

UNOFFICIAL THINKING

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“The depreciation of sterling which began in 2007 has led to a change in the relative prices of domestic and foreign goods which will have had two effects:

- (i) it will provide a boost (to) export growth as the relative price of exports of UK goods and services in foreign markets has fallen; and**
- (ii) it will reduce import growth as the relative price of imports to the UK from foreign markets has increased (often termed import-substitution)”**

Robert Chote, Chairman of the Office for Budget Responsibility

Introduction

I have been trying for some time to reconcile official thinking, as expressed by the OBR, with my own appraisal of the country's economic situation. I began by preparing a summary of my analysis, described using a conventional diagrammatic formulation (copies are openly displayed and freely available at: http://www.stparsons.co.uk/files/a_technical_analysis_of_british_macro_economic_circ.pdf). This presentation emphasised the deflationary impact of sterling devaluation on the UK economy, which is the antithesis of the official position as explicitly rehearsed by Robert Chote (above) where export expansion and import-substitution are expected to make devaluation expansionary.

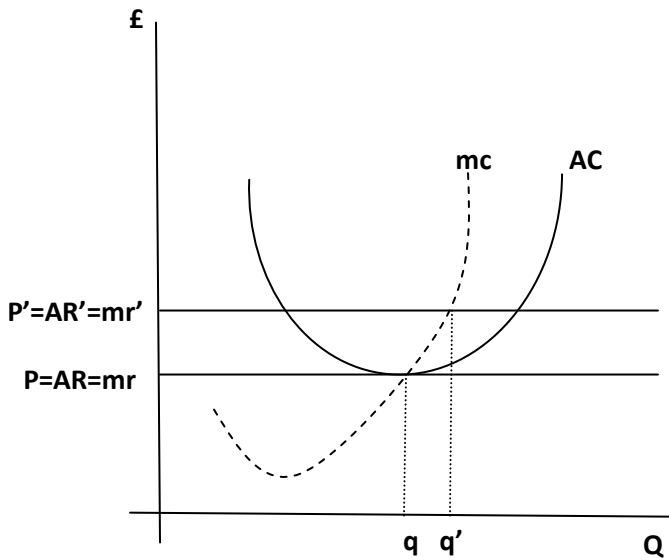
Because the two analyses are incompatible, I was anticipating a refutation either identifying a mistake in my analysis or providing a theoretical platform to support official thinking (or both): instead I have been given neither. This is unsatisfactory. As a result I have been driven to prepare this short exposition of what I infer to be the official theoretical perspective, together with a corrective commentary and some relevant empirical observations.

Official Thinking: Devaluation and Exports

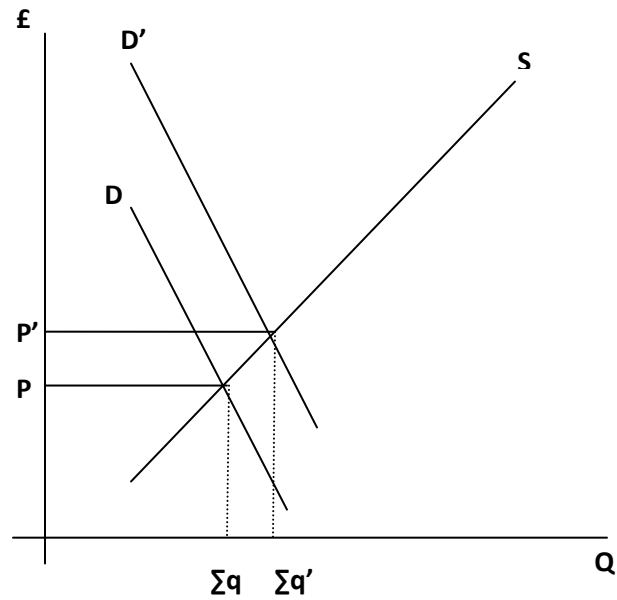
My illustration of official thinking about the consequences of devaluation begins with consideration of conditions for UK exporters in Figure 1. This illustration is in two parts: (a) considering a 'representative firm' producing a typical export; and (b) considering the market for that typical export.

Figure 1: Official Thinking and UK Exporters

(a) The Firm



(b) The Market



According to official thinking, market demand shifts from **D** to **D'** as the overseas component of total demand is recalibrated in sterling terms following devaluation. This increases market price (from **P** to **P'**) causing supernormal profits to emerge for individual firms and incentivising increased output (from **q** to **q'**) that contributes to an overall expansion in domestic sectoral supply (from **Σq** to **Σq'**).

This official analysis is flawed by incompleteness. As depicted, the effect of devaluation is treated as if its impact is confined to demand for the single (typical) product under consideration. This model is appropriate when considering an isolated change in price, but devaluation is emphatically not such a case; devaluation is a simultaneous change in sterling prices across all exportable and importable sector outputs. Data presented in Table 1 below can be used to illustrate this. The first two columns of figures indicate the price changes over a range of exportable and importable sectors concurrent with the 20% devaluation of sterling that took place in the aftermath of the great financial crisis between 2007 and 2010. Of course the changes are not completely uniform since there were real world differential price changes during this period in sectors such as “Oils (animal & vegetable) and fats” (SITC4) or “Inorganic chemicals” (SITC51) – in both of which changes are higher than 20%; and sectors such as “Tobacco” (SITC12) or “Non ferrous metals” (SITC68) – in both of which changes are lower than 20%. Nevertheless, the overall conclusion that devaluation causes concurrent price increases across exportable and importable sectors as a whole seems uncontested. And the broadly commensurate alterations of export and import prices within each sector, allied to the longer-run correlations of sectoral export and import prices given in the third column of figures, is consistent with the picture of the UK as a ‘taker’ of producer prices of tradables from the world market.

Table 1: Selected Export Price and Import Price Changes 2007-2010
with Longer-Run Correlations (1998-2011); data from ONS

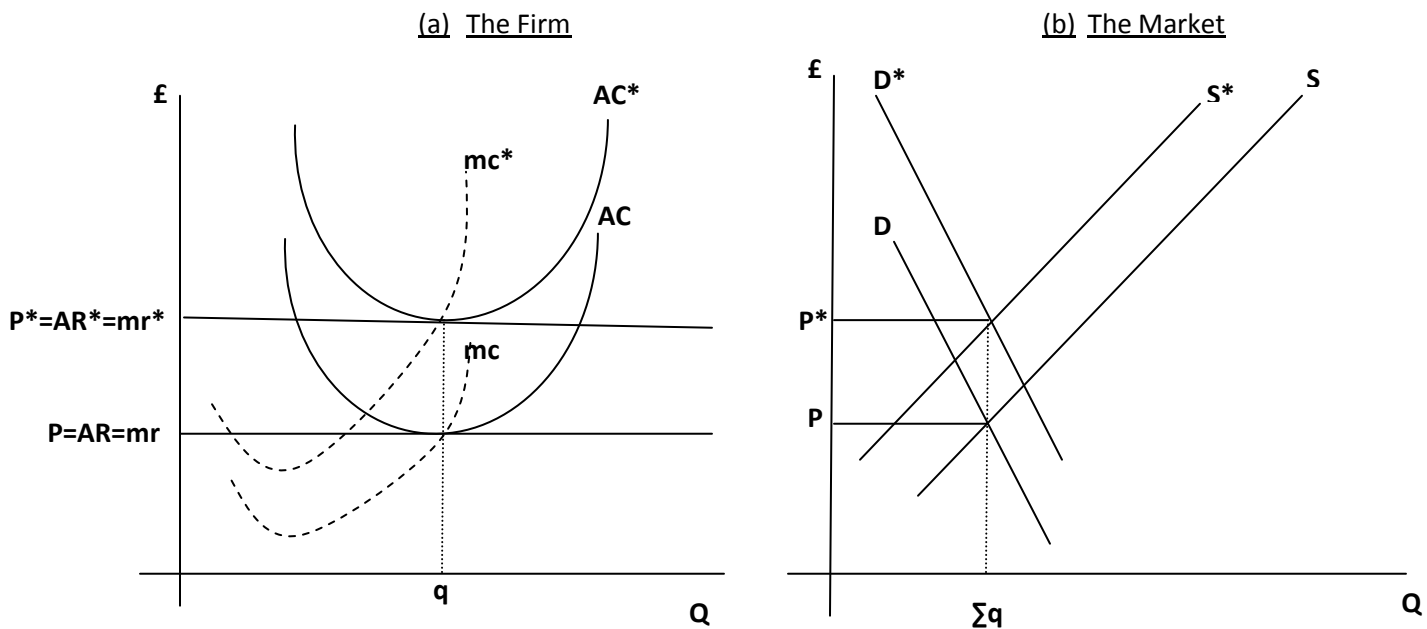
| | Ex Price | Im Price | Corrcoeff |
|------------------------------------------------------------|------------|-----------|-----------|
| | 2007-2010 | 2007-2010 | 1998-2011 |
| | (% change) | | (r) |
| Food: SITC 0: | 20 | 30 | 0.99 |
| Meat: SITC 01: | 30 | 32 | 0.95 |
| Dairy products & eggs: SITC 02: | 33 | 21 | 0.78 |
| Cereals and animal feeding stuffs: SITC 04+08: | 14 | 27 | 0.99 |
| Fruit & vegetables: SITC 05: | 21 | 28 | 0.98 |
| Beverages & tobacco: SITC 1: | 21 | 20 | 0.97 |
| Beverages: SITC 11: | 22 | 24 | 0.96 |
| Tobacco: SITC 12: | 10 | 8 | 0.86 |
| Crude Materials: SITC 2: | 17 | 27 | 0.91 |
| Textile fibres: SITC 26: | 23 | 17 | 0.95 |
| Metal ores: SITC 28: | 9 | 28 | 0.82 |
| Oils (animal & vegetable) and fats: SITC 4: | 42 | 44 | 0.95 |
| Chemicals: SITC 5: | 25 | 26 | 0.99 |
| Organic chemicals: SITC 51: | 27 | 33 | 0.98 |
| Inorganic chemicals: SITC 52: | 40 | 48 | 0.98 |
| Colouring materials: SITC 53: | 19 | 34 | 0.91 |
| Medicinal products: SITC 54: | 21 | 6 | 0.66 |
| Toilet preparations: SITC 55: | 22 | 29 | 0.98 |
| Plastics: SITC 57+58: | 19 | 35 | 0.97 |
| Material manufactures: SITC 6: | 23 | 24 | 0.95 |
| Material manufactures less erratics: SITC 6 less PS: | 22 | 20 | 0.98 |
| Wood & cork manufactures: SITC 63: | 20 | 14 | 0.72 |
| Textile fabrics: SITC 65: | 21 | 22 | 0.92 |
| Mineral manufactures less precious stones: SITC 66 less 6: | 22 | 18 | 0.70 |
| Iron & steel: SITC 67: | 25 | 26 | 0.98 |
| Non ferrous metals: SITC 68: | 12 | 5 | 0.84 |
| Misc metal manufactures: SITC 69: | 24 | 30 | 0.91 |
| Machinery & transport equipment: SITC 7: | 18 | 17 | 0.93 |
| Machinery: SITC 71-77: | 21 | 19 | 0.88 |
| Mechanical Machinery: SITC 71-74 less 716: | 19 | 21 | 0.96 |
| Electrical Machinery: SITC 716+75+76+77: | 22 | 18 | 0.95 |
| Road vehicles: SITC 78: | 15 | 12 | 0.95 |
| Transport equipment other than road vehicles: SITC 79: | 21 | 17 | 0.64 |
| Clothing and footwear: SITC 84+85: | 19 | 11 | 0.94 |
| Clothing: SITC 84: | 19 | 9 | 0.93 |
| Footwear: SITC 85: | 19 | 14 | 0.93 |
| Scientific & photographic: SITC 87+88: | 15 | 14 | 0.98 |

These observations lead naturally to a reconsideration of official thinking, and this is illustrated by the diagrams of Figure 2.

Unofficial Thinking: Devaluation and Exports

In Figure 2(a) devaluation is treated as increasing the sterling prices of all tradables, thus raising variable costs as reflected in a shift from AC to AC^* , so that supernormal profits do not emerge and output does not expand. In Figure 2(b) firms' cost changes cause supply to shift from S to S^* , leading to a higher price (P^*) but with market volume unchanged (Σq). It should be noted that in principle the concurrent increase in all tradables prices might have an income effect causing a further negative shift in demand (i.e. downwards from D^*) that would result in financial difficulties or even business failures in sectors where official thinking expects expansion.

Figure 2: Unofficial Thinking and UK Exporters



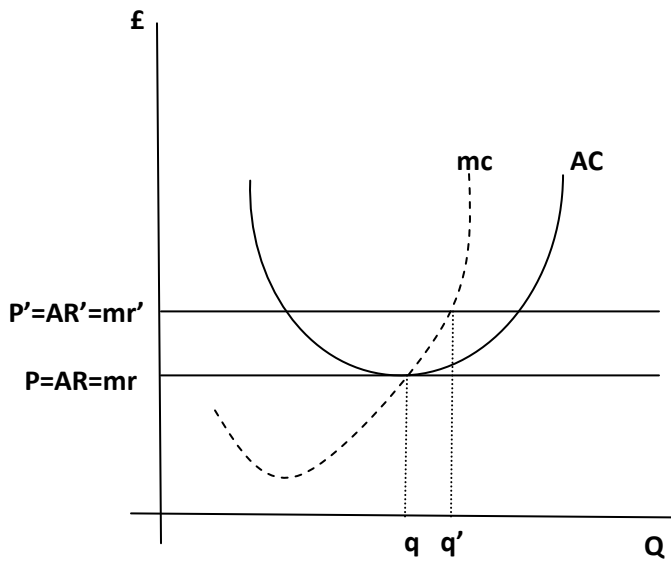
Official Thinking: Devaluation and Imports

The official analysis of the impact of devaluation includes a claim for import-substitution.

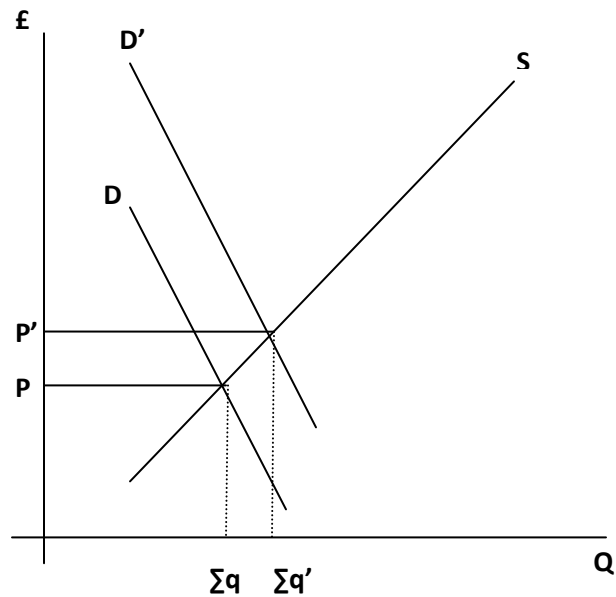
As previously in the case of export-focused firms I have necessarily based my summary of official thinking on conjecture. Figure 3 again deploys a two-part presentation: this time a firm in competition with imports from abroad is shown in Figure 3(a); whilst the market as a whole is shown in Figure 3(b).

Figure 3: Official Thinking and UK Import-competitors

(a) The Firm



(b) The Market



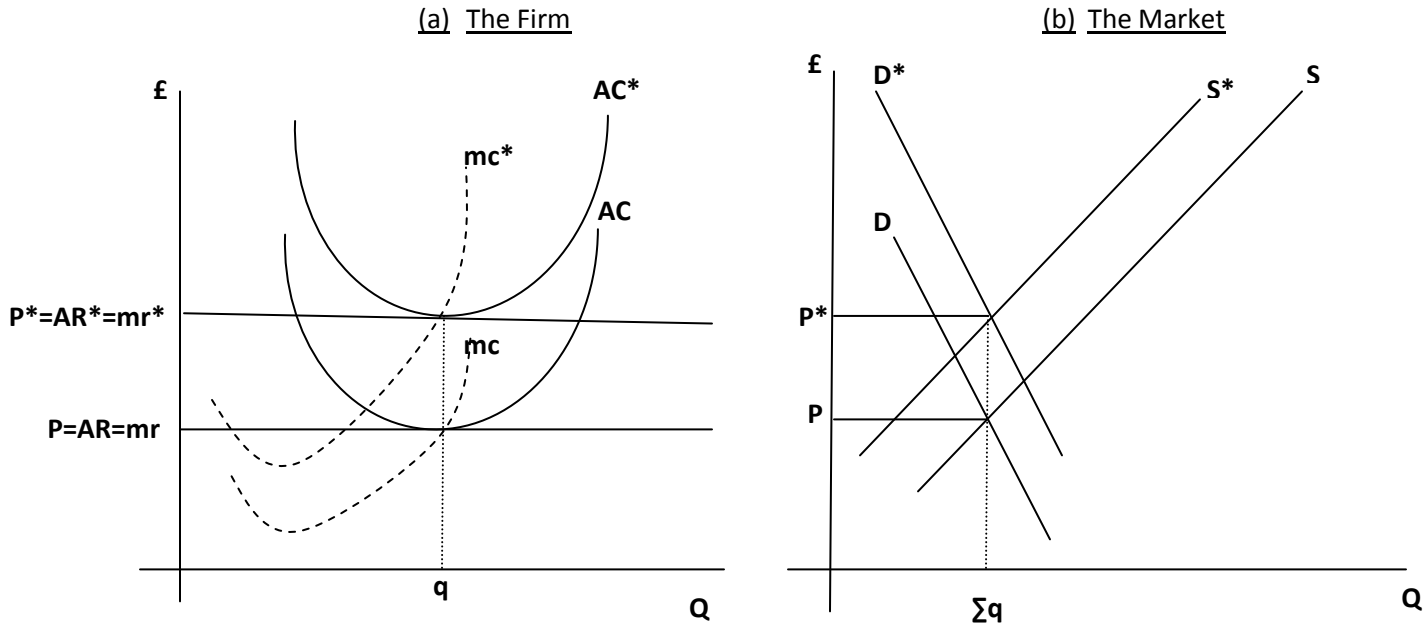
According to the official analysis, now that the price of competing foreign product has increased in sterling terms, because of devaluation, a significant cross-price elasticity effect shifts demand for 'made-in-britain' production (from D to D'), increasing sales (from Σq to $\Sigma q'$) with buoyant prices and profits enjoyed by the representative firm.

This official analysis is flawed by incompleteness. As depicted, the effect of devaluation is treated as if its impact is confined to demand for the single (typical) product under consideration. This model is appropriate when considering an isolated change in price, but devaluation is emphatically not such a case; devaluation is a simultaneous change in sterling prices across all exportable and importable sector outputs.

Unofficial Thinking: Devaluation and Imports

Figure 4 completes the analysis by including the impact of devaluation on tradable input costs: a rise from AC to AC^* ; forestalling profitable expansion. Again, consideration should include the potential for the concurrent increase in all tradables prices to have an income effect causing a further negative shift in demand (i.e. downwards from D^*) that would result in financial difficulties or even business failures in sectors where official thinking expects expansion.

Figure 4: Unofficial Thinking and UK Import-competitors



Conclusions

The OBR says that the relative prices at which UK exporters will sell abroad should have fallen since 2007. In fact, data presented in Table 1 show that price competitiveness has remained pretty much exactly where it was (i.e. across a wide range of sectors British export prices have risen in line with prices charged by overseas competitors, as indicated by the price at which supplies are available from overseas). Insofar as real world relative price changes between groups of products accidentally favours the UK's sectoral composition this has nothing to do with devaluation. And it is worth re-iterating the observation that the longer-run correlations between 'export' and 'import' prices, across the range of products considered, suggest that the UK is well integrated into global market determination of producer prices.

In any case, it should be clear that devaluation instigates widespread price changes and not the isolated instance required for official analysis to be applicable. When official analysis is unofficially amended to recognise this deficiency, and especially when account is taken of the substantial 'income effects' to be expected, it becomes compatible with my preferred framework: openly displayed and freely available at http://www.stparsons.co.uk/files/a_technical_analysis_of_british_macro-economic_circ.pdf

Because the OBR's expectations regarding economic recovery are misguidedly optimistic (owing to the flawed treatment of the exchange rate effect), the scope for government intervention to promote economic activity, on a budget-neutral basis, is officially underestimated. A suitable budget-neutral proposal, involving state funding of house-building *for sale*, is openly displayed and freely available at: http://www.stparsons.co.uk/files/a_proposition_for_building_economic_recovery.pdf

Both theoretical consideration and empirical evidence, as presented above, undermine the credibility of the OBR. The immunity from criticism conferred on the OBR by Parliament is therefore unjustified. Government fiscal policy and public expenditure plans, dependent on the OBR's assessment of the country's economic situation and prospects, cannot be expected to command public confidence.