

Economics of Globalization

Macroeconomic Interdependence

Basic National Accounting Identities

A brief presentation of the meaning and the interrelationships between the main macroeconomic aggregates, such as:

- GDP and GNI
- National Saving, Investment, and the Current Account Balance
- Net Foreign Assets and National Wealth

Basic National Accounting Identities

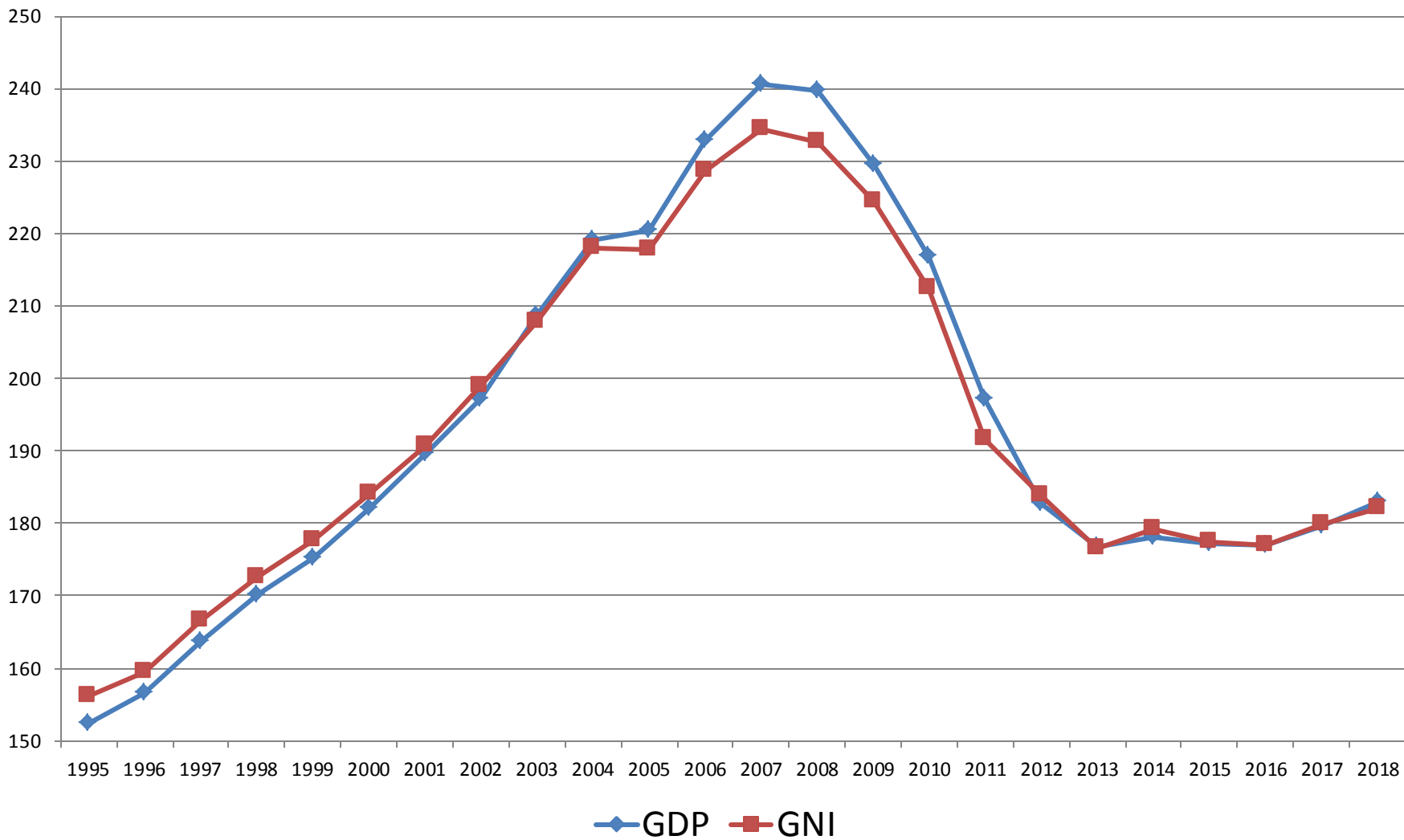
- **Gross Domestic Product (GDP)** is the total value added of goods and services produced during a time period by factors of production located within the country. It is also equal to the total value of incomes accruing to all factors of production located within the country.
- **Gross National Income (GNI)** is the total value added generated by factors of production owned by domestic nationals, including those employed in foreign countries.
- Example: A Greek firm's profits from producing in Bulgaria would count in Greek GNI but not in Greek GDP. (They would also count in Bulgarian GDP.)
- Thus,

GNI = GDP –

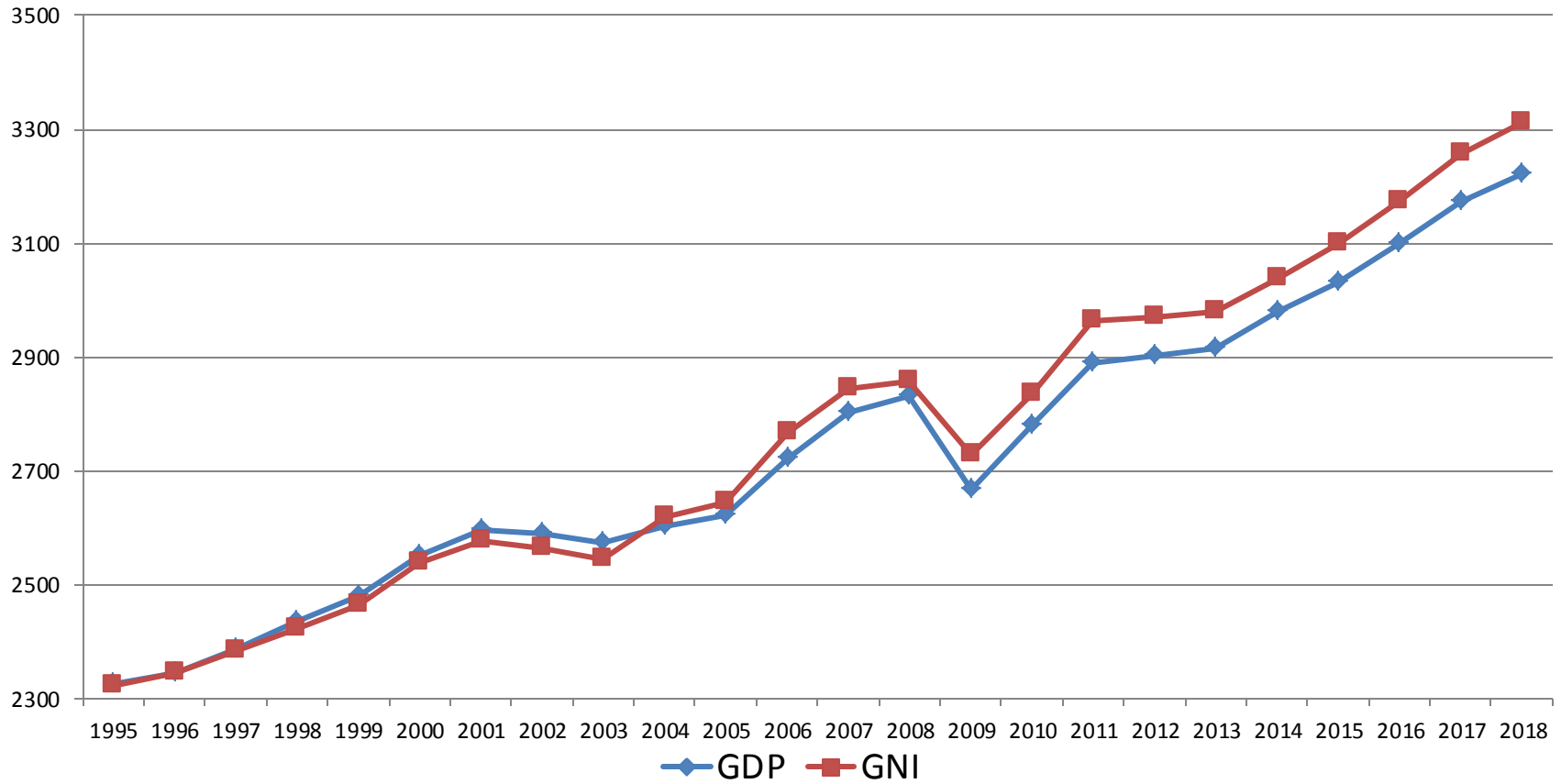
– factors payments made to foreigners (dividends, interest, rent to foreigners owning assets in Greece and wages of foreigners working in Greece) +
+ factor payments received from abroad (dividends, interest, rent to Greek residents owning assets abroad and wages of Greeks working abroad).

- Difference between GDP and GNI not large in most countries (i.e. usually less than 2% of GDP), but for some countries (e.g. Mexico, Bangladesh, Germany lately) can be substantial, and in some cases it can be even as high as 18% of GDP (Ireland) or even 35% of GDP (Luxembourg).
- The difference is shaped by the evolution of Net Foreign Assets (**NFA**), and by migration flows.
- **NFA** = Assets owned by Greeks abroad – Assets Owned by Foreigners in Greece
- Assets include stocks, bonds, loans, real estate, etc.
- The biggest (in absolute terms) net debtor country in the world is the USA (its NFA are about **-9.5** trillion USD in 2018). As a percentage of GDP, its NFA are about **-45%**.
- Greece is one of the biggest net debtors in terms of GDP. Its NFA (as approximated by the NIIP), are (in 2018) about **-140%** of GDP (its NFA were about **-10%** in 1995).
- If (negative) NFA exceed 50% of GDP, this is usually a sign that the country must quickly adjust (i.e. either to accept a devaluation of its currency, or, to undergo what is called “an internal devaluation” – sometimes also to default).

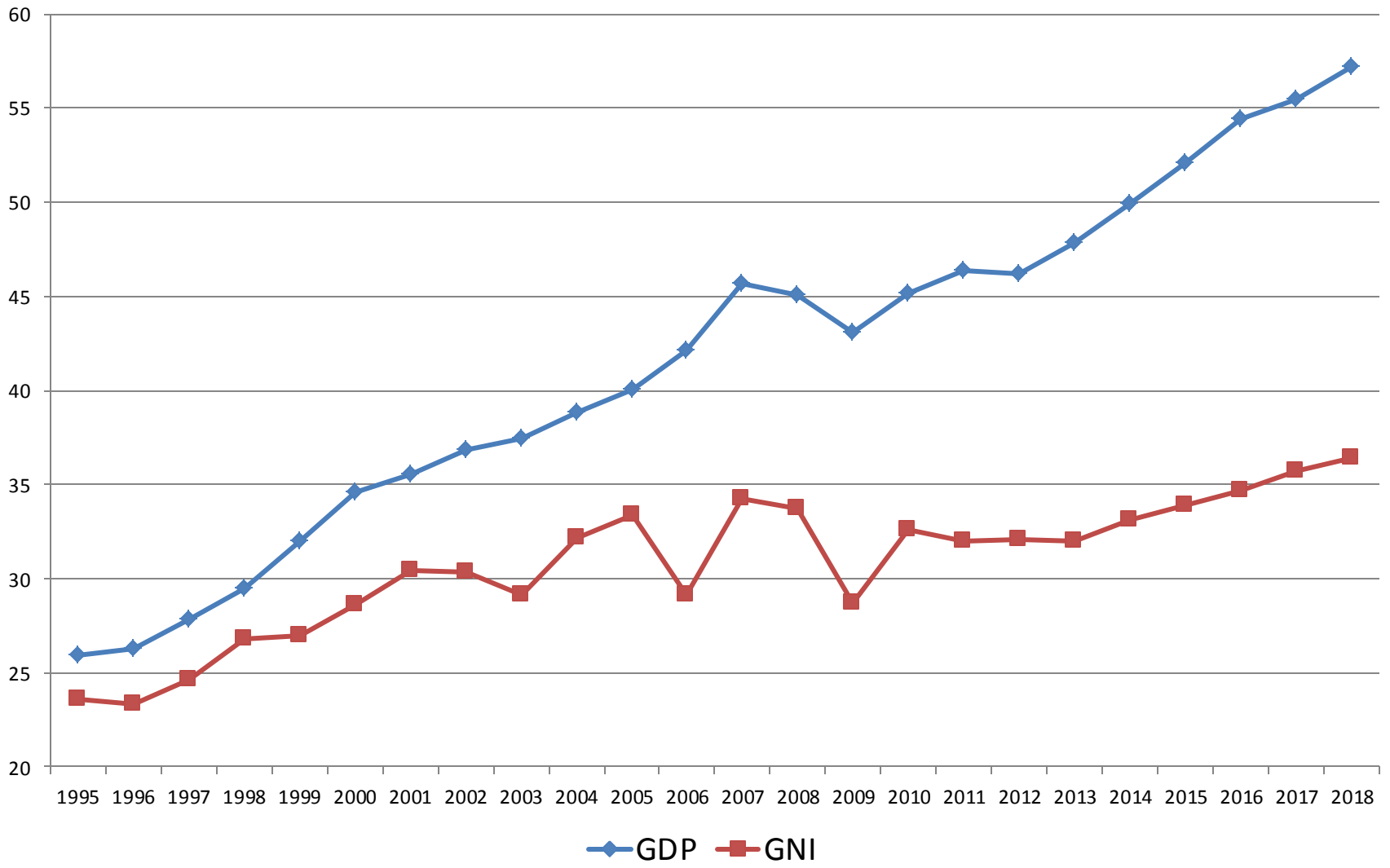
GREECE: GDP and GNI (billion euros at constant prices)



GERMANY: GDP and GNI (billion euros at constant prices)



LUXEMBOURG : GDP and GNI (billion euros at constant prices)



Three Equivalent Ways to Understand the Current Account Balance (CAB)

- It is the difference between exports and imports, plus the net primary income balance
- It is the difference between national income and national spending
- It is the difference between national saving and investment

Current Account Balances (% GDP)

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Germany	1,9	1,4	4,5	4,7	5,8	6,9	5,7	5,8	5,7	6,2	7,1	6,6	7,2	8,6	8,5	8,1	7,3
Ireland	0,2	0,5	-0,1	-3,5	-5,4	-6,5	-6,2	-4,7	-1,2	-1,6	-3,4	1,6	1,1	4,4	-4,2	0,5	10,6
Greece	-6,8	-8,5	-7,7	-8,9	-11,5	-15,2	-15,1	-12,3	-10,0	-8,6	-3,5	-1,4	-0,7	-0,8	-1,7	-1,9	-2,8
Spain	-3,7	-3,9	-5,5	-7,3	-8,9	-9,4	-8,9	-4,1	-3,7	-2,7	0,1	2,0	1,7	2,0	3,2	2,7	1,9
France	1,1	0,8	0,5	0,1	0,3	-0,1	-0,7	-0,6	-0,6	-0,9	-1,0	-0,5	-1,0	-0,4	-0,5	-0,7	-0,6
Italy	-0,5	-0,8	-0,5	-0,9	-1,5	-1,4	-2,8	-1,9	-3,3	-2,8	-0,2	1,1	1,9	1,4	2,6	2,7	2,6
Cyprus	NA	NA	NA	NA	NA	NA	-14,7	-6,6	-10,8	-2,4	-4,5	-1,5	-4,3	-0,6	-4,2	-5,1	-4,4
Netherlands	NA	NA	7,6	7,1	9,1	6,9	5,0	5,4	7,0	8,6	10,2	9,8	8,5	6,3	8,1	10,8	10,9
Austria	2,1	1,5	2,1	2,3	3,3	3,8	4,5	2,6	2,9	1,6	1,5	1,9	2,5	1,7	2,7	1,6	2,3
Poland	NA	NA	-5,5	-2,6	-4,0	-6,3	-6,7	-4,0	-5,4	-5,2	-3,7	-1,3	-2,1	-0,6	-0,5	0,1	-1,0
Portugal	-8,4	-6,6	-8,0	-9,6	-10,3	-9,6	-11,8	-10,3	-10,3	-6,0	-1,6	1,6	0,2	0,2	1,1	1,2	0,4

Definition of CAB according to the Balance of Payments Statistics

- **CAB=Exports of goods and services**
 - Imports of goods and services
 - + Net primary income balance
 - + Current Transfers Balance =
 - = **Net Exports + NPIB + CTB**
- The current transfers balance (CTB) comprises mostly (in the case of Greece) the net transfers Greece receives from the EU. For ease of exposition we assume that $CTB=0$.
- *Assume, also, that no Greeks are working abroad, or foreigners in Greece.*
- Let, i = average interest rate (rate of return) on net foreign assets (foreign assets - foreign liabilities)
- *Then, i NFA = NPIB , and so*
CAB=NX + i NFA

CAB is the difference between national income and national spending

- **GDP = consumption + investment + government spending + net exports**
 - **$NX = X - M$**
 - **$GDP = C + I + G + NX$**
 - **$GNI = GDP + iNFA = C + I + G + (NX + iNFA)$
 $= C + I + G + CAB \quad (1)$**
- where **$CAB = NX + iNFA$**
- **(1) implies that $CAB = GNI - (C + G + I)$**
 - ***(C + G + I) is total domestic spending, thus the CAB is also the difference between (a country's) income and spending.***
 - **What happens to an individual if her spending exceeds her income? She accumulates debt. In the case of a country, it accumulates foreign debt (or its NFA are reduced)whenever its CA is in deficit.**

The CAB is the difference between National Saving and Investment

- **Gross National Saving (GNS)** is the sum of private sector saving and government saving, i.e., $GNS = PS + GS$.
- Since $PS = GNI - T - C$, and $GS = T - G$,
 $GNS = (GNI - T - C) + (T - G) = GNI - C - G$ (1)

which just says that GNS is the difference between Gross National Income ($GNI=Y$) and total current (as opposed to investment) spending (We assume that the government doesn't invest – nothing depends on this assumption).

- Since, $GNI = GDP + iNFA = C + I + G + NX + iNFA$
 $= C + I + G + CAB$ (2)

From (1) and (2) we get $GNS = C + I + G + CAB - C - G$, which implies, **$CAB = GNS - I$** , and so the current account balance is the difference between national saving and investment.

- **How can you invest more than what you have saved? By borrowing (or, by “exporting” its assets – we ignore this). Thus a country that invests more than it saves, and thus has a CA deficit, borrows from abroad, and accumulates foreign debt.**

How do a country's NFA evolve?

- A current account (**CA**) surplus results in an increase in the NFA of a country while a CA deficit results in a decrease of NFA or, if the country is already a net debtor, it results in an increase in the net foreign debt of the country. (We ignore the case of receiving capital transfers from abroad – we discuss this below.)
- For example, and ignoring valuation effects (e.g. the “Nokia effect”),

NFA at the end of 2019=

$$= \mathbf{NFA} \text{ at the end of 2018} + \mathbf{CAB} \text{ in 2019}$$

- Is it possible that a country has a positive NPIB even if its NFA are negative. Yes, if rates of return on your assets are higher than rates of return on your liabilities (e.g. USA).

- A CA deficit allows a country to maintain a higher rate of investment than what national savings would allow.
- Important Note:

IT IS IMPOSSIBLE TO IMPORT FOREIGN CAPITAL WITHOUT A CA DEFICIT (this implies that an increase in inward FDI in Greece will be associated –ceteris paribus- with LARGER CA deficits)

- However, the corresponding foreign capital inflow is essentially a loan; therefore, it represents claims on future national income.

Whether current account deficits and the associated foreign debt burden represent a policy concern depends on one's view of the trade-off between higher investment and higher external indebtedness.

- One possibility is that the source of the CA deficit is a favorable domestic investment climate, which acts as a magnet for foreign capital. According to this view, foreign investment funds raise the domestic capital stock. By boosting future domestic GDP, the higher capital stock makes it easier for the nation to pay off the higher foreign debt. (Although, not necessarily, if investment is in the non-traded sector.)
- A less optimistic view is that the source of the deficit lies in a falling national saving rate, which forces the country to rely on foreign capital to maintain its current level of investment, i.e. there is no rise in total investment. In this case, the country's CA deficit has financed the increased consumption of the private sector and/or the government sector.

Balance of Payments Accounting

- Due to double-entry bookkeeping (i.e., every transaction enters as a credit and debit in the BOP accounts) the sum of the current account balance, the capital account balance, and the financial account balance,
$$\text{CAB} + \text{KAB} + \text{FAB} = 0, \text{ or, } \text{CAB} + \text{KAB} = - \text{FAB} \quad (1)$$
- Like the CAB, which is the difference between the exports and imports of goods and services, the FAB is the difference between the exports and imports of assets (both financial and “real” assets like land or buildings).
- The KAB measures transfers of wealth between countries (e.g. debt forgiveness), as well as transactions involving the acquisition or disposal of non-produced, non-financial assets (e.g. copyright and franchise payments). It is usually small relative to the CAB and the FAB, and in the case of Greece consists mostly of transfers (structural funds) from the EU for investment in fixed capital.
- In 2018, for Greece, CAB = - 5.2 bn, KAB = 0.4 bn, FAB = 3.9 bn .
- These do not sum to zero! Thus, there is an “errors and omissions” variable of 0.9 bn. (also, IMF and EU data differ!)
- A positive FAB measures the amount that the country borrows from the rest of the world (ROW), by being a net “exporter” of assets to the ROW. Typical asset exports (for Greece) are Greek government bonds and bank bonds.

The Triple Deficits

- $PS = GNI - T - C$, or, $GNI = C + T + PS$ (1)

- $GNI = C + I + G + CAB$ (2)

- (1) and (2) imply,

$$T + PS = I + G + CAB, \text{ or,}$$

$$- \mathbf{CAB} = (\mathbf{I - PS}) + (\mathbf{G - T}) ,$$

i.e., a CA deficit is the sum of private-sector and government-sector imbalances.

- Before EMU, the private sector in Greece was saving enough to cover part of the government's borrowing (i.e. the government's negative saving), and so CA deficits were smaller than budget deficits.
- After EMU, the CA deficits became larger than the budget deficits, which implies that not only the government, but the private sector, as well, was borrowing a lot from abroad.
- Domestic banks borrowed large sums from abroad to provide credit to the government and to domestic consumers ...

National (Net) Wealth

- A country's national wealth is equal to the value of the home capital stock and land (all **non** – financial assets in the home economy) plus its NFA. (Financial assets owed by one home entity to another cancel out in the aggregate.)

Thus, $W = K + NFA$, or, if we ignore valuation changes,

$$\Delta(W) = \Delta(K) + \Delta(NFA)$$

Ignoring capital's depreciation, $\Delta(K)=I$.

$\Delta(NFA)=-FAB$, and since

$$-FAB = CAB + KAB,$$

$\Delta(W) = I + CAB + KAB = \mathbf{GNS + KAB}$, which, as in the case of an individual, just says that your wealth increases if you save and you receive gifts.

IMPLICATION: A COUNTRY'S TOTAL WEALTH MAY INCREASE EVEN IF IT RUNS CA DEFICITS WHICH REDUCE ITS NFA.

Current Account Deficit, Top 10 Economies,
Billions of US dollars

	2012	2013	2014	2015	2016	2017	2018
United States	-426.8	-348.8	-365.2	-407.8	-428.3	-439.6	-491.0
United Kingdom	-100.9	-142.0	-149.4	-142.2	-140.3	-87.9	-108.8
Turkey	-48.0	-63.6	-43.6	-32.1	-33.1	-47.3	-27.0
Canada	-65.7	-59.4	-43.2	-55.4	-49.1	-46.4	-45.3
India	-91.5	-49.1	-27.3	-22.5	-12.1	-38.2	-65.6
Australia	-64.5	-47.9	-43.4	-57.0	-41.0	-35.8	-29.7
Argentina	-2.1	-13.1	-9.2	-17.6	-15.1	-31.6	-27.5
Algeria	12.1	1.2	-9.3	-27.0	-26.2	-22.1	
Mexico	-18.6	-31.4	-25.0	-30.9	-24.2	-20.1	-22.0
Pakistan	-2.3	-4.4	-3.6	-2.8	-7.1	-16.9	-19.2

Current Account Surplus, Top 10 Economies,
Billions of US dollars

	2011	2012	2013	2014	2015	2016	2017
Germany	231.8	251.6	245.3	278.3	288.1	293.7	296.2
Japan	129.6	60.1	46.4	36.4	136.5	197.0	201.6
China, P.R.: Mainland	136.1	215.4	148.2	236.0	304.2	202.2	195.1
Netherlands	81.4	89.5	85.5	76.0	48.5	62.9	90.2
Korea, Republic of	16.6	48.8	77.3	83.0	105.1	97.9	75.2
Singapore	62.1	52.1	48.3	56.5	53.0	55.7	55.4
Italy	-68.3	-7.3	21.3	40.2	24.4	47.5	51.6
Switzerland	54.7	71.2	79.8	59.9	76.5	63.3	45.4
Thailand	9.4	-4.9	-8.8	11.6	27.8	43.4	44.1
Russian Federation	97.3	71.3	33.4	57.5	67.8	24.5	32.4

Net IIP (Surplus), Top 10 Economies,
Billions of US dollars

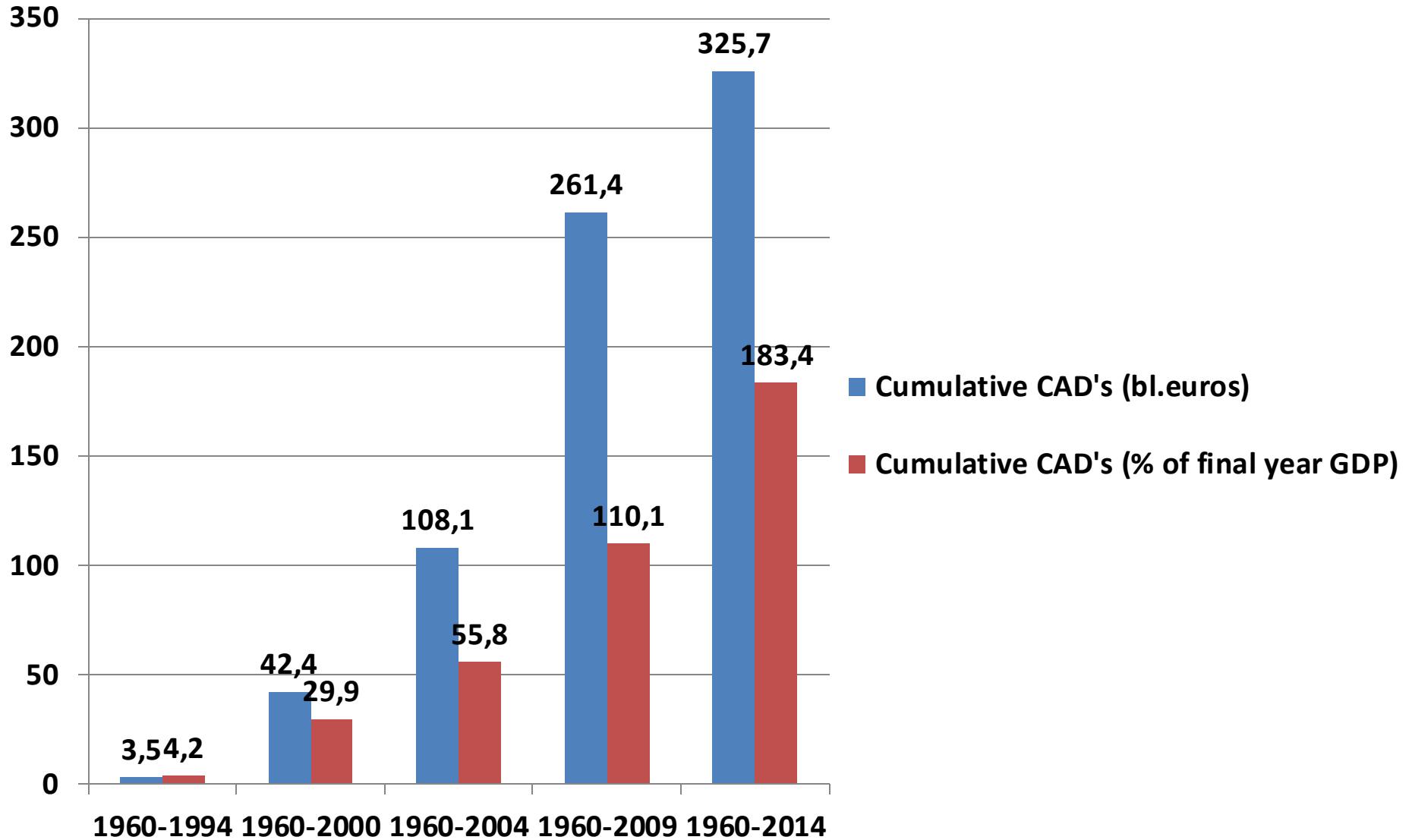
	2013	2014	2015	2016	2017	2018
Japan	3,093.3	2,910.5	2,715.2	2,879.2	2,916.6	3,081.3
Germany	1,344.3	1,449.3	1,538.9	1,692.3	2,138.5	2,364.9
China, P.R.: Mainland	1,809.1	1,602.7	1,672.8	1,950.4	2,100.7	2,130.1
China, P.R.: Hong Kong	758.0	870.2	1,003.1	1,153.8	1,421.2	1,294.3
Norway	641.1	710.3	698.5	736.0	883.3	812.0
Switzerland	731.5	653.3	598.1	730.7	811.0	897.9
Singapore	606.2	591.2	647.1	721.0	809.5	812.0
Saudi Arabia	763.2	791.6	689.8	597.3	623.6	631.8
Netherlands	279.3	391.7	367.5	458.0	525.7	626.6
Canada	-12.6	4.5	258.9	186.1	352.2	446.8

Net IIP (Deficit), Top 10 Economies,
Billions of US dollars

	2013	2014	2015	2016	2017	2018
United States	-5,368.6	-6,945.4	-7,461.6	-8,192.2	-7,743.2	-9,554.7
Spain	-1,334.5	-1,234.2	-1,053.1	-1,006.2	-1,172.6	-1,066.1
Euro Area	-1,983.5	-1,488.1	-1,328.1	-832.3	-952.4	-380.9
Australia	-752.2	-695.2	-673.7	-701.2	-766.8	-719.0
Brazil	-723.9	-705.9	-374.7	-566.6	-645.5	-612.3
Ireland	-327.4	-380.4	-556.9	-519.3	-596.0	-612.5
Mexico	-616.0	-598.6	-600.6	-532.1	-558.6	-568.2
Turkey	-397.7	-445.7	-385.1	-369.6	-457.7	-368.4
France	-483.4	-407.6	-309.4	-306.3	-456.8	-440.8
India	-323.2	-361.5	-368.4	-367.3	-426.6	-433.9

“Going for the Euro”

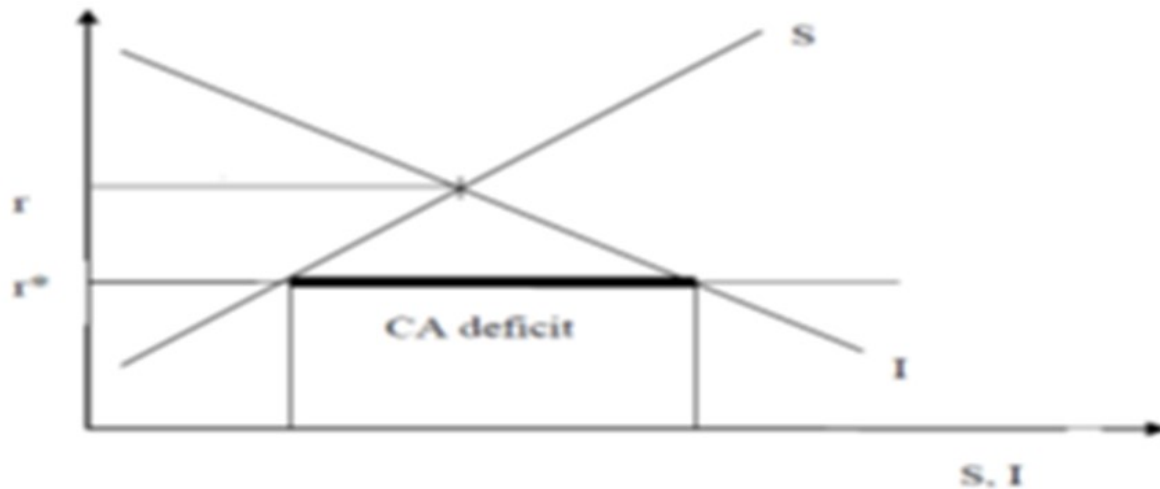
Greece: Cumulative Current Account Deficits



Savings-Investment Approach to the Current Account

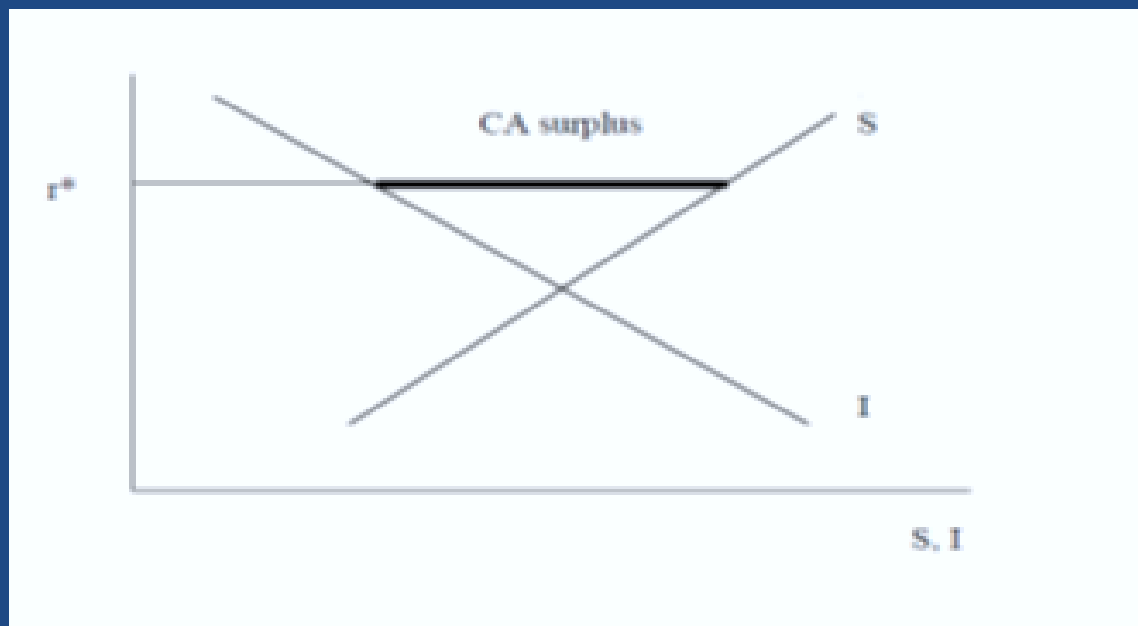
(and some implications of economic interdependence)

Small Open Economy with $CAB < 0$



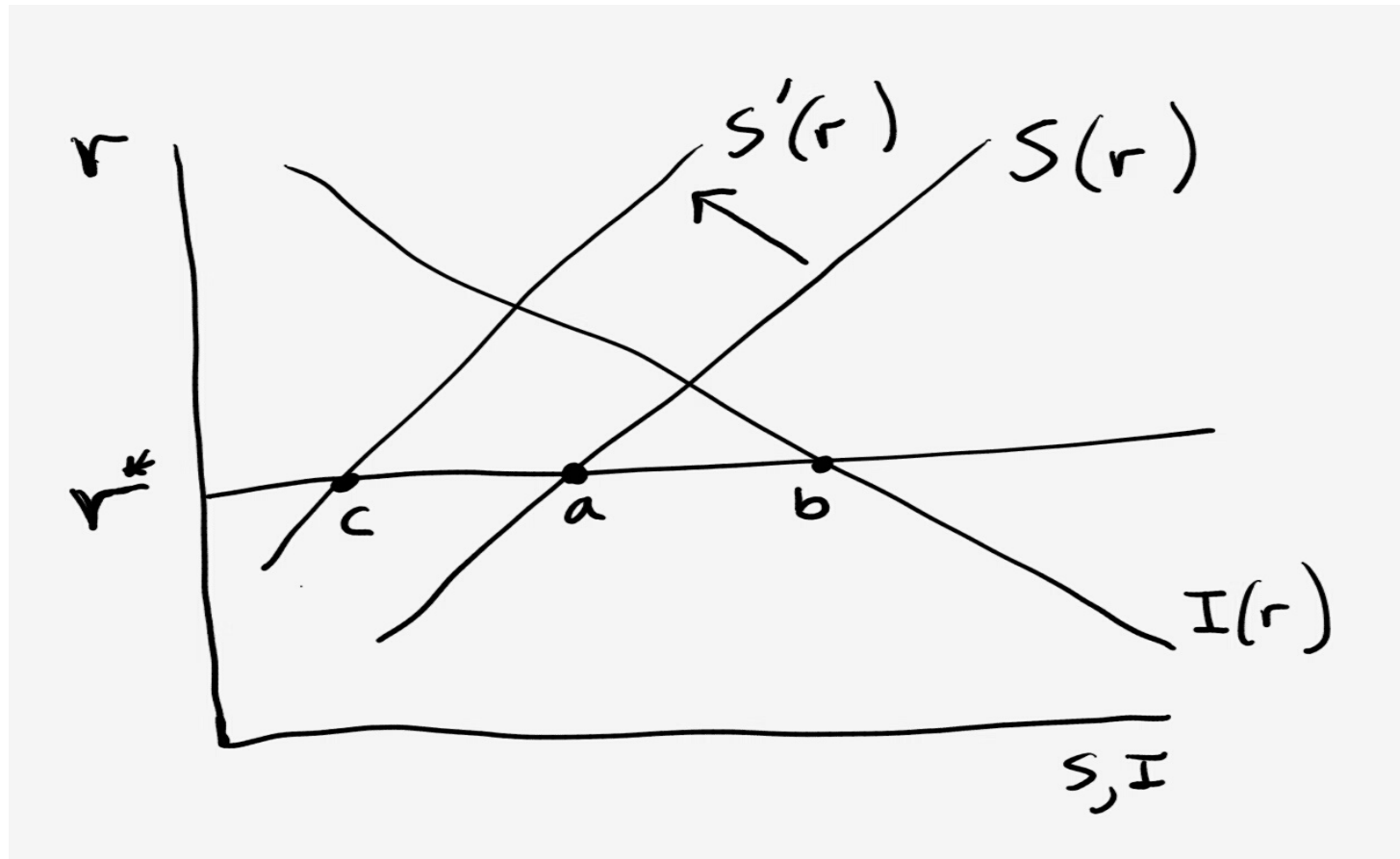
The diagram above shows the national saving (S) and investment schedules for the case of a small economy which can either borrow or lend at the fixed world interest rate (r^*). This country is running a current account deficit equal to the difference between I and S at r^* (the bold segment of the horizontal line at r^*).

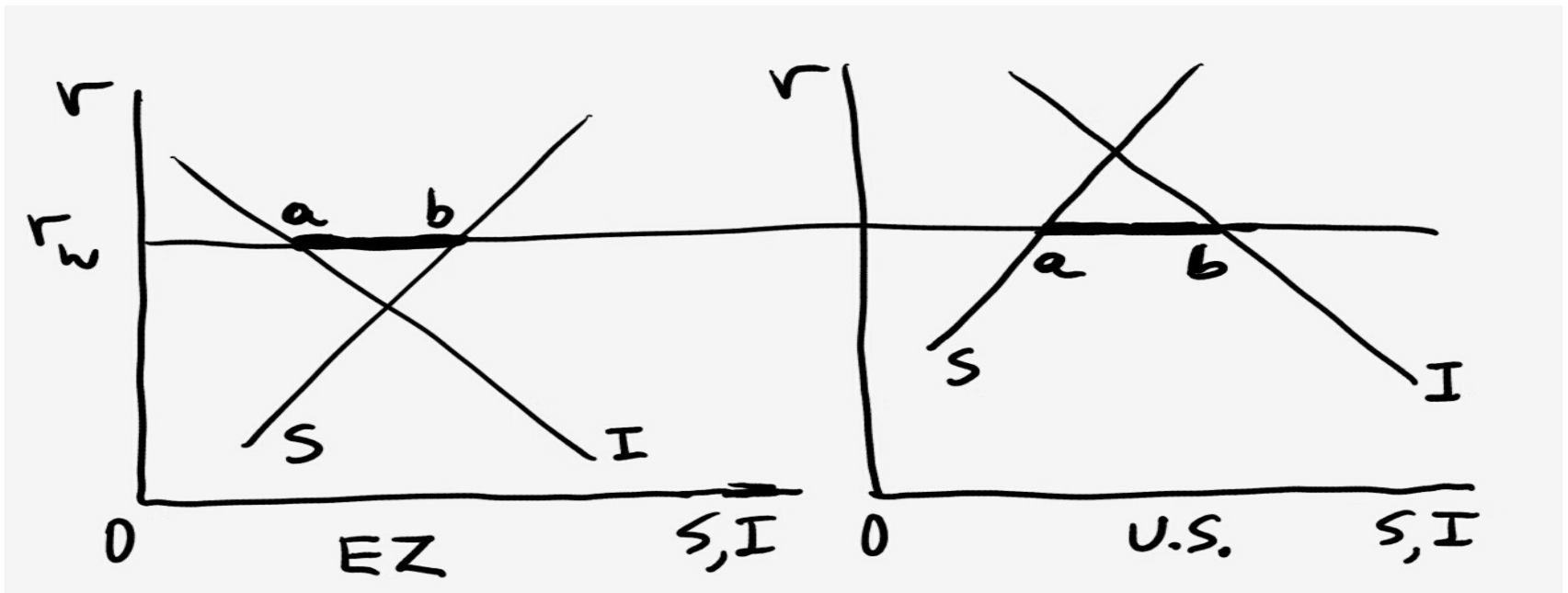
Small Open Economy with $CAB > 0$



The diagram above shows the case of a small economy with a current account (CA) surplus since $S > I$.

Small Open Economy: A decrease in the country's desire to save (e.g. because its residents think that their future incomes will be higher than they previously thought) shifts the S schedule to the left and increases the CA deficit, from ab to cb .



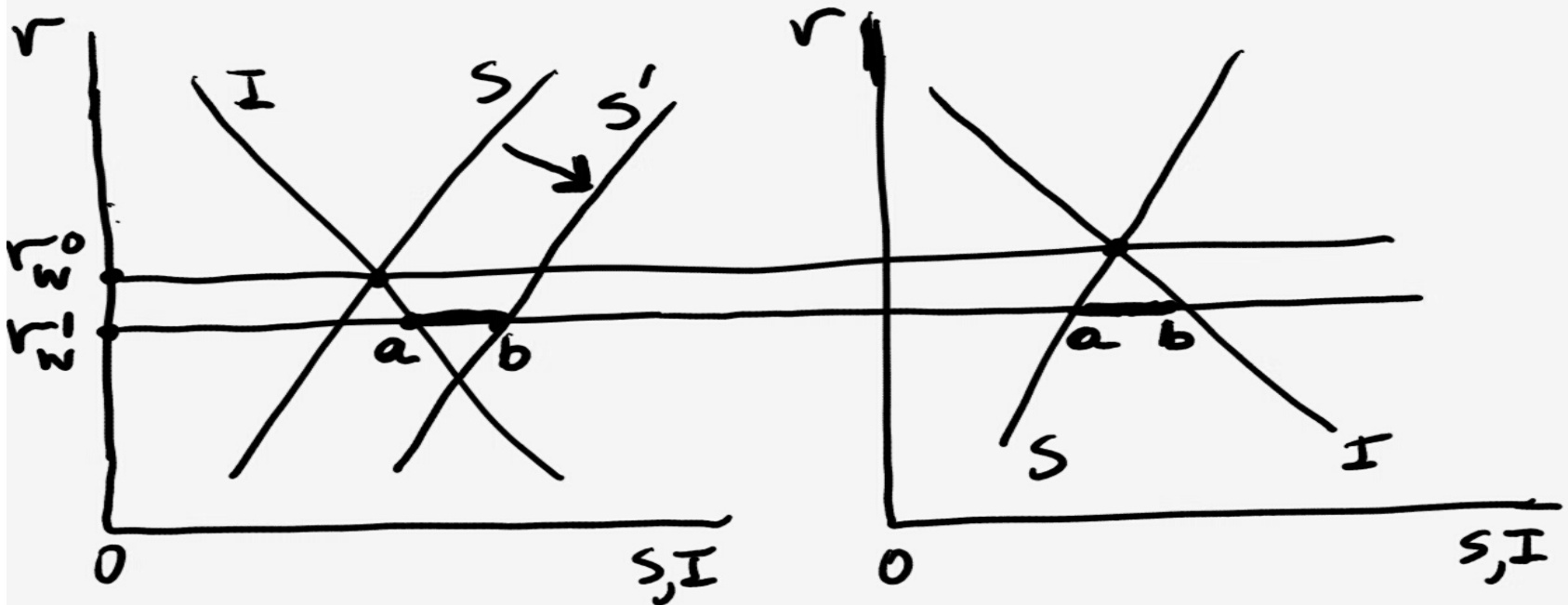


The diagram above shows the case of a world economy consisting of two large countries. As drawn, one country (the EZ) is running a current account surplus, and the other country (U.S.) is running a current account deficit of equal magnitude. The common world interest rate is determined so that one country's lending (EZ's) is equal to the other country's borrowing (U.S.'s).

In the diagram below, starting from a situation of current account balance for both countries, an increase in the desire to save in the EZ, results in current account imbalances (equal to **ab**) in both countries. Note that the CA deficit in the U.S. appears due to changes taking place in the EZ: this is a manifestation of economic interdependence.

EZ

U.S.



The world's top 100 non-financial MNEs, ranked by foreign assets, 2018

(Millions of dollars and number of employees)

Ranking by:					Assets		Sales		Employment	
Foreign assets	TNI ^b	Corporation	Home economy	Industry ^c	Foreign	Total	Foreign	Total	Foreign ^d	Total
1	36	Royal Dutch Shell plc	United Kingdom	Mining, quarrying and petroleum	343 713	400 563	281 628	405 978	58 000	82 000
2	75	Toyota Motor Corporation	Japan	Motor Vehicles	300 384	468 872	65 857	272 513	236 480	369 124
3	15	BP plc	United Kingdom	Petroleum Refining and Related	254 533	283 144	243 690	312 293	65 624	73 000
4	45	Softbank Group Corp	Japan	Telecommunications	240 305	325 869	44 551	86 573	55 272	74 953
5	38	Total SA	France	Petroleum Refining and Related	233 692	256 327	128 675	189 389	68 422	104 460
6	58	Volkswagen Group	Germany	Motor Vehicles	224 191	524 566	226 903	278 255	365 000	656 000
7	16	British American Tobacco PLC	United Kingdom	Tobacco	185 974	187 330	32 415	32 660	37 468	63 877
8	51	Chevron Corporation	United States	Petroleum Refining and Related	181 006	253 863	75 549	158 767	34 652	48 600
9	59	Daimler AG	Germany	Motor Vehicles	169 115	322 440	168 193	197 454	124 020	298 683
10	88	Exxon Mobil Corporation	United States	Petroleum Refining and Related	168 053	346 196	85 701	279 332	34 465	71 000
11	18	Anheuser-Busch InBev NV	Belgium	Food & beverages	162 270	202 375	40 265	47 623	148 999	172 603
12	81	Apple Computer Inc	United States	Computer Equipment	153 545	365 725	167 534	265 595	55 419	132 000
13	8	CK Hutchison Holdings Limited	Hong Kong, China	Retail Trade	144 891	157 337	33 036	35 358	279 000	300 000
14	33	Honda Motor Co Ltd	Japan	Motor Vehicles	143 280	184 338	124 832	143 251	147 219	211 915
15	12	Vodafone Group Plc	United Kingdom	Telecommunications	143 259	160 501	42 960	50 534	98 318	111 556
16	65	General Electric Co	United States	Industrial and Commercial Machinery	134 637	309 129	74 848	121 616	186 000	283 000
17	46	Siemens AG	Germany	Industrial and Commercial Machinery	133 891	160 800	78 228	98 768	136 440	379 000
18	52	Enel SpA	Italy	Electricity, gas and water	133 459	189 402	53 849	86 284	38 987	69 272
19	68	DowDuPont Inc	United States	Rubber and Miscellaneous Plastic	122 998	188 030	30 181	85 977	64 106	98 000
20	40	Nissan Motor Co Ltd	Japan	Motor Vehicles	122 276	171 097	87 180	104 352	79 480	138 911

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Foreign assets	TNI ^b	Corporation	Home economy	Industry ^c	Foreign	Total	Foreign	Total	Foreign ^d	Total	
21	24	Iberdrola SA	Spain	Electricity, gas and water	121 510	148 434	36 874	41 383	24 256	34 078	
22	6	Nestlé SA	Switzerland	Food & beverages	120 407	139 215	92 170	93 439	298 334	308 000	
23	67	BMW AG	Germany	Motor Vehicles	118 908	239 272	98 966	115 007	42 349	134 682	
24	37	Bayer AG	Germany	Pharmaceuticals	117 977	144 590	42 198	46 704	61 627	116 998	
25	39	Johnson & Johnson	United States	Pharmaceuticals	115 837	152 954	58 295	81 581	101 156	135 100	
26	56	Amazon.com, Inc	United States	E-Commerce	115 397	162 648	91 521	232 887	459 394	647 500	
27	86	Microsoft Corporation	United States	Computer and Data Processing	114 648	258 848	54 434	110 360	53 000	131 000	
28	54	Deutsche Telekom AG	Germany	Telecommunications	112 360	166 447	59 787	89 259	115 448	216 369	
29	29	Glencore PLC	Switzerland	Mining, quarrying and petroleum	111 197	129 113	150 277	229 712	136 075	158 000	
30	93	EDF SA	France	Electricity, gas and water	107 145	324 215	37 759	81 378	34 381	165 790	
31	9	Hon Hai Precision Industries	Taiwan Province of	Electronic components	106 644	110 609	171 647	175 576	824 063	987 613	
32	60	Eni SpA	Italy	Petroleum Refining and Related	106 042	135 625	59 621	89 441	10 374	30 950	
33	26	Takeda Pharmaceutical Company	Japan	Pharmaceuticals	105 448	125 235	13 760	18 908	42 331	50 274	
34	35	Telefonica SA	Spain	Telecommunications	100 094	130 578	42 458	57 448	94 833	120 138	
35	1	Rio Tinto PLC	United Kingdom	Mining, quarrying and petroleum	91 178	91 261	41 954	42 358	47 171	47 458	
36	2	Medtronic plc	Ireland	Instruments and related products	88 435	91 393	29 868	29 953	83 217	86 000	
37	28	Fiat Chrysler Automobiles	United Kingdom	Motor Vehicles	87 365	110 915	119 864	130 264	133 929	198 545	
38	85	Mitsui & Co Ltd	Japan	Wholesale Metals and Minerals	87 357	107 843	33 596	62 728	2 657	43 993	
39	71	Samsung Electronics Co., Ltd.	Korea, Republic of	Communications equipment	84 717	304 057	136 064	221 464	215 542	308 746	
40	77	China COSCO Shipping Corp Ltd	China	Transport and storage	84 419	109 044	22 800	34 668	8 091	100 550	

The world's top 100 non-financial MNEs, ranked by foreign assets, 2018
(Millions of dollars and number of employees)

Ranking by:					Assets		Sales		Employment	
Foreign assets	TNI ^a	Corporation	Home economy	Industry ^c	Foreign	Total	Foreign	Total	Foreign ^d	Total
41	42	Novartis AG	Switzerland	Pharmaceuticals	83 259	145 563	52 293	53 166	66 482	125 161
42	92	Nippon Telegraph & Telephone	Japan	Telecommunications	82 633	201 274	19 738	107 108	116 000	282 550
43	90	Ford Motor Company	United States	Motor Vehicles	79 979	256 540	62 792	160 338	99 000	199 000
44	20	ArcelorMittal	Luxembourg	Metals and metal products	77 897	79 562	61 366	66 295	120 232	209 000
45	87	Tencent Holdings Limited	China	Computer and Data Processing	77 594	119 824	1 555	53 813	35 169	54 309
46	14	Linde PLC	United Kingdom	Chemicals and Allied Products	75 863	93 386	13 448	14 900	70 438	80 820
47	82	Pfizer Inc	United States	Pharmaceuticals	74 988	159 422	28 318	53 647	43 462	92 400
48	66	Allergan PLC	Ireland	Pharmaceuticals	74 583	101 788	3 513	15 787	12 383	16 900
49	47	BASF SE	Germany	Chemicals and Allied Products	71 922	99 102	52 574	73 944	66 565	122 404
50	57	Airbus SE	France	Aircraft	71 735	131 896	54 185	75 162	72 701	133 671
51	74	Engie	France	Electricity, gas and water	71 437	175 981	42 016	71 491	85 340	160 301
52	72	Orange SA	France	Telecommunications	69 489	110 593	27 336	48 821	58 826	150 711
53	25	Roche Group	Switzerland	Pharmaceuticals	68 941	79 777	57 448	58 089	53 315	94 442
54	69	International Business Machines	United States	Computer and Data Processing	68 772	123 382	42 597	79 591	195 421	350 600
55	91	Mitsubishi Corporation	Japan	Wholesale Petroleum and Fuels	68 378	149 254	57 511	145 191	15 985	77 477
56	98	China National Offshore Oil Corp	China	Mining, quarrying and petroleum	67 282	173 408	21 348	81 482	12 738	97 986
57	4	John Swire & Sons Limited	United Kingdom	Transport and storage	65 930	69 400	27 260	29 312	134 849	136 211
58	70	Enbridge Inc	Canada	Electricity, gas and water	64 540	122 463	21 112	35 794	6 324	12 000
59	95	Equinor ASA	Norway	Petroleum Refining and Related	61 606	111 863	21 975	83 424	2 763	20 525
60	21	Unilever PLC	United Kingdom	Food & beverages	61 545	68 424	46 621	61 120	128 000	158 000

The world's top 100 non-financial MNEs, ranked by foreign assets, 2018

(Millions of dollars and number of employees)

Ranking by:					Assets		Sales		Employment	
Foreign assets	TNI ^b	Corporation	Home economy	Industry ^c	Foreign	Total	Foreign	Total	Foreign ^d	Total
61	84	GlaxoSmithKline PLC	United Kingdom	Pharmaceuticals	61 120	74 329	1 231	41 100	53 547	95 490
62	100	State Grid Corporation of China	China	Electricity, gas and water	60 000	585299	45 003	343 796	16 535	913 546
63	96	Walmart inc	United States	Retail Trade	59 553	219 295	122 140	514 405	700 000	2 200 000
64	11	Lafargeholcim Ltd	Switzerland	Stone, Clay, Glass, and Concrete	59 202	60 723	27 763	28 790	57 055	77 055
65	31	Christian Dior SA	France	Textiles, clothing and leather	57 744	88 471	49 947	55 245	124 932	156 088
66	89	United Technologies Corporation	United States	Aircraft	56 601	134 211	27 020	66 501	101 215	240 000
67	73	China National Chemical	China	Chemicals and Allied Products	56 241	121 444	32 788	59 226	86 025	158 425
68	63	Intel Corporation	United States	Electronic components	56 080	127 963	56 545	70 848	53 700	107 400
69	49	Renault SA	France	Motor Vehicles	55 240	131 665	52 795	67 743	134 399	183 002
70	44	Robert Bosch GmbH	Germany	Motor Vehicles	55 161	95 780	74 380	92 573	270 459	409 881
71	32	SAP SE	Germany	Computer and Data Processing	55 128	58 955	24 835	29 151	54 649	96 497
72	76	Procter & Gamble Co	United States	Chemicals and Allied Products	54 905	118 310	39 519	66 832	42 694	92 000
73	55	RWE AG	Germany	Electricity, gas and water	54 773	91 720	10 450	15 795	34 900	58 441
74	83	Atlantia SpA	Italy	Construction	54 605	91 223	2 358	8 763	17 515	30 903
75	94	Alphabet Inc	United States	Computer and Data Processing	53 296	232 792	73 550	136 819	22 613	98 771
76	23	Mondelez International, Inc.	United States	Food & beverages	52 429	62 729	19 537	25 938	68 000	80 000
77	3	Anglo American plc	United Kingdom	Mining, quarrying and petroleum	50 512	52 375	27 056	28 861	62 000	64 000
78	5	Altice Europe NV	Netherlands	Telecommunications	50 010	51 902	15 409	16 818	34 041	35 328
79	61	Fresenius SE & Co KGaA	Germany	Health care services	50 002	64 922	22 471	39 559	117 811	276 750
80	53	Sanofi	France	Pharmaceuticals	49 960	127 557	39 259	42 092	57 970	104 226