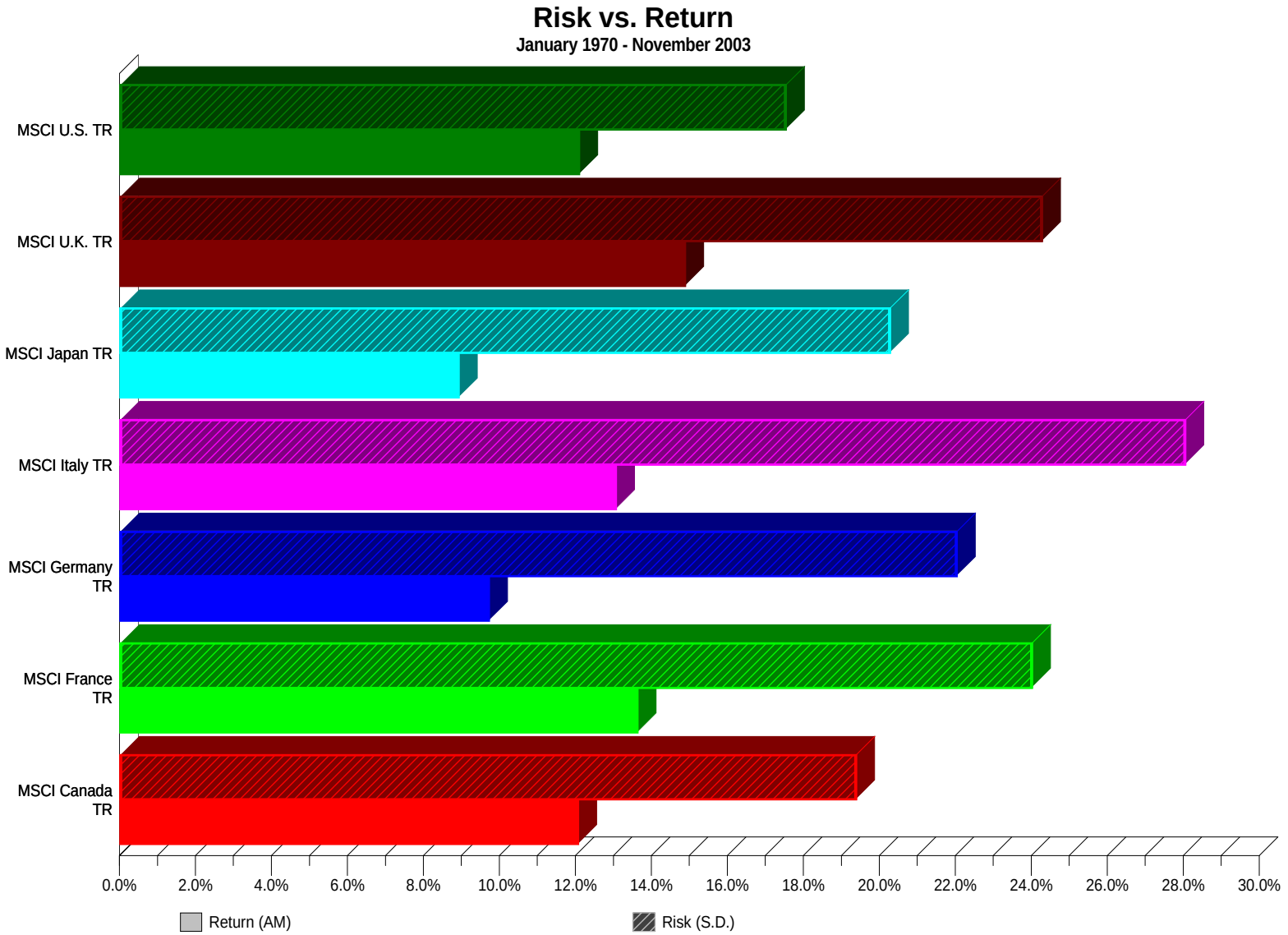


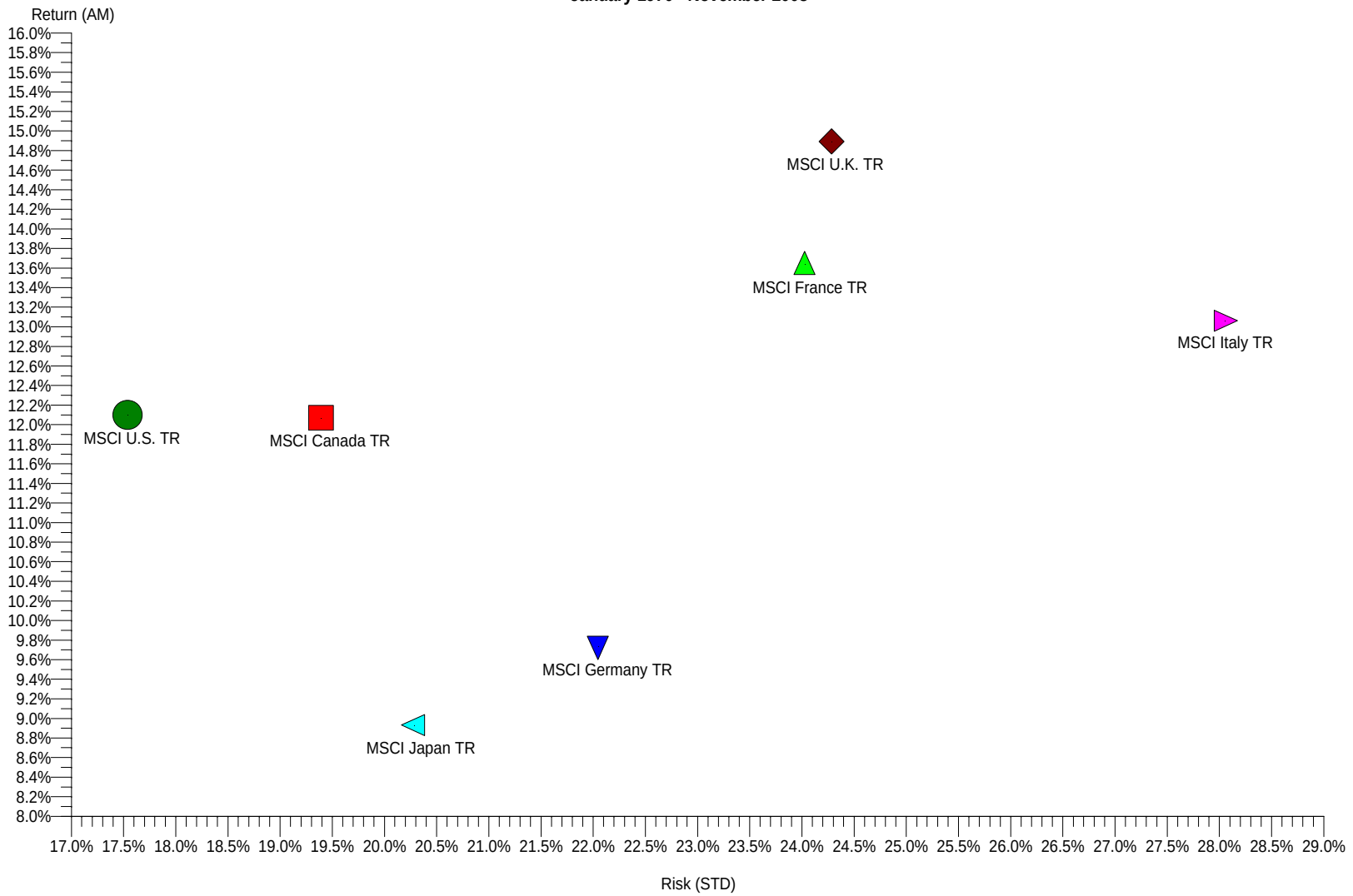
Σημασία διεθνών αγορών για χαρτοφυλάκια επενδυτών

Figure 4-11: Risk reduction gains from diversification: domestic US equities, 1963–97



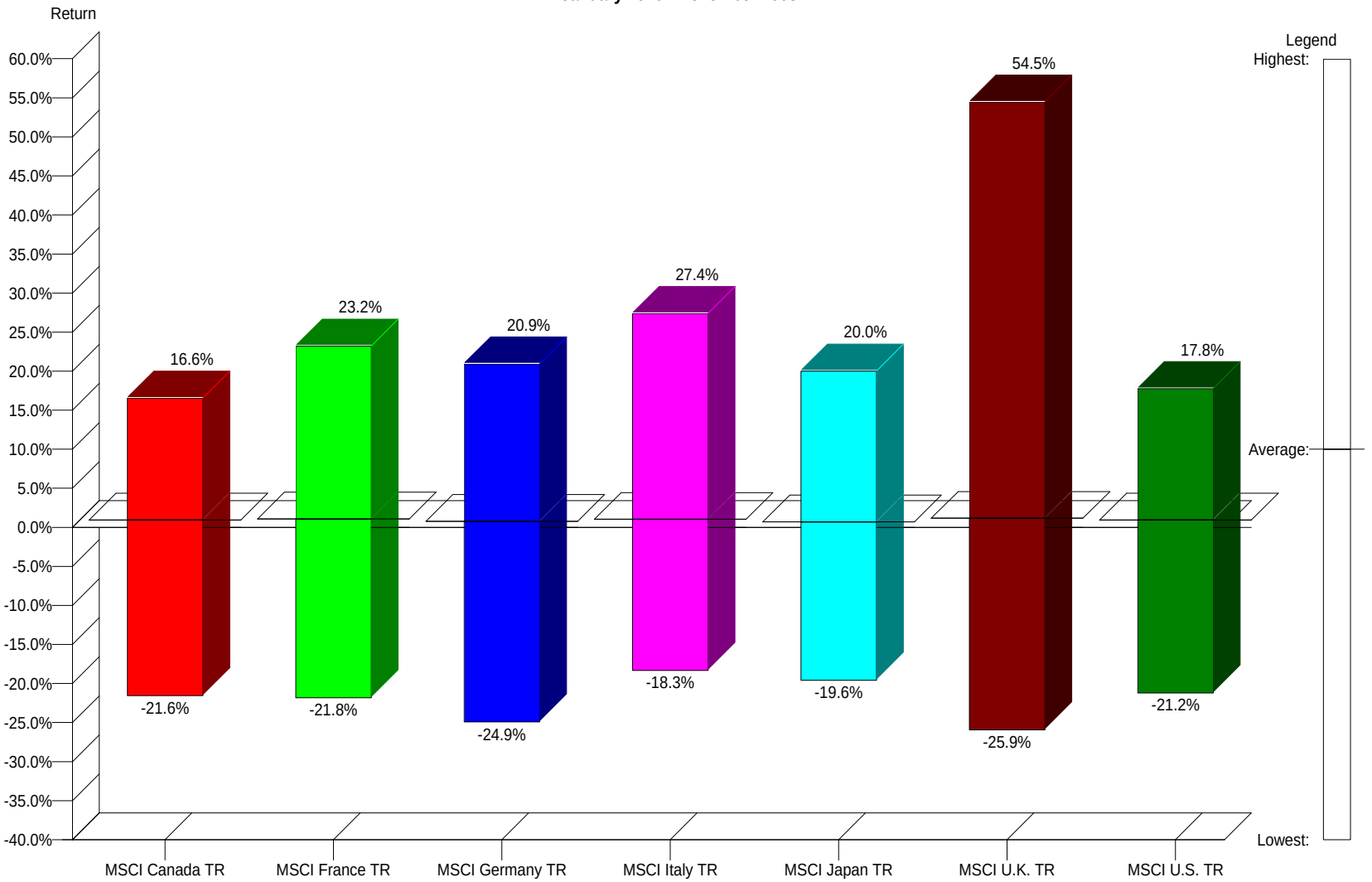
Source: Campbell, Lettau, Malkiel, and Xu (2001)


Risk vs. Return
January 1970 - November 2003
MSCI U.S. TR
MSCI U.K. TR
MSCI Japan TR
MSCI Italy TR
MSCI Germany TR
MSCI France TR
MSCI Canada TR
0.0%
2.0%
4.0%
6.0%
8.0%
10.0%
12.0%
14.0%
16.0%
18.0%
20.0%
22.0%
24.0%
26.0%
28.0%
30.0%
Return (AM)
Risk (S.D.)

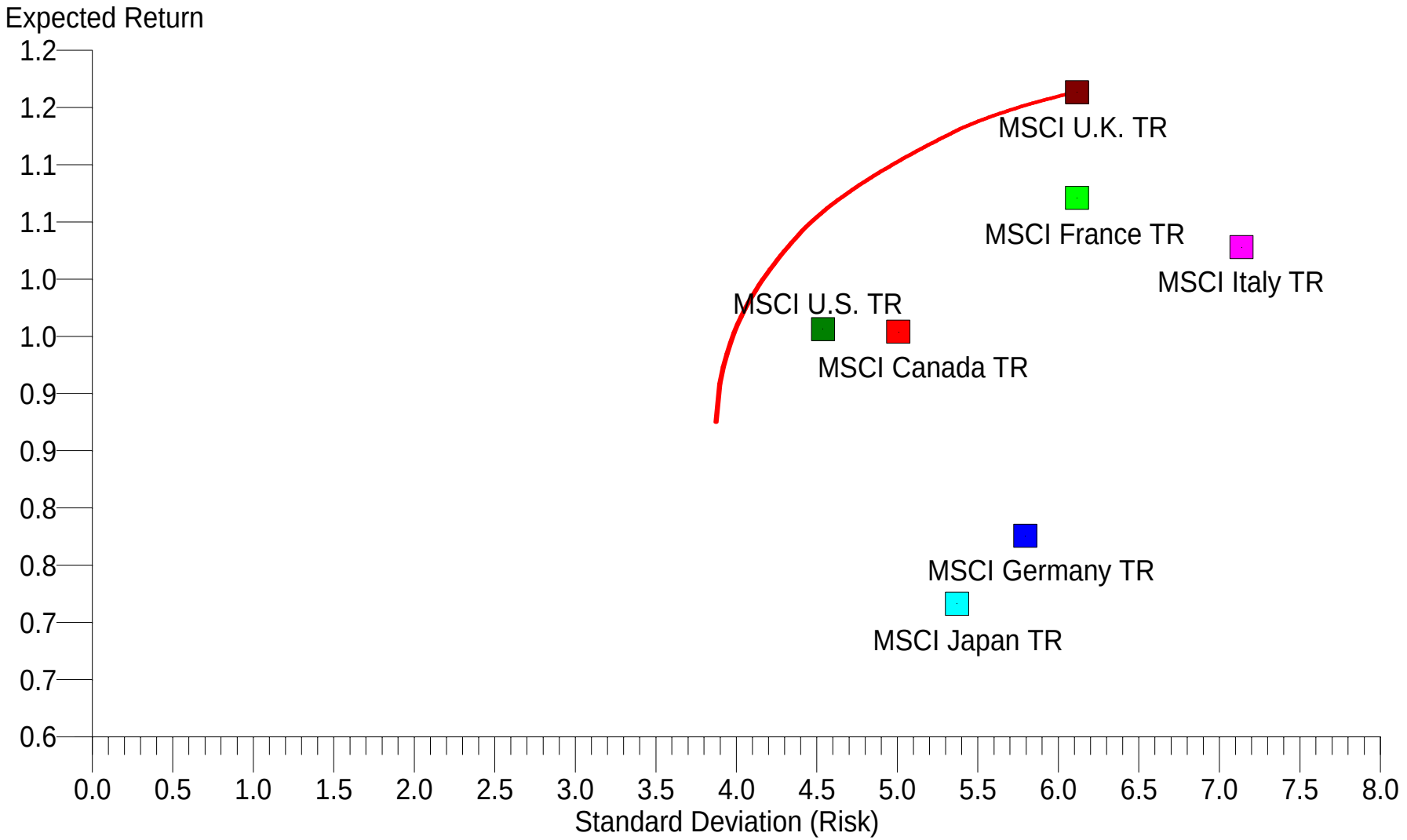

Risk vs. Return
January 1970 - November 2003
Return (AM)
16.0%
15.8%
15.6%
15.4%
15.2%
15.0%
14.8%
14.6%
14.4%
14.2%
14.0%
13.8%
13.6%
13.4%
13.2%
13.0%
12.8%
12.6%
12.4%
12.2%
12.0%
11.8%
11.6%
11.4%
11.2%
11.0%
10.8%
10.6%
10.4%
10.2%
10.0%
9.8%
9.6%
9.4%
9.2%
9.0%
8.8%
8.6%
8.4%
8.2%
8.0%
MSCI U.K. TR
MSCI France TR
MSCI Italy TR
MSCI U.S. TR
MSCI Canada TR
MSCI Germany TR
MSCI Japan TR
17.0% 17.5% 18.0% 18.5% 19.0% 19.5% 20.0% 20.5% 21.0% 21.5% 22.0% 22.5% 23.0% 23.5% 24.0% 24.5% 25.0% 25.5% 26.0% 26.5% 27.0% 27.5% 28.0% 28.5% 29.0%
Risk (STD)

Range of Returns Bar Graph

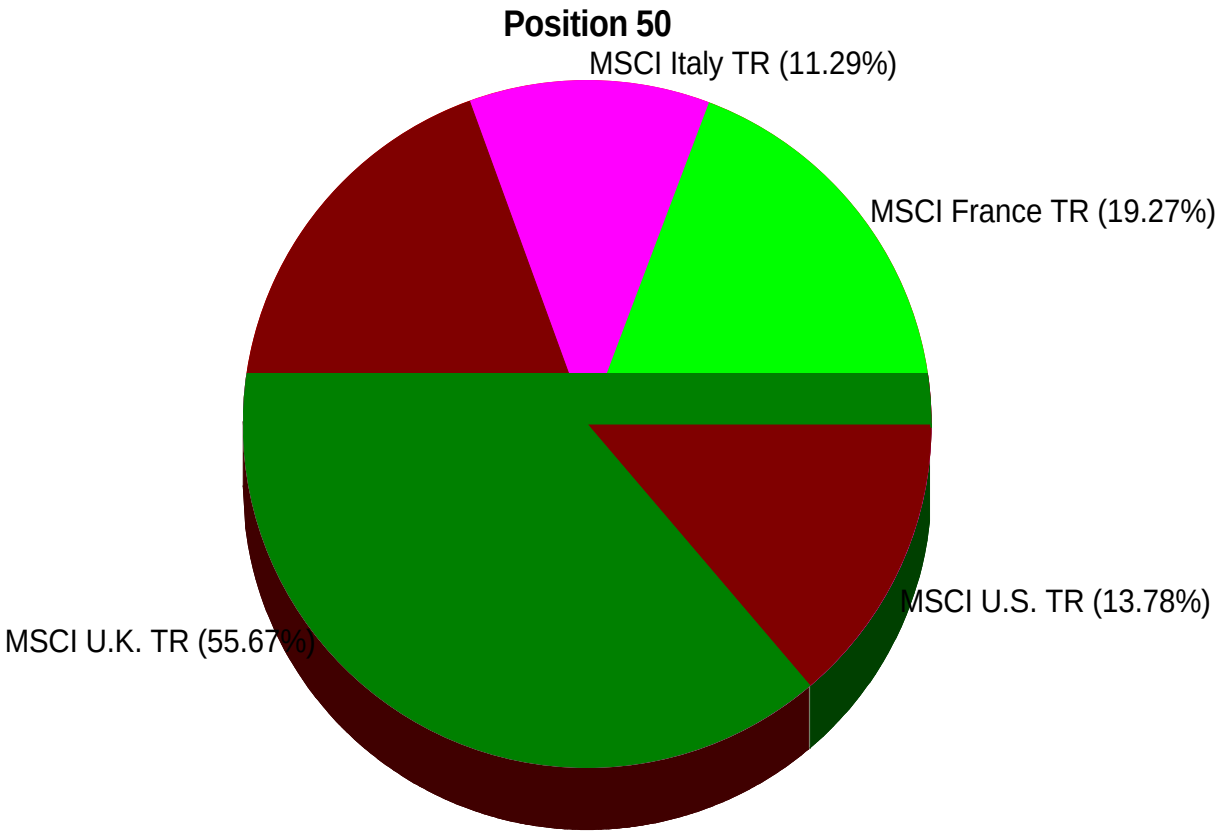
January 1970 - November 2003



	Periods	Canada	France	Germany	Italy	Japan	U.K.	U.S.
MSCI Canada TR	407	1.00	0.51	0.42	0.34	0.35	0.54	0.74
MSCI France TR	407	0.51	1.00	0.64	0.50	0.35	0.54	0.54
MSCI Germany TR	407	0.42	0.64	1.00	0.45	0.34	0.44	0.50
MSCI Italy TR	407	0.34	0.50	0.45	1.00	0.34	0.37	0.32
MSCI Japan TR	407	0.35	0.35	0.34	0.34	1.00	0.33	0.35
MSCI U.K. TR	407	0.54	0.54	0.44	0.37	0.33	1.00	0.59
MSCI U.S. TR	407	0.74	0.54	0.50	0.32	0.35	0.59	1.00


Expected Return
1.2
1.2
1.1
1.1
1.0
1.0
0.9
0.9
0.8
0.8
0.7
0.7
0.6
MSCI U.K. TR
MSCI France TR
MSCI Italy TR
MSCI U.S. TR
MSCI Canada TR
MSCI Germany TR
MSCI Japan TR
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5
8.0
Standard Deviation (Risk)

At 5% standard deviation



Επισκόπηση διεθνών ισοτιμιών

Αρμπιτράζ και ο νόμος της μίας τιμής

Νόμος της μίας τιμής:

Ίδια η ισοδύναμα προϊόντα έχουν την ίδια τιμή σε όλες τις αγορές όπου πωλούνται

Εξασφαλίζεται από:

Αρμπιτράζ: Αγοραπωλησία προϊόντος για την επίτευξη σίγουρου κέρδους

Ισοτιμία επιτοκίων (καλυμμένη)

$$(F/S)*(1+i_\$) = 1+i_\varepsilon$$

S – Σποτ κόστος 1 Ευρώ σε Δολάρια

F – Προθεσμιακή τιμή (forward) 1 Ευρώ σε Δολάρια

i – Ονομαστικό επιτόκιο (επενδύσεων σε $ ή ε αντίστοιχα)

Περίπτωση του νόμου της μίας τιμής

Αν δεν ισχύει;

Ισοτιμία επιτοκίων (ακάλυπτη)

Αν επίσης:

$$E[S(t+1)|I(t)]=F$$

(γιατί;)

Τότε:

$$(E[S(t+1)|I(t)]/S)*(1+i\_\$) = 1+i\_\varepsilon$$

ή (κατά προσέγγιση)

$$E[\Delta S/S|I(t)] = i\_\varepsilon - i\_\$$$

Ισοτιμία Fisher (κ.π.)

Αν τα πραγματικά επιτόκια δεν επηρεάζονται από τον αναμενόμενο πληθωρισμό:

$$i_\varepsilon = \rho_\varepsilon + E(\pi_\varepsilon|I(t))$$

ρ_ε – **πραγματικά** επιτόκια

<u>Διεθνής Ισοτιμία Fisher</u>

Αν επίσης $\rho_\$ = \rho_\varepsilon$ (γιατί;) :

$$E(\pi_\$)-E(\pi_\varepsilon) = i_\$ - i_\varepsilon$$

Από ΣΙΑΔ

$$E(\Delta S/S|I(t))= i_\$ - i_\varepsilon$$

Ισοτιμία Forward προσδοκιών

Συνδυάζοντας την ισοτιμία επιτοκίων και Fisher:

$$E(\Delta S/S|I(t))=(F-S)/S$$

$$\Leftrightarrow$$

$$E[S(t+1)|I(t)]=F$$