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Stefan Homburg

The Critique of the Price Specie Flow: A Historical Note

«Never underestimate the blinding power
of a beautiful mistake.»

P. A. Samuelson

I. Introduction

In 1980, *Paul Anthony Samuelson* presented «A Corrected Version of Hume's Equilibrating Mechanisms for International Trade» (*Samuelson*, 1980) which is to my mind one of his most seminal and important papers in the field of international economics and which amounts to a complete refutation of this classical approach. The purposes of the present paper are first to point out that there is an early German fore-runner, *F. W. Meyer*, who put *Samuelson's* rejection of the price specie flow in almost exactly the same fashion; and second to stress the importance of *Meyer's* and *Samuelson's* findings for international monetary economics.

II. The Contribution of Meyer and Samuelson

Fritz Walter Meyer is well-known to German economists since he was one of the heads of the German *ordo-liberal school*, together with *Eucken*, *Lutz*, and *Böhm*. The significance of his contribution to international monetary economics (*Meyer*, 1938), however, is less famous even in his home country—and it seems to be perfectly unknown to Anglo-American writers. It was as early as 1938 that *Meyer* found the classical equilibrating mechanism of the gold standard, i.e. *Hume's* price specie flow, to be logically and empirically invalid. What we term the «classical approach» consists of the following line of reasoning:

Price specie flow: Assume the home country runs a balance of payments deficit, i. e. it loses gold. Then, the price level at home will decrease, the price level abroad will increase, and thus—leaving capital movements aside—a current account surplus will emerge. This, in turn, will bring the gold back to the home country. There are two characteristic features of this approach: (1) a gold drain *exists from the outset* and (2) the movement of two *price levels* is the equilibrating force. According to *Meyer*, (1) is the methodical mistake of this approach whereas (2) is perfectly untenable. Why should it be a methodical mistake to commence the explanation with an already existing gold drain? The answer becomes obvious if we adopt an alternative course as proposed by *Meyer*: *Begin with a general equilibrium (and no gold movements), and then introduce a specific change in the data.*

In order to demonstrate the different outcomes of the analyses we shall refer, in the first instance, to the well-known unilateral transfer payment from country A to country B. Using the classical approach, we would expect country A to run a balance of payments deficit due to the transfer payment which has been made. Thus, there is a «gap» in the balance of payments which has to be somehow removed: «In order, then, to induce the country having the favorable balance to take all its payments in goods, and no part of it in gold, it would be requisite not only to prevent goods from being very dear, but even to

render them excessively cheap.» (*Thornton*, 1802). This is to say that the gold outflow serves to reduce prices in country A and to bid up prices in country B until a *price gap* emerges which is sufficiently great to stimulate B's consumers to import from A. To sum up, there is a gold drain at the outset, and this gold drain is an indispensable prerequisite for inducing a current account surplus which matches the transfer payment. The real transfer is facilitated only by inverse changes in the two price levels.

In *Meyer's* analysis, matters are quite different. Assuming an initial general equilibrium, we have to recognize that country B's purchasing power increases and that of country A decreases when a transfer payment from A to B is made. Hence the demand schedules in both countries will shift. In the *ideal case*, as *Meyer* called it, country B's consumers will spend the additional means on exactly those goods which have been bought by country A's consumers before. Then, prices will not move at all and at the same time no gold will leave country A. The gold remains in A as B's consumers use it for additional imports. Price levels will be perfectly unchanged. This is the case *Gustav Cassel* had in mind when he continuously insisted that exchange rates *cannot* change or, for that matter, gold *cannot* leave the country due to a unilateral transfer payment. According to *Meyer*, *Cassel's* analysis is correct but restricted to an extreme case.

A second example of the flaw of the classical approach is even more striking: Assume that an unexpected and substantial *gold discovery* takes place in country A. Adopting the classical approach we would expect the following to happen: Country A's price level, P , increases through the real-balance effect. With the price level P^* of country B unchanged, the ratio P/P^* will increase as well. And this change in P/P^* will induce A's consumers to increase their imports whereas B's consumers will reduce their's. The resulting gold drain lasts until, finally, the distribution of gold over the world matches the initial distribution and the ratio P/P^* has assumed its original value.

As *Samuelson*, adopting the same method as *Meyer*, has shown so brilliantly, this description is not correct. Assume, for a moment, that there is only one homogeneous good in the world. Then, either of the following two things can happen: (1) With no transport costs, prices in A and B will rise *simultaneously*, and the ratio P/P^* can *never* change because of arbitrage. A's current account deficit is due to a pure real balance effect. (2) If transport costs are substantial, it is possible that prices in A rise but prices in B do not. If transport costs per commodity unit, call them t , exceed the increase in home prices, dP , so that $t > dP$, it is true that P/P^* rises. But then, *no gold will leave country A*, and the resulting state is not temporary but permanent. If, by the same token, $P = P^* + t$ at the beginning, with transport costs arbitrarily high, P and P^* will nevertheless increase by exactly the same amount if gold is discovered in country A.

Now assume a *Ricardo-Mill-Marshall* world with two commodity bundles which are called «export good» and «import good», respectively. Then, a distinction is to be made between the terms of trade, P^{ex}/P^{im} , on the one hand, and the ratios P^{ex}/P^{ex*} and P^{im}/P^{im*} on the other. Due to the gold discovery in country A, the terms of trade *can* change, and they can change in both directions depending on whether the income elasticity of export goods is greater or less than unity. The ratios P^{ex}/P^{ex*} and P^{im}/P^{im*} , however, can never change even during the adjustment mechanism. If A's consumers spend all of their additional

balances on A's export goods, P^{ex} and P^{ex*} will simultaneously rise, and they will rise relative to P^{im} and P^{im*} so that the terms of trade move in favour of country A. But it would obviously be erroneous to speak of a change in relative price levels.

Finally, take a N-good model with non-tradeables. Every good is characterized by its gold price, p_i , and its specific transport costs, t_i , which are also measured in gold. Thus, every good where $p_i^* - t_i < p_i < p_i^* + t_i$ will not be traded internationally, export goods are those for which $p_i^* - t_i = p_i$, and import goods those for which $p_i^* + t_i = p_i$. Because of arbitrage, the domestic gold price, p_i , can never exceed the limits given by the above inequalities. Due to the gold discovery, consumers will spend some of their additional means on non-tradeables, the latter's prices will rise, and some of them will become *import goods*. It is important to understand that the prices of such goods will rise both at home and abroad. Thus, there are various changes in relative prices *within* each country which will equilibrate the balance of payments. As *Samuelson* shows mathematically, changes in relative *price levels* may possibly occur, but his and *Meyer's* analyses make clear that they are perfectly immaterial with respect to the adjustment process. The point *Meyer* stresses most is that changes in *relative prices* have to take place in both countries in order to restore balance of payments equilibrium. Gold movements, accompanied by differences between the respective price levels, are not a substitute for them: «[T]he most important result of our inquiry is that price gaps [between the countries] are neither necessary nor even possible» (*Meyer*, 1938, p. 157).

III. Conclusion

Comparing *Meyer's* and *Samuelson's* findings, it is interesting to note three things. First, the two essays complement each other in that the authors analyse three different disturbances, *Meyer* two of them, and *Samuelson* the third one. *Meyer* deals with a crop failure and a unilateral transfer payment whereas *Samuelson* investigates a gold discovery. Second, and more important, it seems that they have been the only two authors who independently discovered the flaw of the classical adjustment mechanism, and they both stress the same point, i. e. the need to commence the analysis with a change in the data – not with a gold drain which already exists. *Meyer* (1938, p. 168) writes: «*We must reject* the notion of a balance of payments deficit which, in the opinion of the classical theorists, is the true disturbance.» And *Samuelson* (1980, p. 155) says: «One defect in the early writers is their failure to understand and spell out just which exogenous change they are purporting to analyse.» It would hardly appear to be unfair if we proposed to cancel the «early» in *Samuelson's* statement because many—if not most—contemporary authors continue to describe the classical approach in the old and uncritical fashion. This is somewhat disappointing: While one is used to the fact that modern writers ignore *Meyer*, they occasionally do refer to *Samuelson* but do not seem to have understood him properly. *Niehans* (1984) and *Gandolfo* (1986) both cite *Samuelson's* 1980 paper and at the same time proceed as if it had never been written. I do not know any textbook which gives a correct description of the adjustment process. Perhaps *Samuelson's* contribution has fallen on a more fertile soil in Germany because German economists were prepared for its message by *Meyer's* great achievement.

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Summary

In 1980, P. A. Samuelson presented a complete refutation of Hume's classical equilibrating mechanism of the gold standard. However, ordo-liberal F. W. Meyer drew the same conclusions as early as 1938.

Zusammenfassung

Die Kritik des Geldmengen-Preis-Mechanismus: Eine historische Anmerkung. 1980 widerlegte P. A. Samuelson den klassischen, von Hume beschriebenen, Zahlungsbilanz-ausgleichsmechanismus durch den Goldstandard. Doch schon 1938 kam der Ordoliberal F. W. Meyer zu demselben Ergebnis.