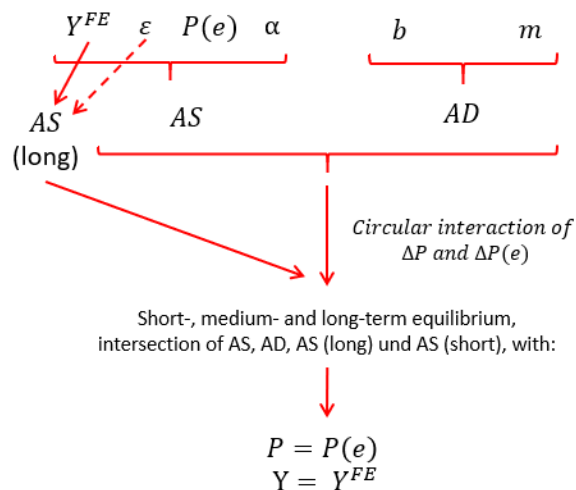


AS/AD Model (Supply Shock)

Operating Mode

N.B.: AS (long)-curve is modelled, as usual, as a constant. The complete derivation from the labour market and the production function would increase complexity with many more inputs – deemed non-essential for understanding the main statement of the model.



N.B.: AD-curve is modelled ad-hoc as a linear function. The complete derivation from the Keynesian cross model via the IS/LM model would require a dozen new inputs, which would more obscure than lighten the main results.

N.B.: AS (short) is horizontal at P (valid at a given point in time).

Core Functions

AS (long):

$$Y^{FE} = \text{const.}$$

AS:

$$Y = Y^{FE} + \alpha (P - P(e)) \Leftrightarrow P = P(e) + \frac{1}{\alpha} (Y - Y^{FE})$$

Price expectation (driver):

$$P(e) = P_{-1}$$

AD:

$$P = b + mY$$

AS (short):

$$P = \text{const. (at any one time)}$$

Variables and Symbols

AS	Aggregated Supply	α	AS slope (inverse)
AD	Aggregated Demand	b	AD ordinate intercept
Y^{FE}	Full employment output	m	AD slope
Y	Output	M	Money volume
P	Price level	Y^D	Goods demand
$P(e)$	Expected price level	IS	Investment=Saving (IS-curve, goods market equilibrium)
ϵ	Shock parameter		

Relevance

Two major advantages: 1) The classic economic policy trade-off in supply shocks (output vs. price level stabilization) can be analysed. 2) Sustained supply shocks can also permanently shift Y^{FE} , in which case the (demand-side) economic policy is powerless. Other: see PDF profile "AS/AD demand shock".

Limitations

Three major disadvantages: 1) The AD curve is derived "actually" from the IS/LM model, with all associated problems (in particular the steering of the money supply, exogeneity of money). 2) The key role of the price level is problematic (especially if $P \downarrow$), a dynamized version including the inflation rate would be closer to reality. 3) The automatic self-stabilization of the market towards full employment equilibrium is somehow optimistic for many practical cases.

Table: Supply Shock (negative)

N.B. Sustained supply shocks shift Y^{FE} (which temporary ones don't)!

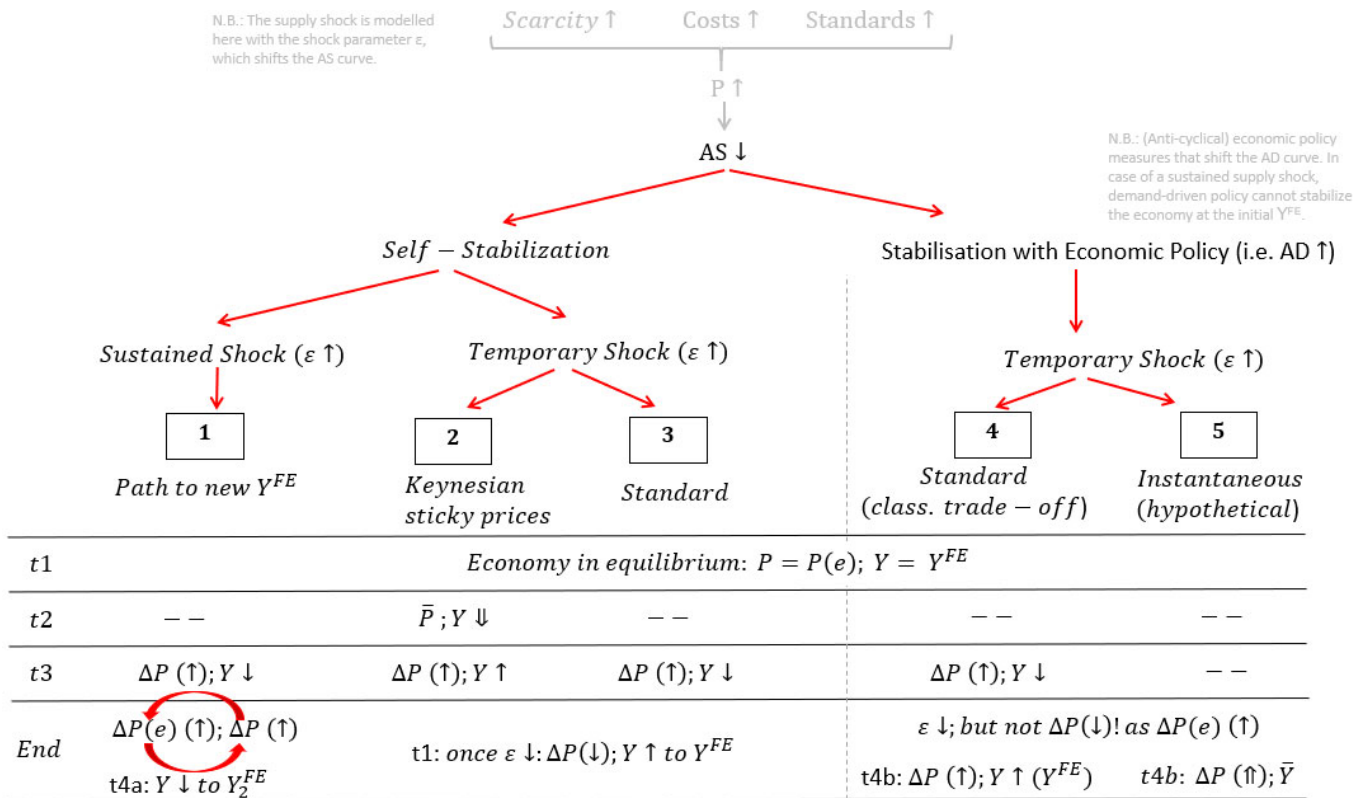
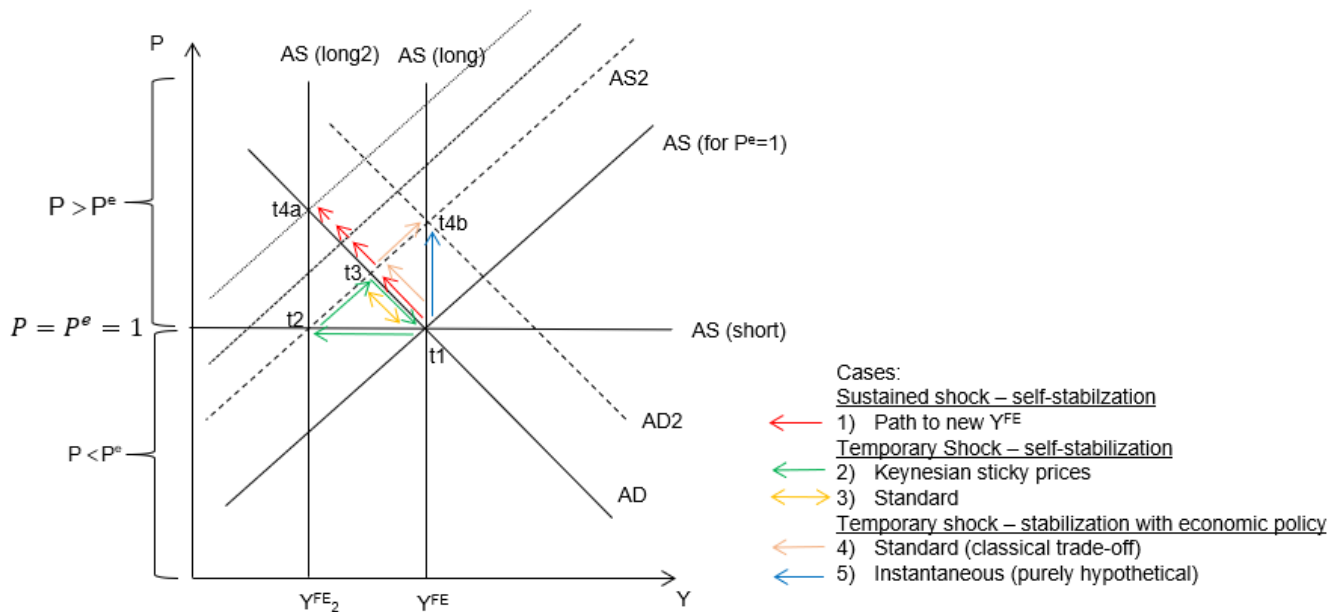


Figure: Supply Shock (negative)



Supply Shock (positive)

Simply turn around all relevant arrows in the table and rotate all arrows in the figure by 180° at $t1$.