



## Lao economic policies and effective rates of protection<sup>☆</sup>

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### ABSTRACT

The Lao People's Democratic Republic (PDR) has embarked on the process of accession to the World Trade Organization. Part of that process involves compilation of information on the country's trade and related policies, and development of analytical frameworks that Lao and other researchers can use to understand the effects of these policies. This paper calculates effective rates of protection for tradable-good sectors included in the Lao input–output table. In the process, it surveys and models import tariffs and export taxes, non-tariff trade measures, relevant tax and investment policies, and implicit taxes and subsidies in water and electricity rates.

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In its effort to join the World Trade Organization (WTO), the Lao People's Democratic Republic (PDR) is conducting an assessment of its national trade policies and institutions. Calculation of nominal and effective rates of protection offers a comprehensive but relatively simple way to assess the impact of trade taxes and other policy measures on incentives to produce internationally tradable goods. This paper presents such calculations for the Lao economy in 2008 in order to account for the relevant Lao commodity trade and tax policies—notably import tariffs, turnover and excise taxes, export taxes, and foreign investor duty and tax exemptions. It also accounts for the few remaining quantitative trade restrictions that appear to be motivated largely by economic concerns, and for the subsidies or taxes implicit in official electricity and water tariff rates. The import tariffs include those assessed on imports from most countries on a most favored nation (MFN) basis as well as preferential duties applicable to imports from members of the Association of Southeast Asian Nations (ASEAN), China, and the Republic of Korea.

The paper first outlines the methods used to calculate nominal and effective rates of protection. I then set the scene in terms of recent trade flows between the Lao PDR and other countries, and survey the trade and other policies to be considered. Along the way, I consider two problems that any analysis of Lao trade policies must contend with. One is the scarcity of detailed, reliable, complete data. For example, the input–output table for the Lao PDR at present divides the

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economy into only 20 sectors, 11 of which are for tradable items. The other is that trade policies on paper and in practice may differ considerably: Lao policies are not notable for their transparency.

The nominal and effective protection calculations for the Lao PDR are then presented, and effective rates of protection for Lao manufacturing are compared with those estimated in other studies of Southeast Asia. A final section offers policy observations based on the findings of the study and looks to the future.

## 1. Definitions and assumptions

The nominal rate of protection (NRP) for some tradable item can be defined as the proportion by which its domestic producer price exceeds the border price. Under the assumption that the country is too small to influence external prices,<sup>1</sup> this also equals the proportion by which the domestic producer price of the item with distortive trade and other policies in effect exceeds the free trade level. With the additional assumption that domestic and foreign tradable items are perfect substitutes, identical price relations between domestic and border prices will hold for domestic products and their foreign counterparts. If it is also assumed that perfect competition prevails, then a higher nominal rate of protection will provide incentives for higher domestic production of an item, all else equal, rather than simply add to monopoly profits.

The effective rate of protection (ERP) for a tradable item can be analogously defined as the proportion by which value added per unit of output with distortive policies in effect exceeds the level under free trade. Since value added can be calculated as the difference between the value of output and produced input costs, a positive effective rate of protection indicates that on balance the policies raise the price of output relative to inputs. The effective rate of protection can also be negative. This could indicate that on balance the inputs used by a sector are subject to higher import tax rates than is its output, for example.<sup>2</sup>

The effective rate of protection will indicate the general-equilibrium effects of policies on the incentives to produce gross output of an item if it can also be assumed that technologies admit of no substitution between inputs: all produced inputs as well as primary factors of production are used in fixed amounts per unit of output in each sector.<sup>3</sup>

## 2. Alternative methods to handle non-tradable items

The effective rate of protection takes into account both direct and indirect effects of policies on prices of inputs and outputs in a sector. In general, the indirect effects work through non-tradable goods and services in their role as inputs into production. For example, a ban on exports of coal could drive down its domestic price and thus lower the costs and price of electrical power generation. This would provide an indirect subsidy to sectors that use electricity.<sup>4</sup>

A major conceptual issue for calculation of the effective rate of protection is how to handle non-tradable goods and services. The prices of non-tradable items are not set by international commodity arbitrage, but rather are assumed to be determined within the domestic economy along with prices of the services of primary factors of production like labor and capital. Imposition of import tariffs would tend to drive up the prices of non-tradables, both by diverting demand from tradables to non-tradables and by adding to the costs of tradable inputs and primary factors of production used to produce non-tradables. I will apply two classic approaches that have been proposed to deal with non-tradable items.

Balassa (1982) assumed that prices of non-tradables increase by an amount just sufficient to cover their higher tradable-input costs caused by the trade taxes. These tradable inputs could be employed directly in production of a non-tradable item, or indirectly in production of other non-tradable inputs used to produce the item, as revealed by the input–output table. Thus, this approach allows for a limited form of cost-push price inflation for non-tradables. Implicitly it assumes that primary factors of production are offered in perfectly elastic supply in non-tradables sectors, so that the various components of value added per unit remain constant. This presents an awkwardness, because not all of these factors of production can be offered in perfectly elastic supply to *tradables* sectors: the logic of effective protection requires that value added per unit in tradables sectors can change, even as ratios of quantities of inputs to quantities of outputs remain constant.

Corden (1966) proposed an alternative value added measure to calculate effective rates of protection. He observed that protection of a sector protects not only the primary factors of production that contribute value added directly to that sector, but also the non-tradable inputs used in it, and thus the primary factors of production that contribute value added to production of these non-tradable inputs as well. The Corden approach traces back through the input–output table until all non-tradable inputs are solved out of the system: all that remains are direct and indirect tradable input costs and value

<sup>1</sup> This assumption is not particularly problematic for the Lao PDR, with its population of only 6.5 million, even in the context of ASEAN.

<sup>2</sup> For each sector in which the ERP is negative, one must verify that value added under free trade is not negative, which could occur in sectors in which trade and prices are heavily distorted by government intervention. If a sector would not exist under free trade because of negative value added, the concept of effective protection is not well defined. It could also be that value added would be positive but small under free trade, and that measurement errors tip it to being negative (Krueger, 1984).

<sup>3</sup> This assumption has been subject to various criticisms over the years. Greenaway and Milner (1993), practitioners of both effective protection and computable general equilibrium analyses, argue that the theoretical critiques of effective protection have not undermined its practical utility, though one should not draw strong conclusions about the economic effects of policies based on small differences in effective rates of protection in different sectors.

<sup>4</sup> Electricity is traded internationally by the Lao national electric company, but the trade is not subject to the usual forces of international commodity arbitrage, so I treat electricity as non-tradable.

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