

The Transfer Problem

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1. Introduction

The transfer problem arose in the late 1920's in discussion of the problem of German reparations payments from WW1. The practical question was whether the payments were too high relative to Germany's capacity to pay.¹ Initially, it was thought that the only problem was budgetary: could Germany reduce domestic absorption sufficiently to make a payment. Keynes argued, however, that a *secondary* burden of the transfer would occur because of the change in the terms of trade that results from the shift in spending patterns across the countries. Ohlin countered that Keynes had ignored the impact of the transfer on demand in the recipient country, and that there could be no presumption that a transfer would have a secondary burden. A huge literature developed in subsequent years.

To see the key point of Ohlin's critique consider a two-country, two commodity model, and assume that production of both goods is exogenously given and that all income is devoted to consumption. Then, if markets for both commodities clear we can use Walras' Law to consider only one of the two goods, say the exports of the home country, denoted x . Obviously the total supply of x must equal demand:

$$S + S^* = D(y, p) + D^*(y^*, p) \tag{1}$$

where D is demand which depends on domestic income and consumption.

Now suppose that T of purchasing power is transferred from the home to the foreign country. Domestic demand for x falls by $D_y T$, while foreign demand for the good rises by $D_{y^*}^* T$, where D_y is the marginal propensity to consume x . At initial prices, equilibrium in

¹The reparation payment has been estimated at 40 billion gold marks, about 330 percent of Germany's contemporaneous GDP. This was about 14 times the level of French payments to Germany after the Franco-Prussian war. If valued at gold equivalents today, then at \$300 per ounce it would be \$479 billion, about a quarter of Germany's current GDP. Of course, currently gold is more than \$1000 per ounce. If we consider the share of current GDP, however, 330% would yield a debt of \$7 trillion.

the market for x requires that an export surplus in the amount T results from income effects alone. Thus,

$$(D_y + D_{y^*}^*)T = T$$

or

$$D_y + D_{y^*}^* = 1. \tag{2}$$

Thus, if $D_y + D_{y^*}^* < 1$ the combined marginal propensities to spend on x out of income are too small to generate a sufficient surplus at initial prices. Thus, Keynes argued that the terms of trade would move against Germany. In this case the transfer is deemed to be "undereffected."

Ohlin, argued that Keynes had essentially assumed that $D_{y^*}^* = 0$. The the foreign country would increase demand for the good and that this secondary increase in purchasing power could prevent the fall in the terms of trade. This is ironic since Keynes is making essentially a pre-Keynesian argument.

The case of an undereffected transfer ($D_y + D_{y^*}^* < 1$) is called the orthodox case. Subsequent analysis showed that it is more likely to occur when the bias in tastes in each country towards the exportable good is greater than the bias in production due to factor endowments or technologies. Transport costs also reinforce the orthodox case, by increasing the correlation between consumption and production in countries.

In practice, Germany never fully paid the reparations. Passive resistance to payment was the first response to make it less likely that the recipients would believe in future repayments. After the Dawes settlement in 1924 Germany started to repay, but capital inflows to Germany actually exceeded repayments (the transfer went the other way!). The Great Depression made repayments more problematic, and after Hitler assumed power all reparations ceased.