ANALYSIS

Protectionary bias in agriculture: A pure economic argument

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ABSTRACT

Empirical evidence suggests that the agricultural sector in the developed countries has enjoyed a greater degree of protection than the import-competing manufacturing sectors. Usually this is attributed to strong farm lobbies and hence on political factors. We provide a theoretical model and a possible explanation of this phenomenon based on purely economic arguments. Two importables are accommodated in a three-good three-factor model of trade and production, one is a labor-intensive manufacturing good and the other is an agricultural commodity. This captures the trade pattern of a typical industrialized country with an agricultural sector such as Europe and the USA. We show that uniform tariffs in agriculture and labor-intensive manufacturing will definitely hurt the land owners in real terms and may reduce their absolute return. Hence, if there has to be protection, it has to be biased in favor of agriculture.

1. Introduction

A major offshoot of the well-known Heckscher–Ohlin–Samuelson (HOS) theory is the Stolper–Samuelson (SS) theorem, which clearly relates the degree of protection to the real benefit of a scarce factor. Recent discussions on trade and wage-gap in the United States, convincingly reveals the strength of such a simple argument developed in the early 50's.

Trade theory has also been utilized to reflect on the political economy of protectionism. The fact that the scarce factor, usually employed in the import-competing sector, can vigorously lobby for restricting trade has led to the literature on endogenous formations of tariffs, quotas, etc.[1] The well-known specific-factor (S-F) model of trade, a' la Jones (1971),

has been used extensively in the works of Mayer (1984), Hillman (1982, 1989) and others. More recently elaborate and elegant discussions on the formation of policies, that help specific interest groups, are available in Dixit (1998). Although our paper draws from the vast literature on the political economy of protection, we do not explicitly include a political economy structure in this paper. We argue that independent of any political content, landowners will be discriminated against by imposition of uniform tariffs on the agricultural and industrial products.

The purpose of this paper is to provide an analysis of structure of protection with multiple imports. In particular, we justify stylized empirical evidence, which suggests that in the developed industrialized countries, the agricultural sector has

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[1] Mussa (1974) provides an elegant theory on the trade policy formulation in the presence of lobbies and interest groups.
[2] The pattern of agricultural protection in developed and developing countries is provided adequately in Section 2.

been provided with greater protection than the manufacturing sector.[2] Theoretically, our structure is close yet different from the H–O–S or the S-F models. We use the Stolper–Samuelson result and the magnification effect in a way that explains the stylized evidence. The political–economic implications of our model immediately follow from the theoretical findings. We argue that the idea of 'uniform tariffs' will not be acceptable to the landowners. In other words, if agriculture is protected at the same rate as the industry, it would hurt the interest of the landowners and the respective lobby would vote against this policy.

It is difficult to conceive of multiple imports in a 2×2 H–O–S framework, and consequently, a structure of tariffs associated with them. While a large number of goods are easily accommodated in the S-F type models, it is difficult to get a result where uniform tariffs reduce the absolute return of a specific-factor employed in a protected sector. Also, the issue of 'factor-specificity', which assigns one specific-factor to each sector, might be too strong an assumption. While it is meaningful to argue that land is a 'natural' specific-factor, capital and labor can be fairly mobile. Eventually the particular policy should be studied in terms of its impact on factors, which are mobile, which are not so mobile, and which are specific.

Recent theoretical attempts have been made in Jones and Marjit (1992), Beladi and Marjit (1992) and Marjit and Beladi (1999) to generate interesting theoretical implications of a hybrid structure initially exemplified in the work of Gruen and Corden (1970). We argue that such a structure nicely accommodates interesting empirical evidence on the structure of protection in the developed countries.[3]

The paper is organized as follows. In Section 2 we summarize the empirical evidence. Section 3 elaborates the theoretical model. The last section concludes the paper.

2. Empirical evidence

This section draws upon the empirical evidence and commentaries to highlight the fact that the developed nations have been protecting their agricultural imports to a greater extent than their industrial counterpart. At a relatively disaggregated level of trade, the industrialized countries have been observed to be importing agricultural primary products and light manufacturing goods from the developing countries. Earlier Bale and Lutz (1979), Honma and Hayami (1986) and Krueger et al. (1988) have shown that industrialized countries' agriculture has been strongly protected, whereas in developing countries (exception of post-independence India and few others) is has mostly been taxed.

Various empirical investigations establish that as far as industrialized countries are concerned, sectors receiving the greatest protection are ones in which the workers are relatively unskilled, low paid, older and rural by origin. Evidently within developed countries, these features represent the agricultural sector that has historically received a high level of protection. Studies by Ewing (1986) and Hoekman (1989) corroborate the finding that it is mainly agriculture, which enjoys the lion's share of 'protectionary'

[3] See also Chao and Yu (1994, 1997) and Jones (1996).

Table 1 – Agriculture relative to industrial product prices in industrial countries and in international markets, 1961 to 1987

	Domestic prices					World price		
	Australia and North America	EC	EFTA	JAP	W. Europe and N.E. Asia		(1/6)	(5/6)
Yr							%	%
	(1)	(2)	(3)	(4)	(5)	(6)		
61–64	100	100	100	100	100	100	100	100
65–69	100	101	105	124	104	99	101	105
70–74	109	99	104	128	104	100	109	104
75–79	95	106	102	131	110	89	108	124
80–84	80	97	96	114	100	83	98	121
85–87	70	90	98	122	96	70	99	136

The domestic prices column show the changes in the prices received by farmers in each country group relative to the price received by producers of other tradables (as reflected in the industrial wholesale price in these countries). The "world price" column shows the changes in the index of prices of agricultural exports from industrial market economies relative to the index of prices of manufactured exports from industrial market economies.

measures in the industrialized countries. Ewing (1986) quotes the World Development Report to calculate 'Protection Coefficient' (domestic prices/border prices) for producers and consumers across OECD countries, and finds that the degree of protection is historically in favor of agriculture and allied commodities. Ballassa and Michaelopoulos (1986) refer to the studies in the eighties and strongly comment that on the average trade barriers in the developed countries tend to be higher on agricultural products than on manufacturing.

Similar views are also expressed in Yeutter (1998) who argues that agriculture for more than 50 years has provided more distortions to the multilateral trading system than any other segment of the global economy. Tyers and Anderson (1992) provide the following table (Table 1) to demonstrate the protectionary bias in agriculture. From Table 1, it follows that the relative world price of agricultural products has been generally lower in the international markets than in the local markets.

Anderson et al. (2001, p. 196, Table 2) provide further documents on the pattern of agricultural protection (also, agricultural production subsidy and export subsidy) for various country groups that are expected to be in effect by 2005. The following table (Table 2) displays some excerpts from these observations.

In the past, the Uruguay Round's considerable effort has been to reduce non-tariff barriers in the farm sector of the industrialized countries. Goldin et al. (1993) rightly assumes that before the Uruguay Round multilateral trading rules for agriculture were largely ineffective. Even in the post-negotiation stage, after it was agreed that 'tariffication' is needed for non-tariff barriers, and the upper limit was set for the major agricultural imports, amazingly high tariffs still exist. For the European union in the year 2000 we should expect an 82% tariff on wheat, 152% on sugar, 178% on milk and 76% on meat.