Port Econ J (2013) 12:181–214
DOI 10.1007/s10258-013-0094-y

ORIGINAL ARTICLE

Fossil fuel prices and the economic and budgetary challenges of a small energy-importing economy: the case of Portugal

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Received: 22 April 2011 / Accepted: 8 October 2013 / Published online: 10 November 2013

Abstract This paper examines the economic and budgetary impacts of fuel prices using a dynamic general equilibrium model of the Portuguese economy which highlights the mechanisms of endogenous growth and includes a detailed modeling of the public sector. The fuel price scenarios are based on forecasts by the US Department of Energy (DOE-US) and the International Energy Agency (IEA-OECD) and represent a wide range of projections for absolute and relative fossil fuel prices. In terms of the long term economic impact, our results suggest a 1.9 % drop in GDP in the DOE-US scenario and 1.6 % in the IEA-OECD scenario. As to the budgetary impact, higher fuel prices lead to lower tax revenues, which, coupled with a reduction in public spending, translate into lower public deficits. Accordingly, increasing fuel prices create an important policy trade off in that they can contribute to reducing the public deficit while hindering economic growth. We find that fairly strong incentives for wind energy can reduce the economic impact of fuel prices by 14.2 % in the DOE-US price scenario and 18.5 % reduction in the IEA-OECD price scenario. Finally, our results highlight the importance of public sector spending decisions and the mechanisms of endogenous growth in understanding the impact of fossil fuel prices. Indeed, a scenario of higher fuel prices would, with exogenous public decisions and exogenous economic growth assumptions, result in substantially smaller economic effects and yield adverse budgetary effects.

This paper is part of a project financed by the Fundação de Ciência e Tecnologia do Ministério de Ciência e Tecnologia, Portugal, reference number: PTDC/ECO/72065/2006. An early version of this paper was presented at the 4th International Meeting of the Portuguese Economic Journal. We would like to thank an anonymous referee for very detailed and thoughtful comments and suggestions.

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Keywords Fuel prices · Economic performance · Budgetary consolidation · Dynamic general equilibrium · Endogenous growth · Portugal

JEL Classifications C68 · D58 · H50 · H60 · O52 · Q43