Strategic Formula Apportionment with Endogenous Prices

Working extension draft — short version

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Abstract

Formula apportionment (FA) taxes a multinational enterprise (MNE) on a weighted average of its capital and sales shares across jurisdictions. Existing models of strategic FA competition typically hold prices fixed; this paper instead lets the MNE's prices respond continuously to the formula chosen. Three complementary specifications (an MNE-only differentiated-goods benchmark, a homogeneous-good Cournot benchmark with domestic firms, and a full differentiated-goods model with domestic firms) share a common structure: under equal statutory tax rates, the MNE's entire real allocation depends on the two countries' formulas only through their difference, the formula wedge. Common formulas neutralize the MNE's tax-planning incentive, but whether they are optimal splits sharply: tax-revenue and fiscal-welfare objectives favor common formulas, while MNE-profit and (in most specifications) consumer-surplus objectives favor maximally opposed formulas, since the wedge acts like an implicit output subsidy. Decentralized competition does not generally replicate the centralized optimum. Four extensions — joint competition in formulas and tax rates, free entry of MNEs, free entry of domestic firms, and a comparison with separate accounting — show the mechanism is robust and yield two sharper results: sales-only formulas implement the destination principle and make tax-rate competition exactly efficient, and free entry of domestic firms pins local consumer prices to constants independent of the formula.

1 Introduction

The last two decades have seen a marked rise in the participation of multi-regional firms (MRFs) in global economic activity, alongside growing capital mobility and foreign direct