

## National Income Accounting and the Balance of Payments

### Gross Domestic Product (GDP)

market value of all final goods and services produced in a country in a given period (month, quarter, year)

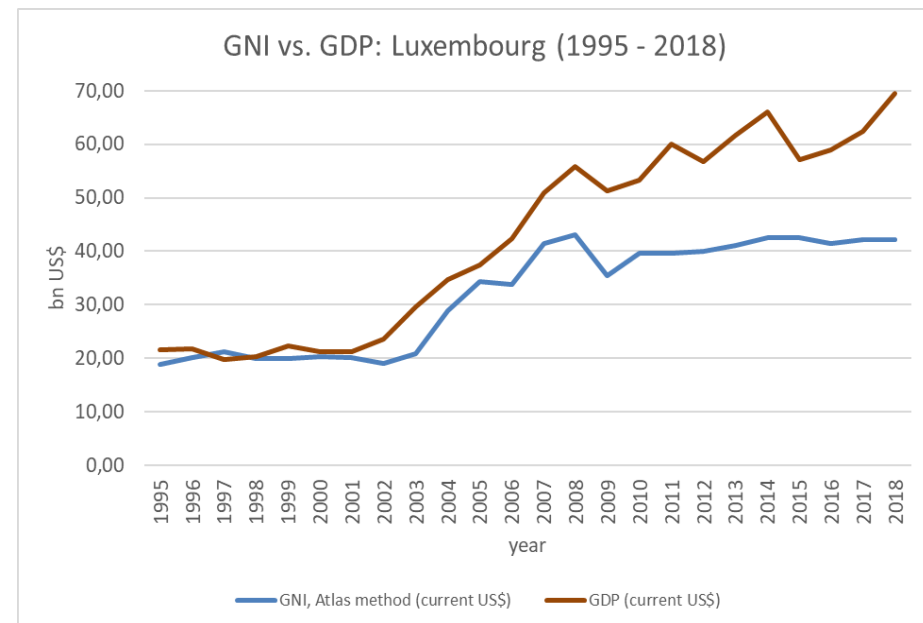
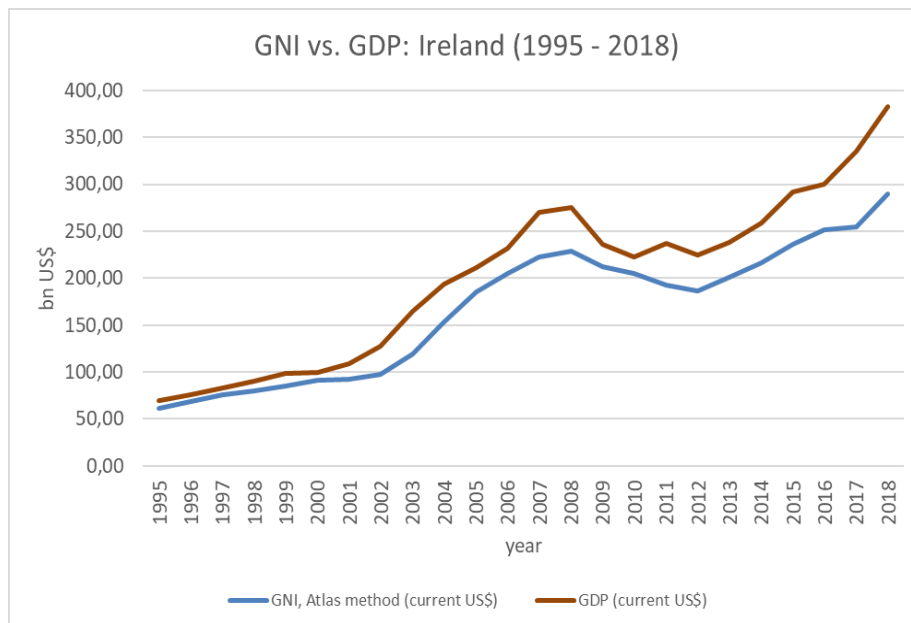
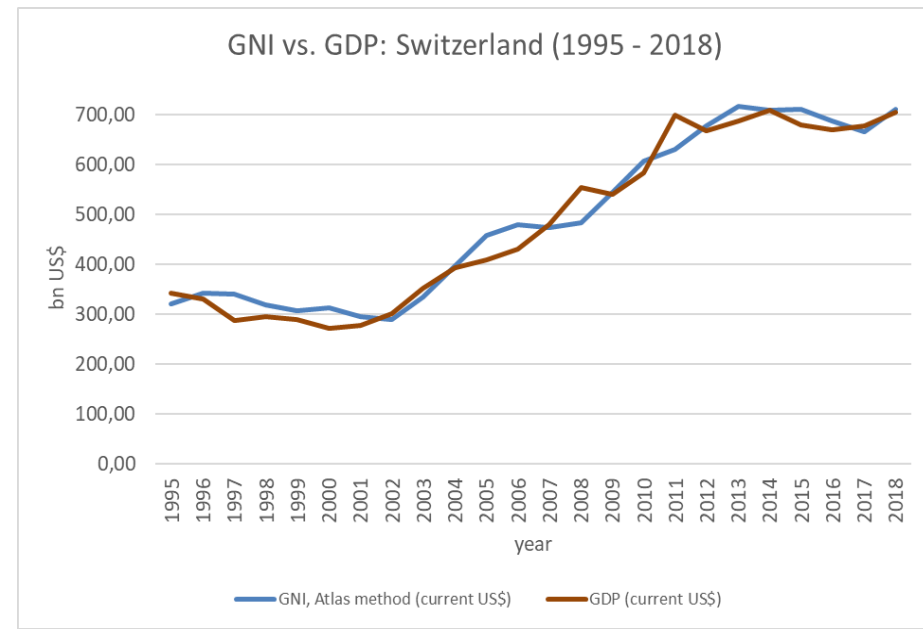
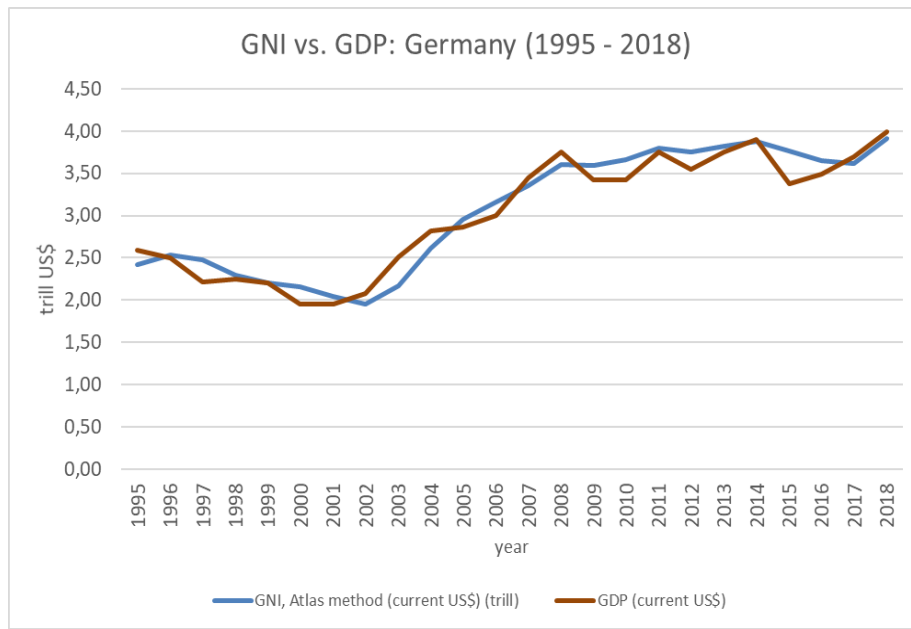
(which are not used in production again as an intermediate good, “sum of value added”).

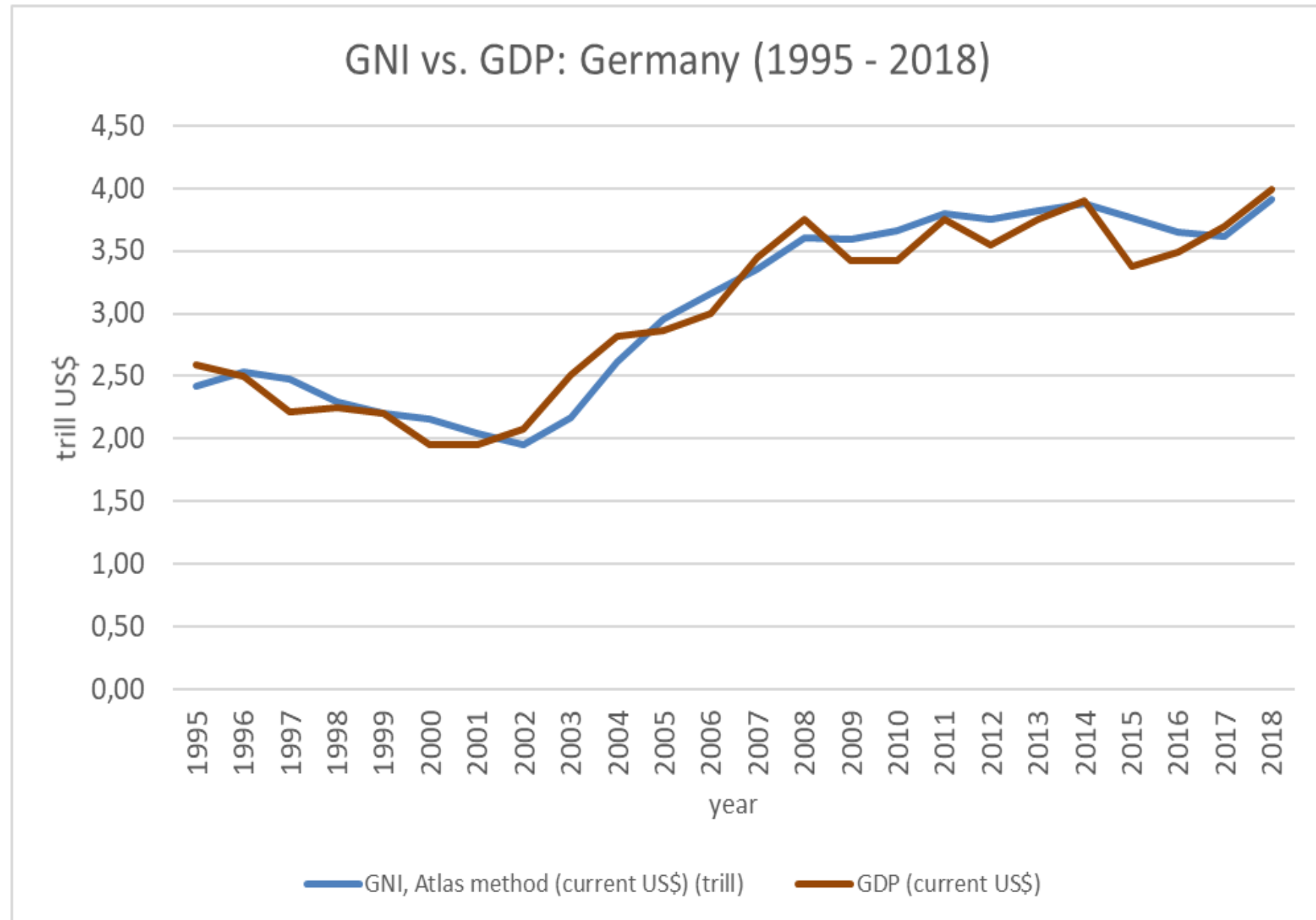
**GDP** – value of the output produced in a country by foreign production factors

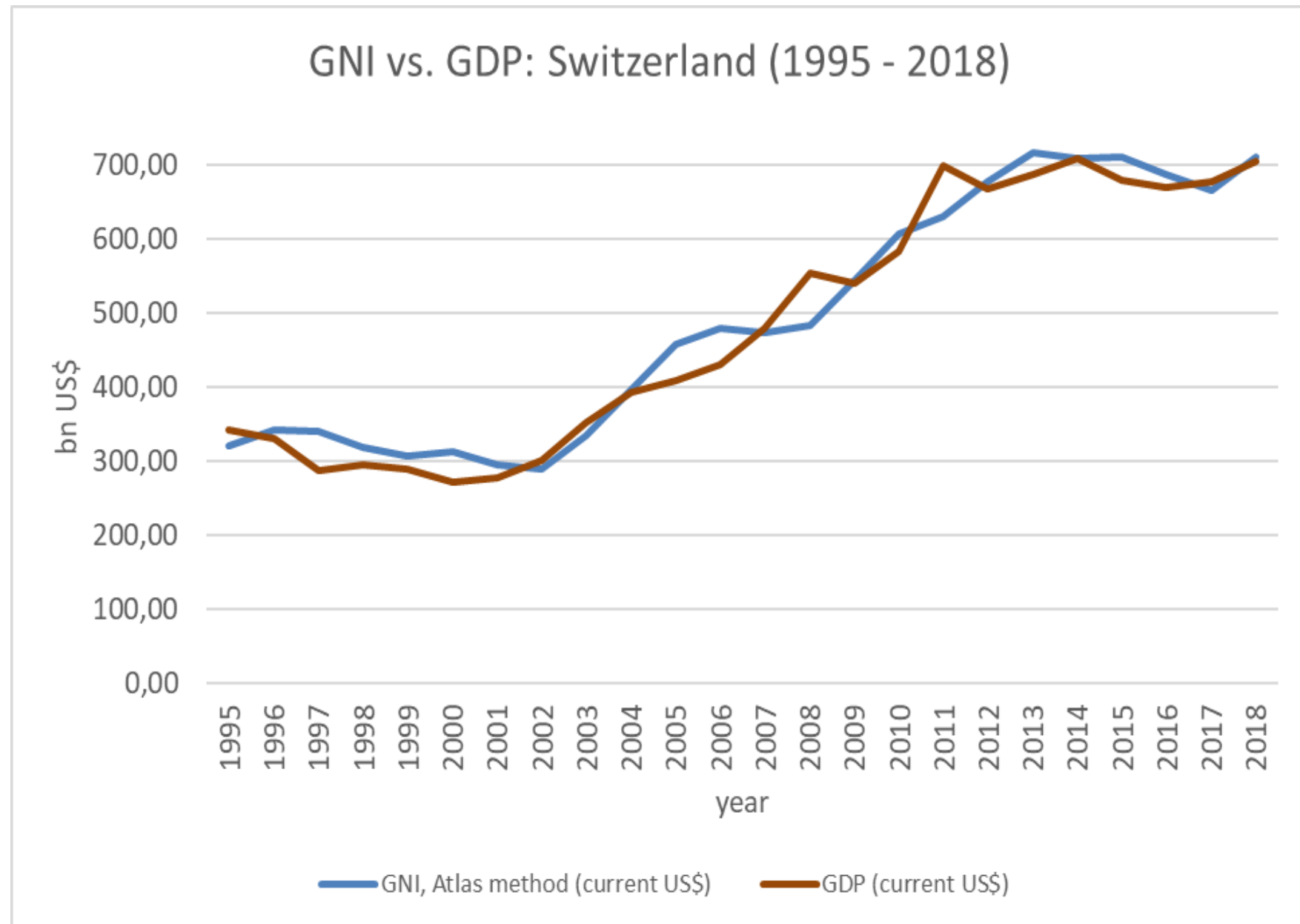
+ value of the output produced in foreign countries by domestic production factors

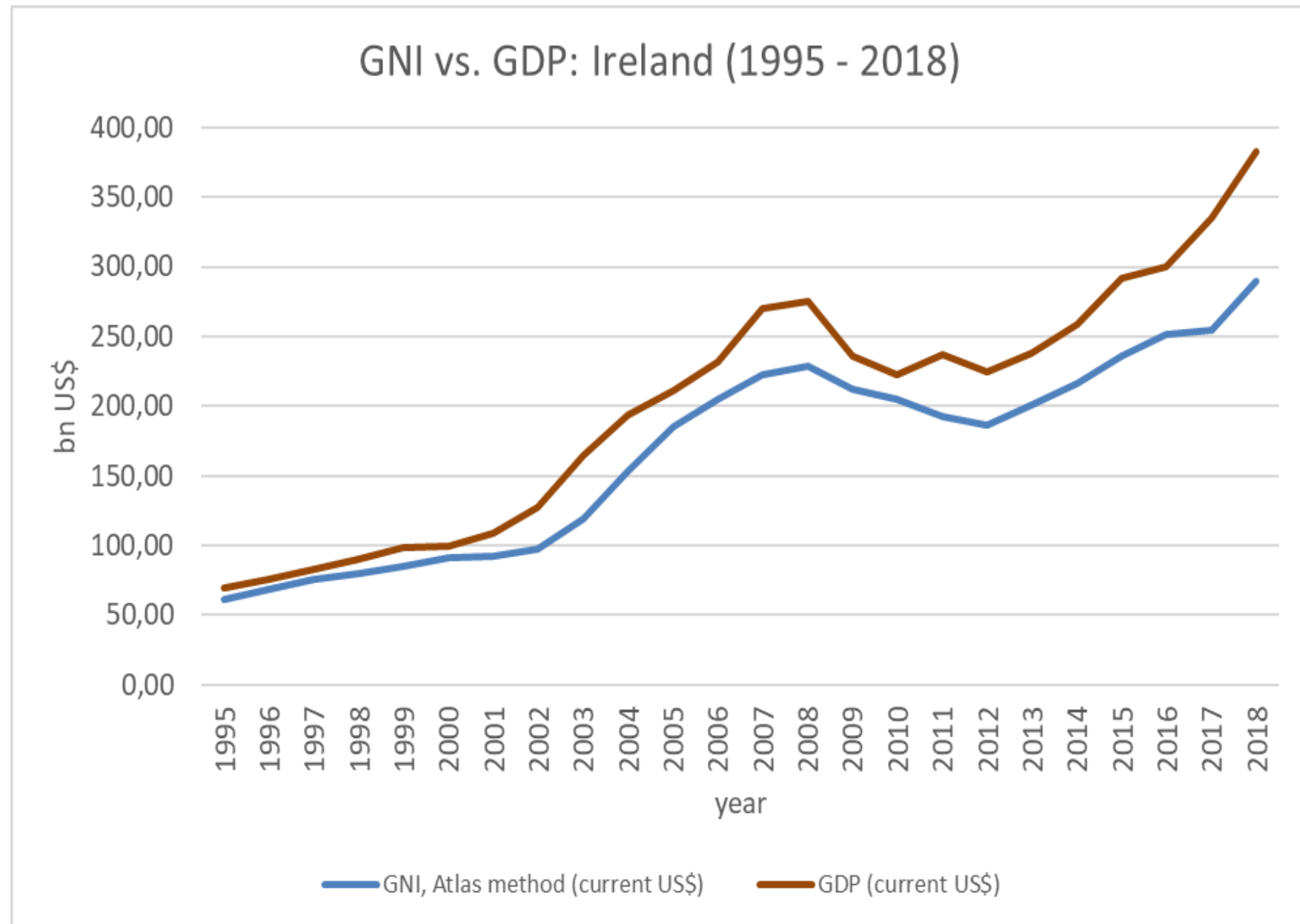
= **GNP** (Gross National Product, also called Gross National Income GNI)

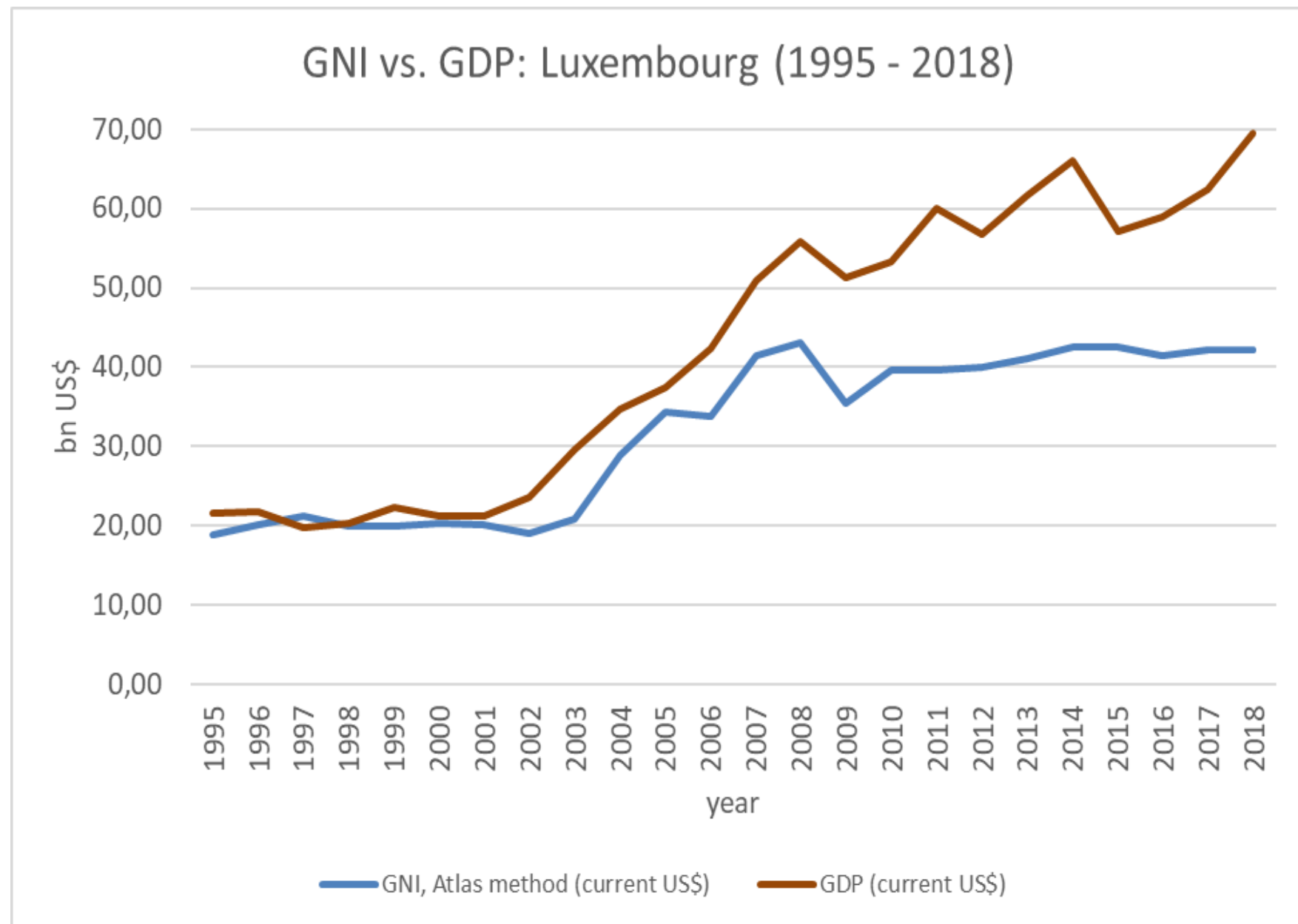
- „domestic“ and „foreign“ according to place of residence  
(not citizenship)











National income identity:

$$Y = C + I + G + Ex - Im$$

with Y: GNP

C: private consumption

I: investment (including change in inventories)

G: government purchases (for simplification: government consumption)

Ex: exports

Im: imports

T: taxes

$$S^{Pr} = I + (G - T) + (Ex - Im) \quad \text{with} \quad S^{Pr} = Y - T - C$$

Private savings may take three forms: investment in domestic capital, purchases of government's newly issued debt and purchases of assets from foreigners

Net exports NX = current account balance = Net capital export

Alternatively:

$$Ex - Im = (S^{Pr} - I) + (T - G)$$

i.e. a current account deficit comes along with

- Investments exceeding private savings and / or
- a budget deficit of the government

Ex: Twin Deficit of the US and in Greece and Portugal

But ATTENTION:

from an identity, no causalities can be derived



The **balance of payments** of a country records all economic transactions between a country and the rest of the world in a given period.  
(ex post, measurement of flows)

- Double-entry bookkeeping: the actual transaction and the payment
- Credits: all transactions which (in principle) result in a receipt from foreigners  
(e.g. exports, selling a domestic bond = capital import)
- Debits: all transactions which (in principle) result in a payment to foreigners  
(e.g. holidays in Italy, development aid)

<b>Structure:</b>	- current account	Leistungsbilanz
	- capital account	Vermögensänderungsbilanz
	- financial account	Kapitalbilanz
	- change in official reserves of the central bank (reserve account)	Veränderungen der Währungsreserven der Zentralbank (Devisenbilanz)
	- errors and omissions	Restposten

## Current account

- trade balance
- services
- primary income (from investment and labor)  
(Primäreinkommen; bis 2014: Erwerbs- und Vermögenseinkommen)
- secondary income (until 2014: Unilateral/current transfers)  
(Sekundäreinkommen; bis 2014: laufende Übertragungen)

## Remarks:

- Net primary income is the difference between GNP and GDP
- In macroeconomic models, tangible goods and services are not distinguished, hence EX and IM cover both trade in tangibles and in services



## Financial account (Kapitalbilanz)

The financial account records all transactions that arise from the purchase or sale of an (financial) asset (money, stocks, factories, houses, government debt)

An increase in **liabilities** (Verbindlichkeiten) to foreigners enters as a credit (= capital import)

An increase of receivables/claims (Forderungen) against foreigners enter as a debit (= capital export)

(Decreases as negative values).



## Changes of official reserves of the central bank (reserve account)

„Financial account of the central bank”,  
buying and selling foreign currencies.

**Examples for booking:**

(Please note, that the description is somewhat different than in old editions of Krugman/Obstfeld)

- a) Import of goods with due date for payment in 3 months [100]
- b) Purchase of a foreign bond by a domestic investment fund, payment from an existing deposit at a foreign bank [70]



Trade account		Financial account	
C	D	C	D
			

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Trade account		Financial account	
C	D	C	D
	Import 100	Increase in liabilities (credit) 100	Increase in receivables (bond) 70
			Decrease in receivables (deposit) -70

## „Balance of payments equilibrium“

- Due to the double entry bookkeeping, the balance of payments is always balanced.
- „*Balance of payments disequilibrium*“ can only refer to (summaries of) subaccounts.
- In case of fixed exchange rates, we say „balance of payments equilibrium“, if the sum of the current account and the financial account is zero, meaning that official reserves of the central bank have not changed (no interventions on the foreign exchange market)

## Basic relations:

- A current account deficit corresponds to a net capital import (in the financial account or in the reserve account)
-  Conversely, a country that needs foreign capital (and wants to borrow from abroad) must have a current account deficit
- A country with current account deficits accumulates foreign debt.  
(or reduces its foreign assets)
- A current account deficit means that a country uses more goods than it produces. This fact can reflect
  - high consumption
  - high investments 
  - budget deficit

(Which implies different assessments of the situation)

Remember:  $Ex - Im = (S^{Pr} - I) + (T - G)$



## Balance of Payments: German and English terms

	“textbook“ and “formerly”	Balance of Payments Manual (IMF)
Zahlungsbilanz	balance of payments	
Handelsbilanz	balance of trade	
Primäreinkommen Bis 2014: Erwerbs- und Vermögenseinkommen	primary income	
Laufende Übertragungen Seit 2014: Sekundäreinkommen	current transfers	Since 2014: secondary income
Leistungsbilanz	current account	
Kapitalbilanz	<b>capital account</b>	<b>financial account</b>
Devisenbilanz	balance of official foreign exchange reserves	
Vermögensübertragungen Seit 2014: Vermögensänderungen		<b>capital account</b>