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Capital-Labor Constant Substitution Elasticities: A Meta-Analysis MAKSYM CHEPELIEV^{*}^a, LUIS PENA-LEVANO^a, MARK KOETSE^b

INTRODUCTION

One of the most important parameters that determine impacts of policy simulations in general equilibrium framework are capitallabor substitution elasticities.

There is a long standing debate on numerous **issues around these** parameters (Arrow et al, 1961; Balistreri, 2001; Antras, 2004; van der Werf, 2007; Okagawa and Ban, 2008):

- appropriateness of Cobb-Douglas aggregate production function;
- impact of technological change assumptions on elasticity values;
- contribution of estimation approaches to aggregate results;
- level of elasticities variation on sectoral level.

OBJECTIVES

- Construct capital-labor substitution elasticities database
- Identify sources of variation in elasticity estimates
- Estimate meta-regression model to quantify contribution of each explanatory variable and derive central case elasticities

DATA

Database includes 31 studies with 946 elasticity estimates corresponding to 2-digit ISIC code.



*Some of the error bars on Figure 1 are truncated

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AGRICULTURAL ECONOMICS

Variable	No. of obs.
Machinery*	183
⊦8 other	763
Before 1982*	630
After 1982	316
North America*	453
⊦4 other	493
Cross-section	269
Time series*	607
Panel	70
Short/medium*	553
Long	393
Constant*	809
Variable	137
No*	460
Neutral	118
Non-neutral	369
Country*	647
Other	299
DLS*	290
⊦8 other	656
FOC ¹ (labor)*	297
⊦4 other	649
CES*	901
Other	45

- defines baseline variables. They are not included in metaregression estimation and correspond to constant in each model.

• Large impact of estimation approach and method choice on

• Some support for Cobb-Douglas elasticity in long-run, but not

• Non-significant differences in elasticity values on sectoral

• Higher elasticities in North America than in Europe