

# LEZIONE V: IL MERCATO DEI BENI

Santiago José Gahn

Istituzioni di Economia



**UNIVERSITÀ**  
DEGLI STUDI DI BARI  
ALDO MORO

# 1. COMPOSIZIONE DEL PIL (Y)

- CONSUMO (C)
- INVESTIMENTO (I)
- SPESA PUBBLICA (G)
- ESPORTAZIONI (X)
- IMPORTAZIONI (IM)
- INVESTIMENTO IN SCORTE



## 1.A. CONSUMO (C)

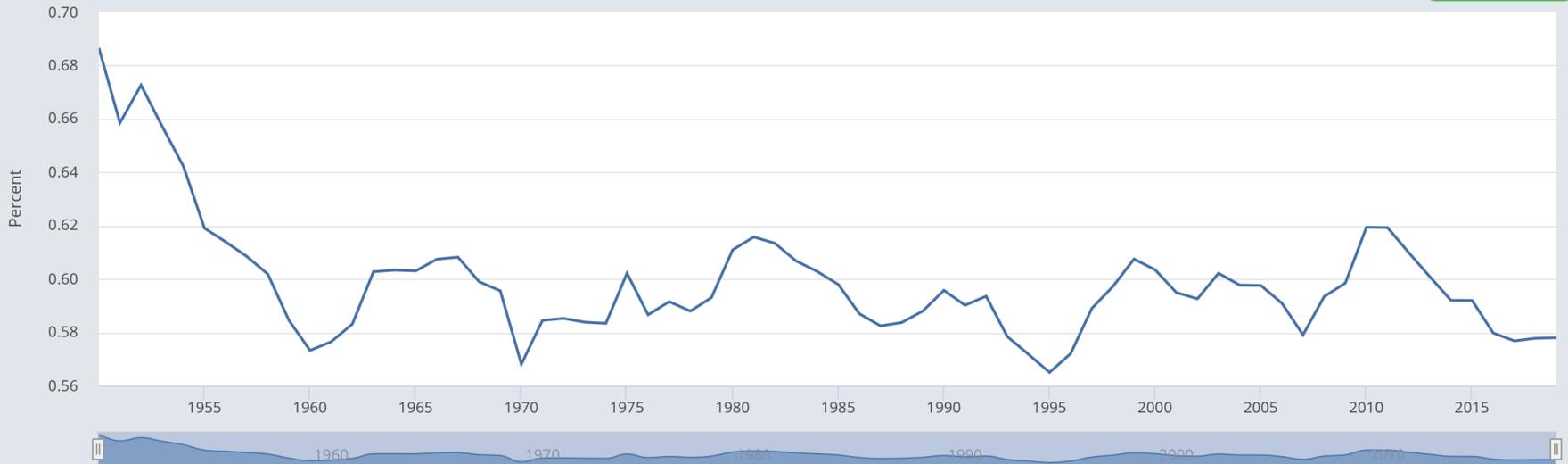
- Beni e servizi acquistati dai consumatori.





— Share of Household Consumption at Current Purchasing Power Parities for Italy

[VIEW MAP](#)



Sources: University of Groningen; University of California, Davis

fred.stlouisfed.org



## 1.B.INVESTIMENTO (I)

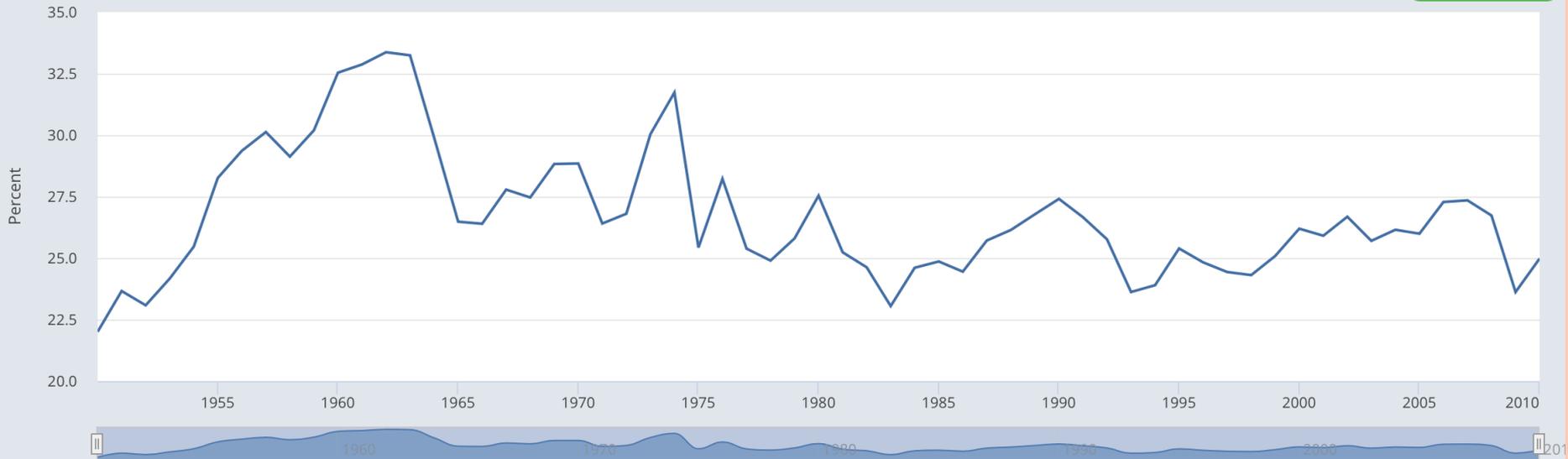
- Investimento non residenziale (*nuovi* impianti o macchinari).
- Investimento residenziale (acquisto di *nuove* case o appartamenti).





— Investment Share of Purchasing Power Parity Converted GDP Per Capita at current prices for Italy

[VIEW MAP](#)



Source: University of Pennsylvania

[fred.stlouisfed.org](http://fred.stlouisfed.org)



- Investimento non residenziale (*nuovi* impianti o macchinari).

$$I_t = K_{t+1}$$



## 1.C. SPESA PUBBLICA (G)

- Beni e servizi acquistati dallo Stato e dagli enti pubblici (Consumo, Investimento).
- Non include i trasferimenti (pensioni e gli interessi sul debito pubblico).





— Share of Government Consumption at Current Purchasing Power Parities for Italy

[VIEW MAP](#)



Sources: University of Groningen; University of California, Davis

[fred.stlouisfed.org](http://fred.stlouisfed.org)



## 1.D. ESPORTAZIONI (X)

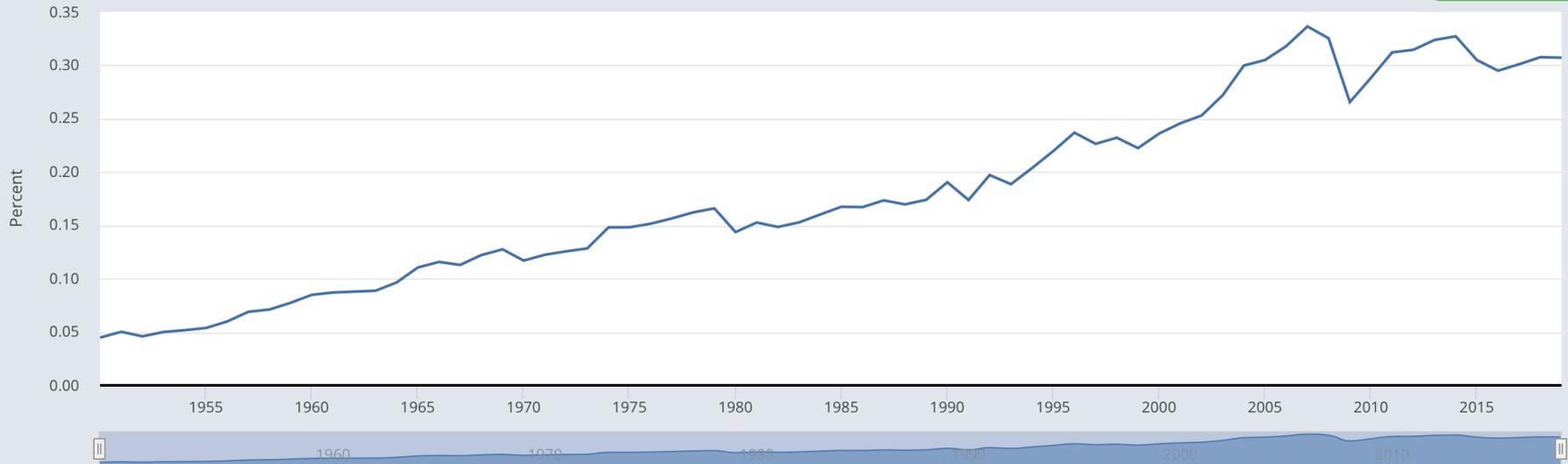
- Beni e servizi nazionali acquistati da parte del resto del mondo.





— Share of Merchandise Exports at Current Purchasing Power Parities for Italy

[VIEW MAP](#)



Sources: University of Groningen; University of California, Davis

[fred.stlouisfed.org](http://fred.stlouisfed.org)



## 1.E. IMPORTAZIONI (IM)

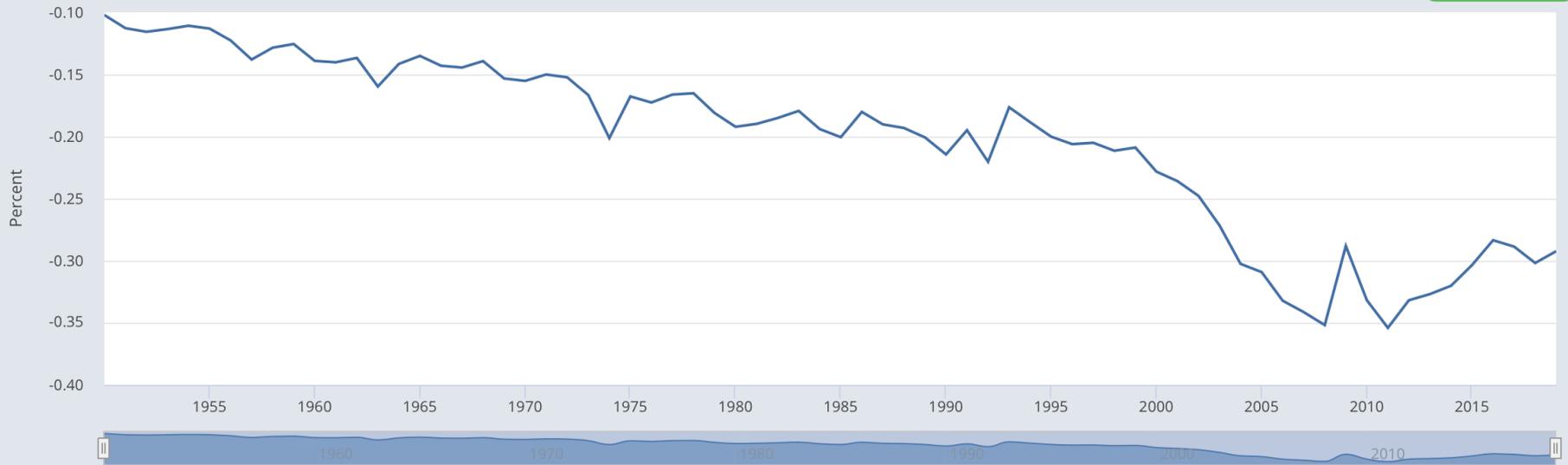
- Beni e servizi dall'estero esteri acquistati dai residenti.





— Share of Merchandise Imports at Current Purchasing Power Parities for Italy

[VIEW MAP](#)



Sources: University of Groningen; University of California, Davis

[fred.stlouisfed.org](http://fred.stlouisfed.org)



# X-IM

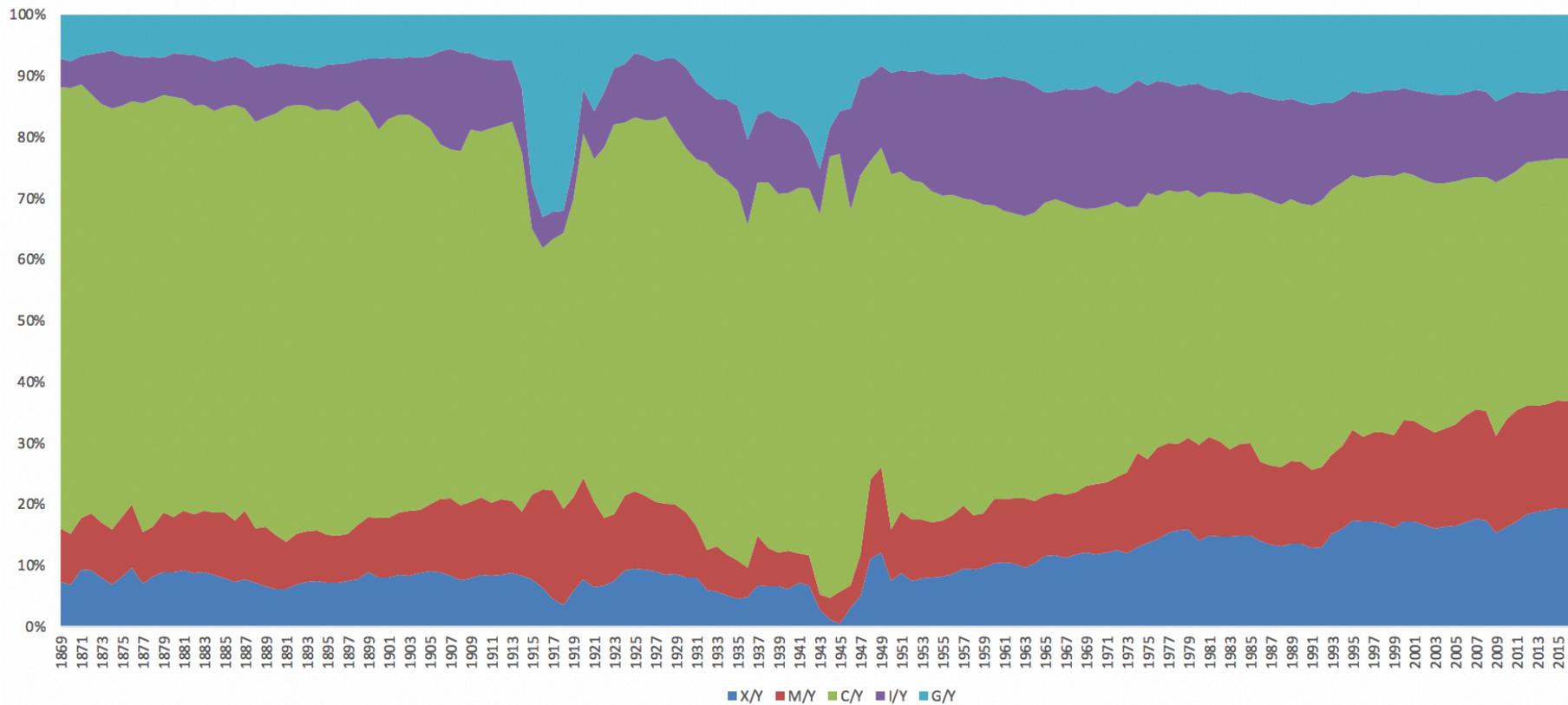
- La differenza tra esportazioni e importazioni è chiamata esportazioni nette (NX) o saldo commerciale.
- Avanzo commerciale ( $NX > 0$ ).
- Disavanzo commerciale ( $NX < 0$ ).



## 1.F. INVESTIMENTO IN SCORTE

- $\text{Produzione} > \text{Vendita} \Rightarrow \text{Scorte di magazzino} \uparrow$





## 2. LA DOMANDA DEI BENI

- CONSUMO (C)
- INVESTIMENTO (I)
- SPESA PUBBLICA (G)
- ESPORTAZIONI (X)
- IMPORTAZIONI (IM)
- INVESTIMENTO IN SCORTE

$$Z \equiv C + I + G + X - IM$$

Z = DOMANDA TOTALE DI BENI



## 2. LA DOMANDA DEI BENI

- Per analizzare la macroeconomia, assumiamo una produzione di un solo bene e un'economia chiusa.



## 2. LA DOMANDA DEI BENI

- CONSUMO (C)
- INVESTIMENTO (I)
- SPESA PUBBLICA (G)

$$Z \equiv C + I + G$$

Z = DOMANDA TOTALE DI BENI



## 2.1. CONSUMO

$$C = f(Y^d)$$

$Y^d$  = reddito disponibile = reddito percepito +  
trasferimenti – imposte

$$Y^d = Y - (Tras - Imposte)$$
$$Y^d = Y - T$$



## 2.1. CONSUMO

$$C = f(Y^d)$$



## 2.1. CONSUMO

$$C = f(Y^d \uparrow)$$



## 2.1. CONSUMO

$$\uparrow C = f(Y^d \uparrow)$$

$$\uparrow Y^d = \uparrow Y - T$$

$$\uparrow Y^d = Y - \downarrow T$$



## 2.1. CONSUMO

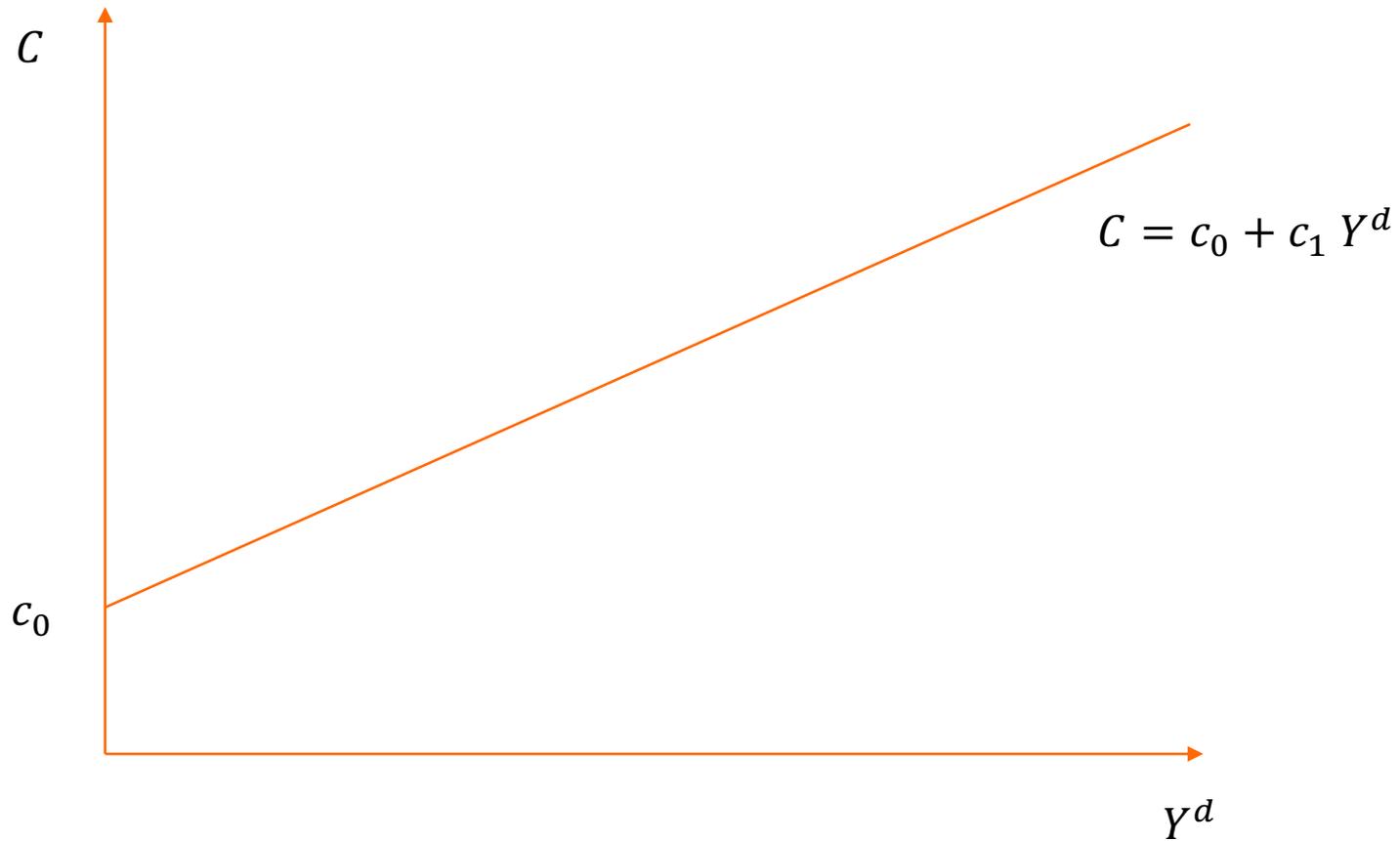
$$C = c_0 + c_1 Y^d$$

$c_0$  = Consumo Autonomo

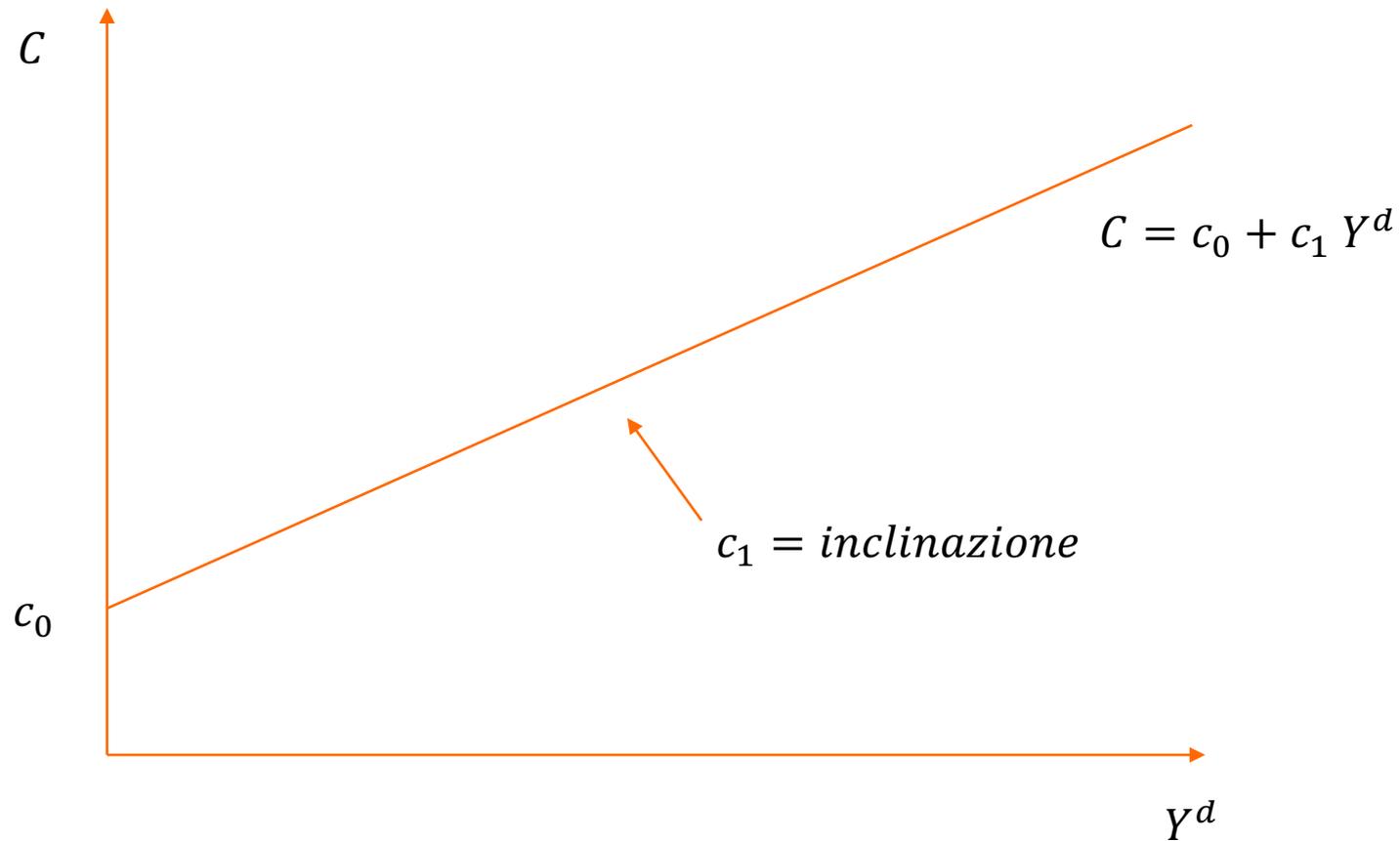
$c_1$  = Propensione (marginale) al consumo



## 2.1. CONSUMO (ES.)



## 2.1. CONSUMO (ES.)



## 2.1. CONSUMO (ES.)

$$C = c_0 + c_1 Y^d$$

$$c_0 = 60$$

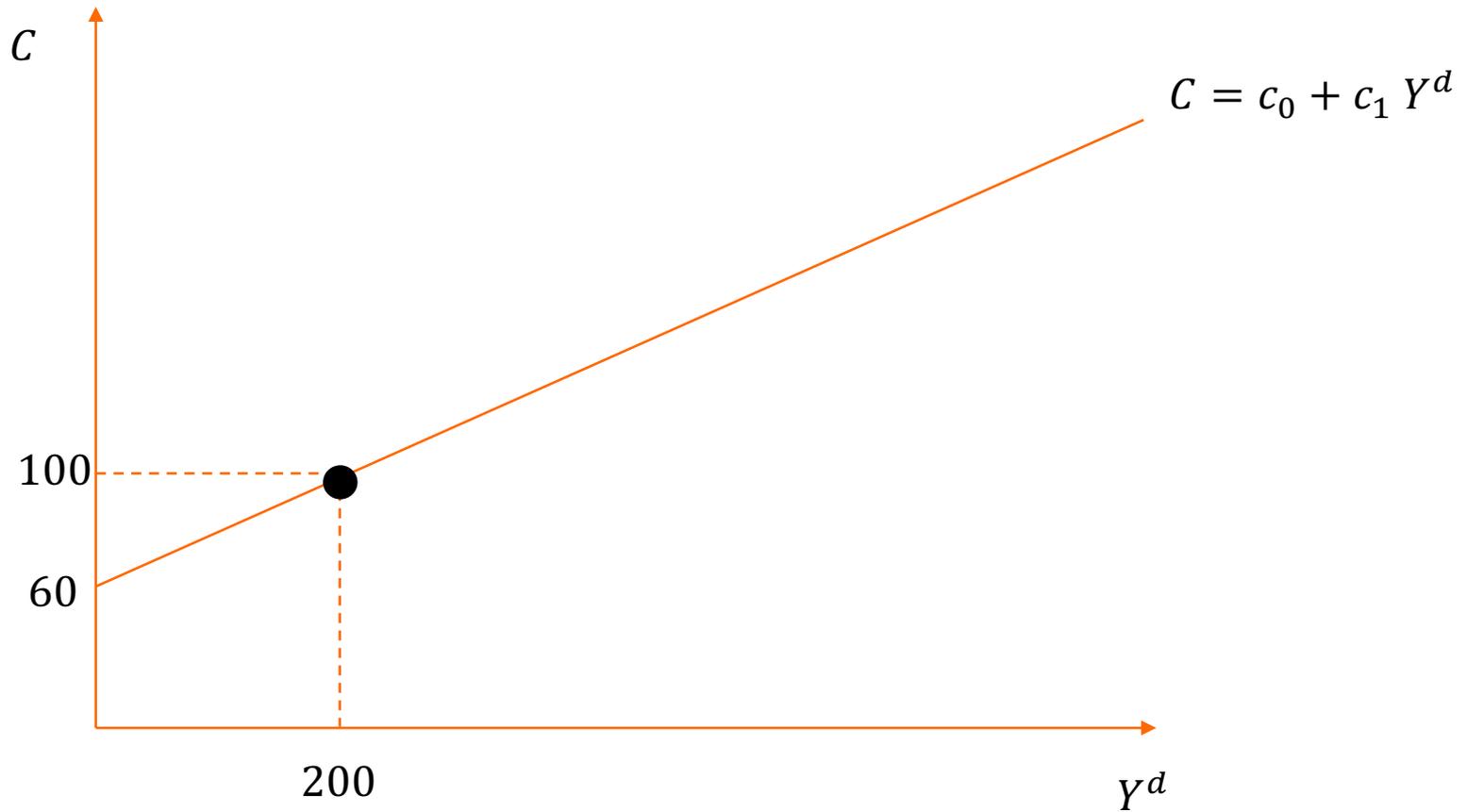
$$c_1 = 0,2$$

$$Y^d = 200$$

$$C = ?$$



## 2.1. CONSUMO (ES.)



## 2.2. INVESTIMENTO (I)

$$I = \bar{I}$$

$I = \bar{I} = \textit{esogena}$



## 2.3. SPESA PUBBLICA (G)

*G*

*G = Politica Fiscale*

$G - T = 0$  Bilancio in Pareggio

$G - T > 0$  Deficit = Disavanzo di bilancio

$G - T < 0$  Superavit = Avanzo di bilancio



### 3. PRODUZIONE DI EQUILIBRIO

$$Z = C + I + G$$



### 3. PRODUZIONE DI EQUILIBRIO

$$Z = C + I + G$$

$$Z = c_0 + c_1 Y^d + \bar{I} + G$$



### 3. PRODUZIONE DI EQUILIBRIO

$$Z = C + I + G$$

$$Z = c_0 + c_1 Y^d + \bar{I} + G$$

$$Z = c_0 + c_1 (Y - T) + \bar{I} + G$$



### 3. PRODUZIONE DI EQUILIBRIO

- Assumiamo che le imprese non abbiano scorte di magazzino.
- Equilibrio nel mercato dei beni:

$$Z = Y$$



### 3. PRODUZIONE DI EQUILIBRIO

- Assumiamo che le imprese non abbiano scorte di magazzino.
- Equilibrio nel mercato dei beni:

$$Z = Y$$

Sostituendo,

$$Y = c_0 + c_1 (Y - T) + \bar{I} + G$$



### 3. 1. MOLTIPLICATORE

$$Y = c_0 + c_1 (Y - T) + \bar{I} + G$$



### 3. 1. MOLTIPLICATORE

$$Y = c_0 + c_1 (Y - T) + \bar{I} + G$$

$$Y = c_0 + c_1 Y - c_1 T + \bar{I} + G$$



### 3. 1. MOLTIPLICATORE

$$Y = c_0 + c_1 (Y - T) + \bar{I} + G$$

$$Y = c_0 + c_1 Y - c_1 T + \bar{I} + G$$

$$Y - c_1 Y = c_0 - c_1 T + \bar{I} + G$$



### 3. 1. MOLTIPLICATORE

$$Y = c_0 + c_1 (Y - T) + \bar{I} + G$$

$$Y = c_0 + c_1 Y - c_1 T + \bar{I} + G$$

$$Y - c_1 Y = c_0 - c_1 T + \bar{I} + G$$

$$(1 - c_1) Y = c_0 - c_1 T + \bar{I} + G$$



### 3. 1. MOLTIPLICATORE

$$Y = c_0 + c_1 (Y - T) + \bar{I} + G$$

$$Y = c_0 + c_1 Y - c_1 T + \bar{I} + G$$

$$Y - c_1 Y = c_0 - c_1 T + \bar{I} + G$$

$$(1 - c_1) Y = c_0 - c_1 T + \bar{I} + G$$

$$Y = \frac{c_0 - c_1 T + \bar{I} + G}{(1 - c_1)}$$



### 3. 1. MOLTIPLICATORE

$$Y = \frac{c_0 - c_1 T + \bar{I} + G}{(1 - c_1)}$$

$$Y = \frac{1}{(1 - c_1)} (c_0 - c_1 T + \bar{I} + G)$$

$$\frac{1}{(1 - c_1)} = \textit{Moltiplicatore} > 1$$



### 3. 1. MOLTIPLICATORE (ES.)

$$Y = \frac{1}{(1 - c_1)} (c_0 - c_1 T + \bar{I} + G)$$

$$\frac{1}{(1 - c_1)} = \textit{Moltiplicatore} > 1$$

$$c_0 = 60$$

$$c_1 = 0,2$$

$$T = 100$$

$$\bar{I} = 50$$

$$G_1 = 50$$

$$G_2 = 100$$



# 3. 1. MOLTIPLICATORE IN ITALIA

*Oxford Economic Papers*, 2021, 1–23

doi: 10.1093/oeq/gpab028

OXFORD

---

## Quantifying multipliers in Italy: does fiscal policy composition matter?

Matteo Deleidi<sup>a,b</sup>

<sup>a</sup>Institute for Innovation and Public Purpose, University College London, WC1B5BP, London, UK

<sup>b</sup>Department of Statistical Sciences, Sapienza University of Rome, 00161, Rome, Italy; e-mail: [matteo.deleidi@uniroma1.it](mailto:matteo.deleidi@uniroma1.it)

### Abstract

This article aims to estimate fiscal multipliers in Italy by assessing the effect of an increase in government expenditure and taxes on the Gross Domestic Product (GDP). By applying structural vector autoregressive modelling to Italian quarterly data for the 1995–2019 period, I show that expansionary fiscal policies produce positive effects on the GDP level. Estimated spending multipliers are higher than 1, and when government investment and consumption are compared, findings show that government investment has a larger effect on GDP than government consumption. Estimated tax multipliers are lower than 1, and tax-based policies are less effective in stimulating GDP than expenditure-based fiscal plans. My findings strongly support the Keynesian perspective and indicate that Italy should increase public investments considerably in order to foster economic growth.

**JEL classifications:** C32, E62, H30, H60

---



# 3. 1. MOLTIPLICATORE IN ITALIA

**Table 3.** Cumulative multipliers, models 1 and 2 with fiscal forecast  $\Delta G_{t|t-1}^F$

Cumulative multipliers							
	1Q	5Q	10Q	15Q	20Q	Peak	Av 20Q
Model 1 – $\Delta G_{t t-1}^F$							
<i>G</i>	<b>0.59</b>	<b>1.55</b>	<b>1.95</b>	1.88	1.60	<b>1.97 (Q12)</b>	1.66
<i>T</i>	<b>-0.27</b>	<b>-0.22</b>	<b>-0.53</b>	-0.94	-0.94	<b>-0.97 (Q17)</b>	-0.59
Model 2 – $\Delta G_{t t-1}^F$							
<i>G<sub>I</sub></i>	<b>1.80</b>	<b>3.70</b>	<b>5.29</b>	5.17	4.33	<b>5.34 (Q12)</b>	4.39
<i>G<sub>C</sub></i>	<b>1.86</b>	<b>1.17</b>	<b>2.35</b>	3.17	3.35	<b>3.35 (Q20)</b>	2.38
<i>T</i>	<b>-0.23</b>	<b>-0.09</b>	<b>-0.32</b>	-0.58	-0.69	<b>-0.69 (Q20)</b>	-0.37

Tax elasticity of 0.75. Significant multipliers are in bold. 1Q is the impact multiplier; 5Q–20Q are the multipliers associated with different quarters; Peak represents the maximum effect; Av-20Q is the average on 20 quarters.

*Source:* Authors' calculations.



# 3. 1. MOLTIPLICATORE IN ITALIA

Table 1: Fiscal multipliers in Italy

Author	Value	Multiplier
Giordano et al. (2007)	1.875	Cumulative multiplier 16q
Di Giacinto et al. (2010)	1.39	Public capital cumulative multiplier
Caprioli and Momigliano (2011)	2.5	Cumulative multiplier 16q
Barrell et al. (2012)	0.62	Cumulative multiplier 1st year
Batini et al. (2012)	0.86	Cumulative multiplier 8q
European Commission (2012)	0.22	Cumulative multiplier 12q
Bacchini et al. (2013)	0.7	Impact multiplier
Caprioli and Momigliano (2013)	1.8	Cumulative multiplier 16q
Locarno et al. (2014)	0.59	DSGE long-run multiplier
Acconcia et al. (2014)	1.9	Dynamic multiplier
Trezzi and Porcelli (2014)	0.36	IV-DiD multiplier
Piacentini et al. (2016)	1.665	Long-run cumulative multiplier
Carreras et al. (2016)	0.55	NiGEM impact multiplier
Cimadomo and D'Agostino (2016)	1	Average cumulative multiplier
Bulligan et al. (2017)	1	Dynamic multiplier 5 years
MEF (2017)	0.875	Cumulative multiplier 12q
UPB (2017)	0.65	Cumulative multiplier 12q
Afonso et al. (2018)	0.27	Dynamic multiplier 16q - low stress regime
De Nardis and Pappalardo (2018)	1	Cumulative multiplier 12q
Alloza et al. (2019)	1.24	Cumulative multiplier 12q
Buseti et al. (2019)	0.93	Bank of Italy model 12q
Acocella et al. (2020)	1.39	IGEM model 4q
Baldini and Causi (2020)	0.8	Cumulative multiplier 20q
Deleidi (2022)	1.51	Cumulative multiplier 20q
Deleidi et al. (2021b)	1.3	Average cumulative multiplier
Lucidi (2021)	1.28	Cumulative multiplier 12q
Di Bartolomeo and D'Imperio (2022)	0.9	Long-run multiplier
<i>Simple average</i>	<i>1.08</i>	



### 3. 1. MOLTIPLICATORE IN ITALIA

*Le grandi Opere Pubbliche: Fiscal multipliers of public infrastructure in Italy (1870-1970)*

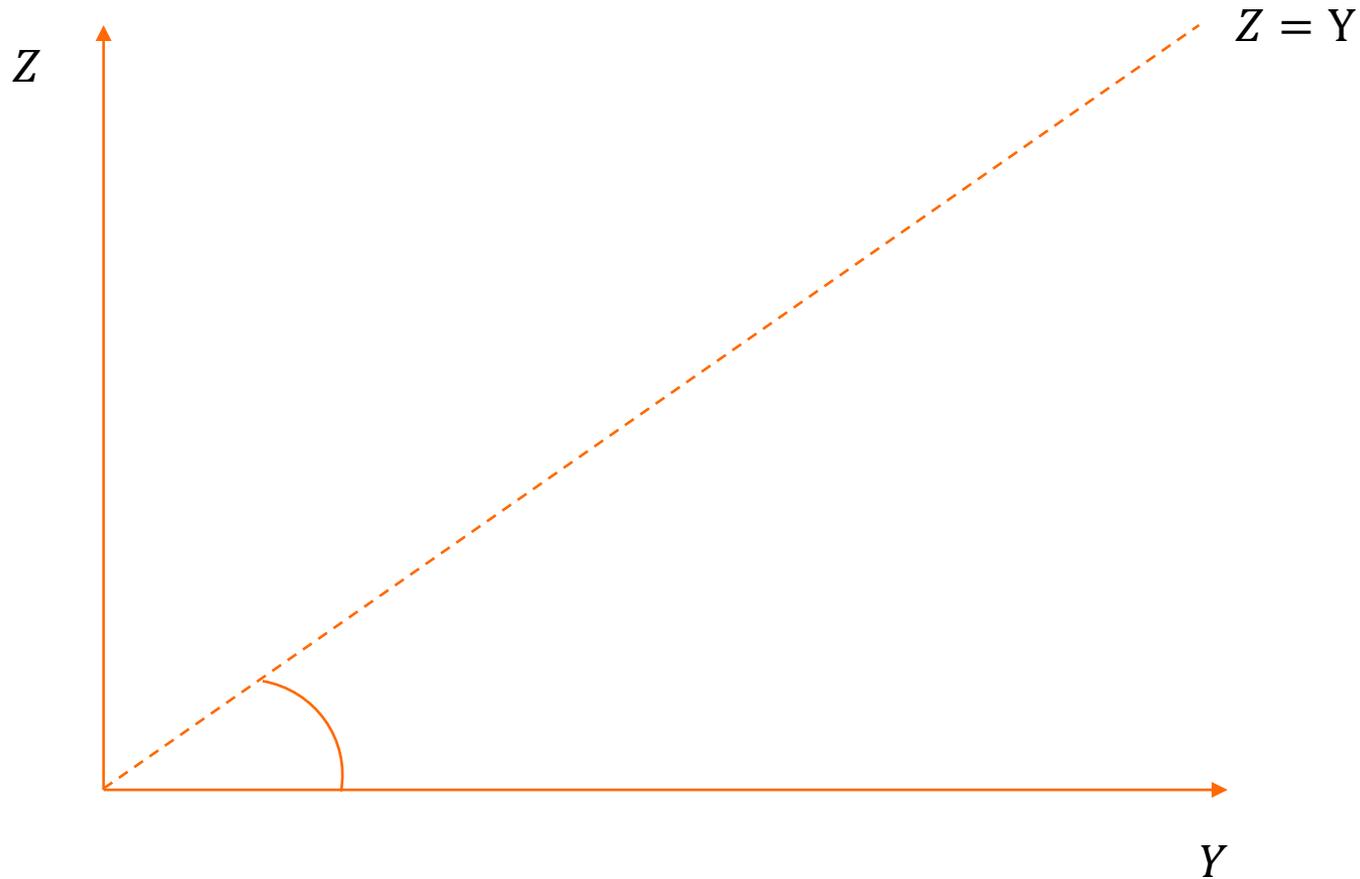
Table 2: Cumulative Multipliers in Italy

Methodology	Model	Variable	Impact	1y	2y	3y	4y	5y	Av.
SVAR	1	<i>GOV<sub>INV</sub></i>	<b>16.24</b>	<b>18.60</b>	<b>21.11</b>	<b>23.65</b>	<b>26.02</b>	<b>28.08</b>	22.28
		<i>GOV</i>	<b>0.73</b>	<b>1.1</b>	<b>1.3</b>	<b>1.43</b>	<b>1.56</b>	<b>1.72</b>	1.30
<i>LP<sub>ex-ante</sub></i>	1	<i>GOV<sub>INV</sub></i>	<b>15.33</b>	<b>16.97</b>	<b>18.40</b>	<b>19.34</b>	<b>19.95</b>	<b>20.41</b>	18.40
		<i>GOV</i>	<b>0.40</b>	<b>0.70</b>	<b>0.81</b>	<b>0.71</b>	<b>0.59</b>	<b>0.43</b>	0.61
<i>LP<sub>ex-post</sub></i>	1	<i>GOV<sub>INV</sub></i>	<b>15.02</b>	<b>17.33</b>	<b>19.48</b>	<b>21.62</b>	<b>24.01</b>	<b>27.93</b>	20.90
		<i>GOV</i>	<b>0.71</b>	<b>1.03</b>	<b>1.14</b>	<b>0.99</b>	<b>0.72</b>	<b>0.39</b>	0.83
SVAR	2	<i>GOV<sub>INV</sub></i>	<b>14.79</b>	<b>17.34</b>	<b>19.87</b>	<b>22.39</b>	<b>24.71</b>	<b>26.68</b>	20.96
		<i>GOV</i>	<b>0.81</b>	<b>1.27</b>	<b>1.40</b>	<b>1.48</b>	<b>1.60</b>	<b>1.76</b>	1.38
<i>LP<sub>ex-ante</sub></i>	2	<i>GOV<sub>INV</sub></i>	<b>14.90</b>	<b>16.47</b>	<b>17.77</b>	<b>18.62</b>	<b>19.20</b>	<b>19.62</b>	17.76
		<i>GOV</i>	<b>0.40</b>	<b>0.72</b>	<b>0.84</b>	<b>0.75</b>	<b>0.63</b>	<b>0.47</b>	0.63
<i>LP<sub>ex-post</sub></i>	2	<i>GOV<sub>INV</sub></i>	<b>14.63</b>	<b>16.87</b>	<b>18.91</b>	<b>20.94</b>	<b>23.23</b>	<b>25.33</b>	19.98
		<i>GOV</i>	<b>0.76</b>	<b>1.18</b>	<b>1.35</b>	<b>1.20</b>	<b>0.89</b>	<b>0.50</b>	0.98
<i>Simple Average</i>		<i>GOV<sub>INV</sub></i>	15.15	17.26	19.25	21.09	22.85	24.67	20.04
		<i>GOV</i>	0.63	1	1.14	1.09	0.99	0.87	0.95

Source: Own elaboration based on data presented in Appendix A. Significant values in bold.



## 3. 2. PRODUZIONE DI EQUILIBRIO (GRAFICI)



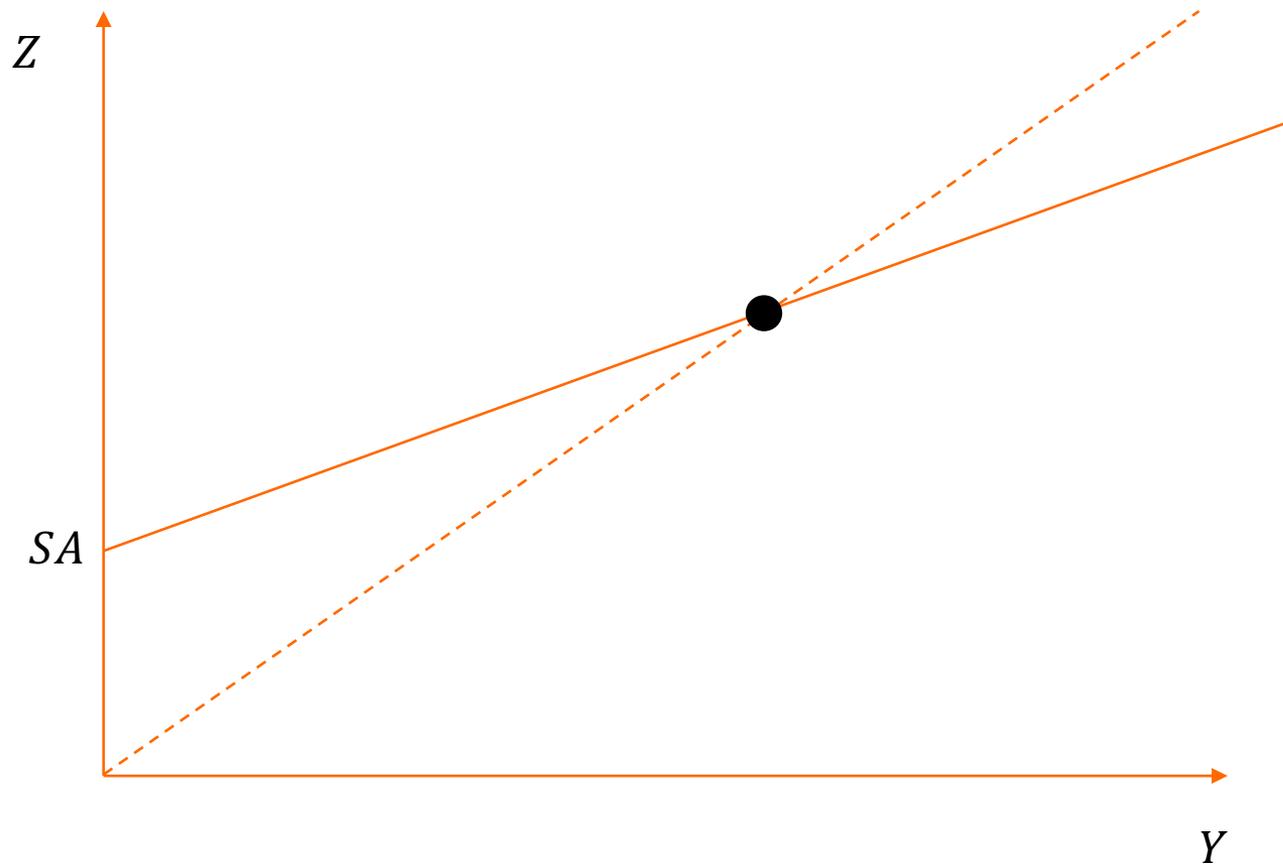
### 3. PRODUZIONE DI EQUILIBRIO

$$Z = (c_0 + \bar{I} + G - c_1T) + c_1Y$$

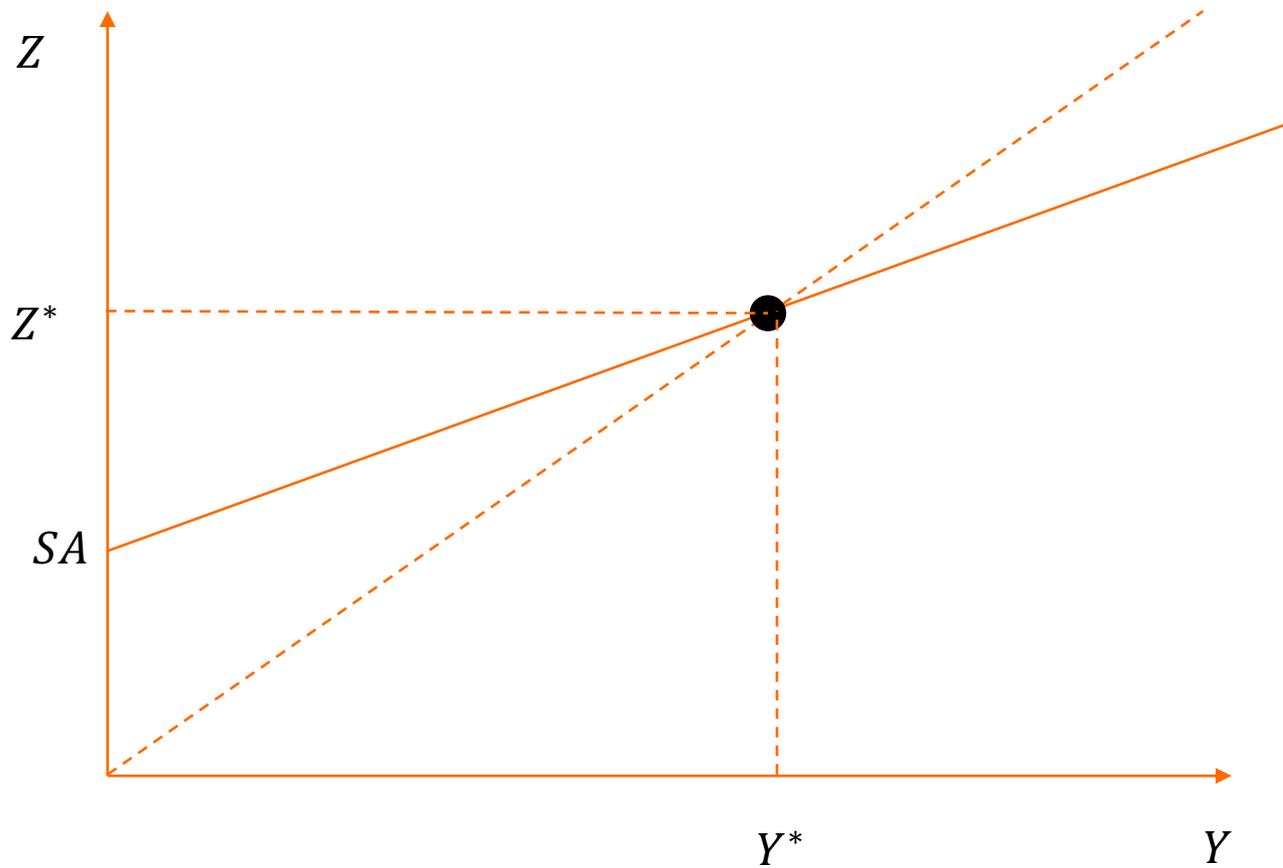
$$Z = SA + c_1Y$$



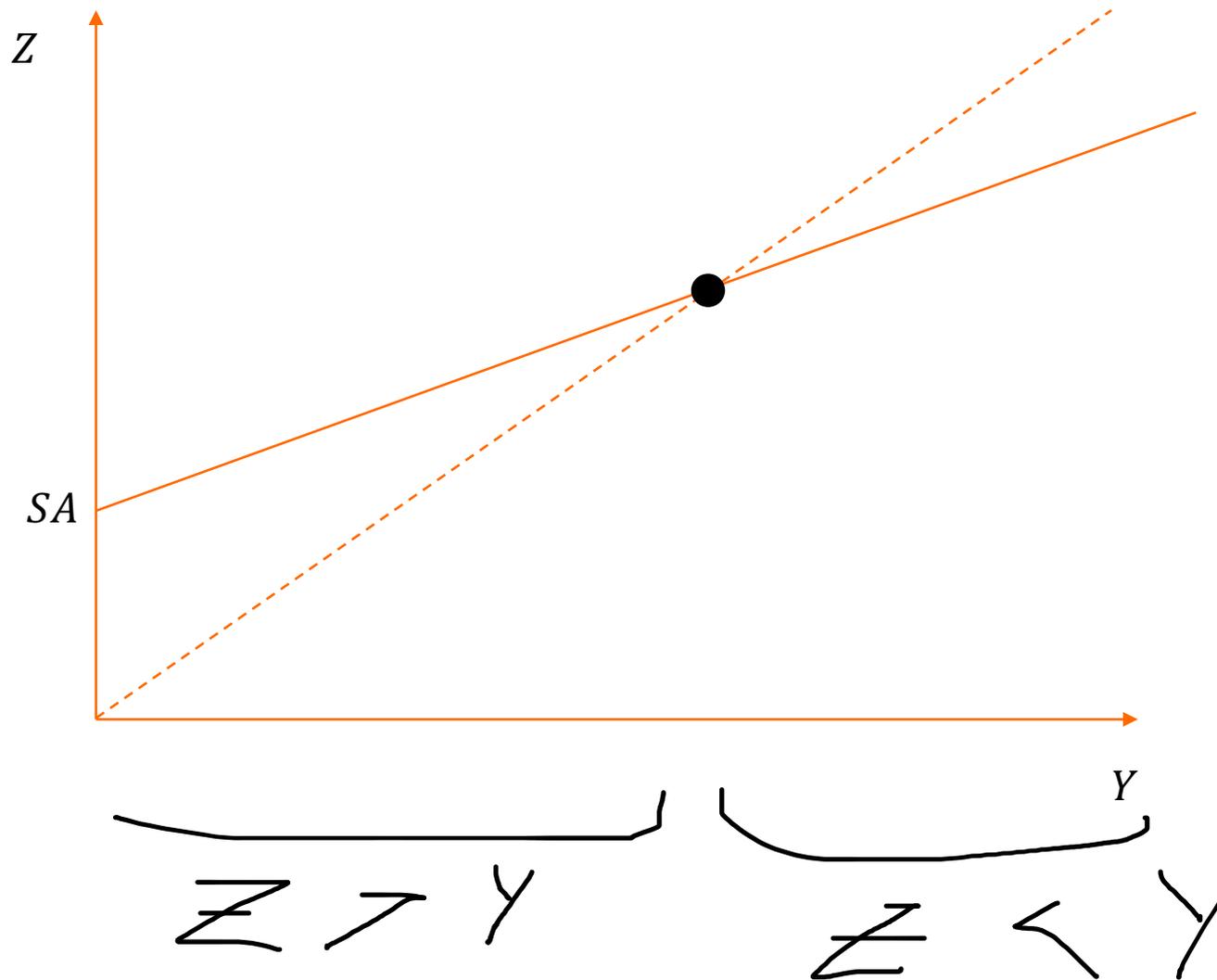
## 3. 2. PRODUZIONE DI EQUILIBRIO (GRAFICI)



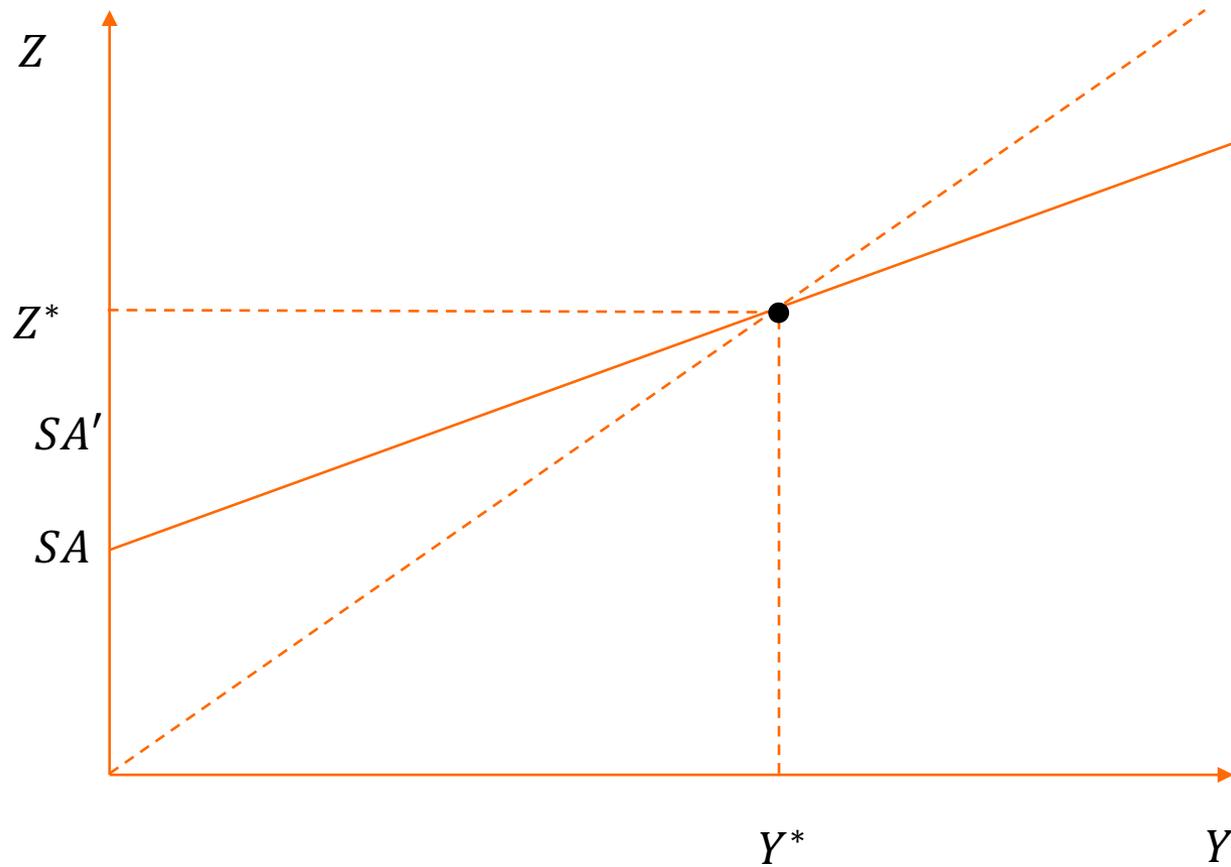
## 3. 2. PRODUZIONE DI EQUILIBRIO (GRAFICI)



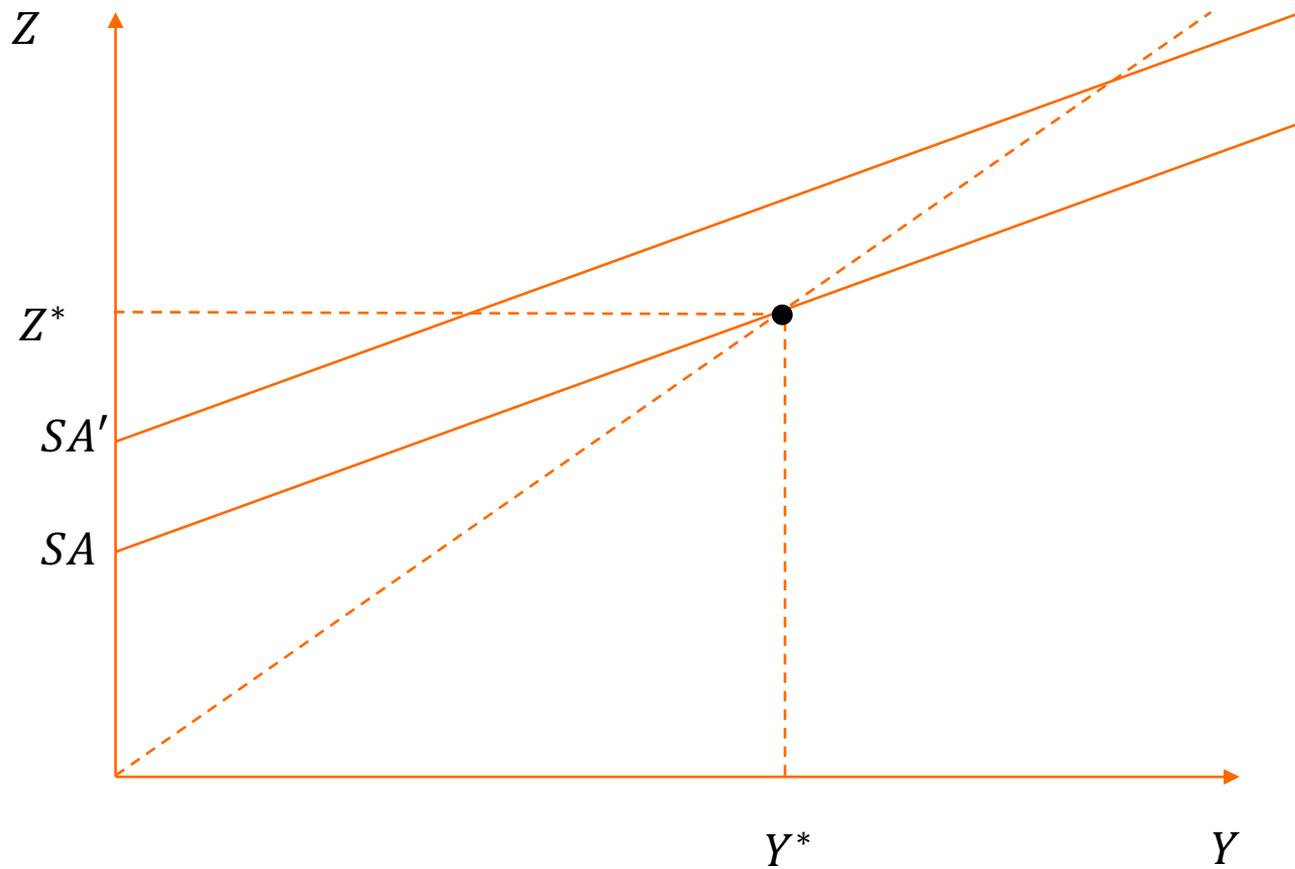
# 3. 2. PRODUZIONE DI EQUILIBRIO (GRAFICI)



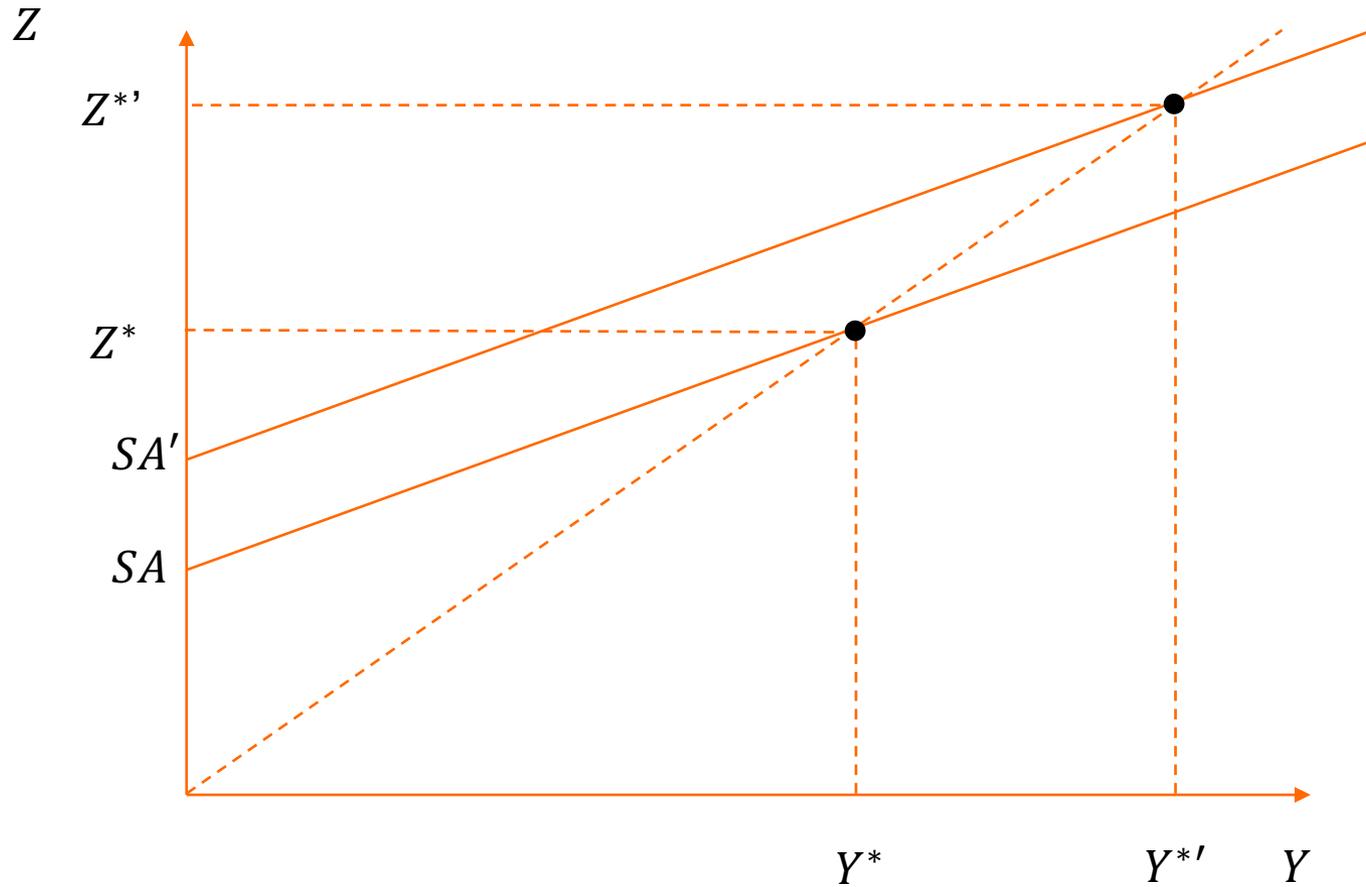
## 3. 2. AUMENTO DELLA SPESA AUTONOMA



## 3. 2. AUMENTO DELLA SPESA AUTONOMA

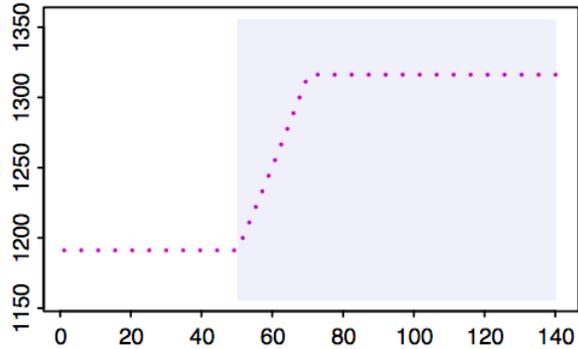


## 3. 2. AUMENTO DELLA SPESA AUTONOMA

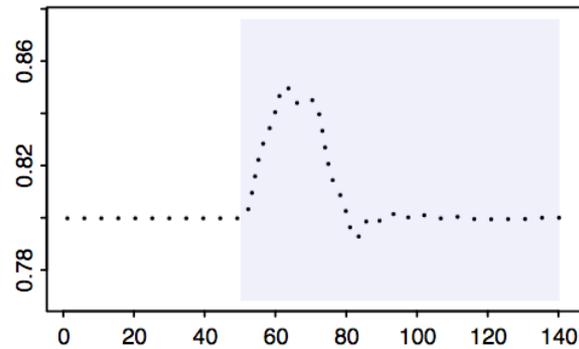


## 3. 2. AUMENTO DELLA SPESA AUTONOMA

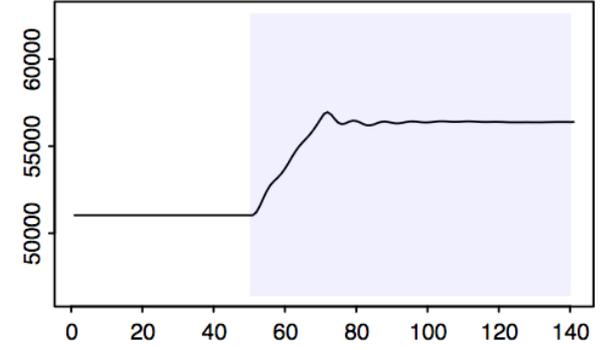
Autonomous component



Degree of capacity utilization



GDP real



## 4. INVESTIMENTO = RISPARMIO

$$S = Y^D - C$$

$$S = Y^D - C$$

$$S = Y - T - C$$

$$S = Y - T - C$$



## 4. INVESTIMENTO = RISPARMIO

$$S = Y - T - C$$

$$Y = C + I + G$$

$$S = C + I + G - T - C$$

$$S = I + G - T$$

$$S = I + G - T$$

*Produzione = Domanda*  
*Investimento = Risparmio*

