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THE NEW FAO GLOBAL DATABASE ON AGRICULTURE INVESTMENT AND CAPITAL STOCK

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THE NEW FAO GLOBAL DATABASE ON AGRICULTURE INVESTMENT AND CAPITAL STOCK

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Abstract

In this paper, we present the new FAO analytical database on aggregate physical investment flows and capital stock in agriculture, forestry and fishing for 206 countries and territories from 1990 to 2015. We describe the database content as well as the data sources, the methodology used to deal with missing data, and the measurement issues underlying its development. Building on previous research programmes held at the World Bank and at the FAO, we compile long time series of the agricultural investment to value added ratio, which we employ to compute agricultural investment flows. These latter flows are then converted into agricultural capital stock series, by applying a variant of the perpetual inventory method. We improve upon previous research by departing from strictly time series based imputation techniques and allowing for the presence of exogenous regressors in the model. We also extend the database to countries with fully missing data.

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1 Introduction

Physical capital represents a fundamental input in the production process. Empirical growth models require measures of physical capital to gauge the contribution of this factor of production to real income dynamics. Therefore, estimates of physical capital stock are necessary to gain a deeper understanding of the process of economic growth and its determinants.

Focusing on the agriculture sector, estimates of physical capital and the level of production are crucial, given the role played by this sector in the process of economic development. Notably, productivity growth in agriculture releases resources to other sectors of the economy, providing the basis for successful industrialization. Moreover, the livelihood of rural households builds upon the agricultural sector in many developing countries, with their welfare directly linked to the productivity of the resources at their disposal (Fuglie and Rada, 2013).

Despite the general interest in the estimation of agricultural capital stock, cross-country datasets are still scarce (see, for instance, Larson et al., 2000; Butzer et al., 2010; Daidone and Anríquez, 2011). At the national level, no suitable capital stock data for the agriculture, forestry and fishing industry¹ are available for most countries due to the complex and costly task of compiling such series. At the same time, the lack of internationally comparable capital stock in agriculture to the industry's growth and economic development more broadly.

In this paper, we aim to fill this gap by presenting new estimates of the agricultural investment ratio, which are then used to construct a wider database of capital stock in the agriculture sector at the worldwide level, by implementing a variant of the Perpetual Inventory Method (PIM). In this

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