Increasing Foreign Supply of Intermediates and Less Reliance on Domestic Resources: The Production Structure of the Swedish Economy, 1957–1980

GÖRAN ÖSTBLOM
Department of Economics, University of Stockholm, S-106 91 Stockholm and National Institute of Economic Research, Box 2200, 103 17 Stockholm, Sweden

Abstract: Historical comparisons of the Swedish production structure is undertaken in this paper. The total series of Swedish input-output data is, for the first time, exploited within the Leontief open static model and by use of the method of triangulation. Reliance on foreign supply of intermediates increased in the Swedish economy during the post-war period and the traditional dominance of production chains based on iron ores, forests and hydropower in the domestic supply of intermediates reduced in favour of chemical products and services. Also, labor employment declined significantly relative to the employment of capital in production. Some implications for the effects of aggregate economic policy are discussed.

JEL Classification System-Numbers: C 57, D 57

I Introduction

Historical comparison of the production structure, by exploiting input-output data, has so far not been undertaken for the Swedish economy. Silberstein (1967) concluded, by examining the 1957 input-output table, that also the Swedish economy had the fundamental structure of production found for national economic systems in international comparisons of input-output tables first by Chenery and Watanabe (1958) and then by Simpson and Tsukui (1965). The present study exploits the total series of input-output data for the Swedish economy by including also the tables of 1968, 1975 and 1980.

Song (1977), in making international and historical comparisons of the Korean economy, reported that production structures are more similar within the same country than in international comparisons between different coun-

---

1 This paper is based on my doctoral thesis [Östblom (1986)]. I thank Alf Carling and Lars Werin for helpful comments. Comments from an anonymous referee have improved the paper.
tries. Fukui (1986) provides evidence in support of the similarity of production structures across national economies at different levels of development by comparing input-output tables of more developed countries (MDC's) and less developed countries (LDC's). We find similarity in the production structures of the post-war period but also that the traditional picture of the production structure of the Swedish economy is somewhat less relevant today. Production chains based on the natural resources iron ores, forests and hydropower have, to a part, lost positions as suppliers of basic intermediates observed for the 1957 production structure. Instead, services and chemical products strengthen their positions as suppliers of intermediates but also the portions of intermediate demand taken by foreign suppliers increased. The employment of labor declined dramatically in relation to the employment of capital in production.

Some implications for the effects of aggregate economic policy follow from the analysis. There are strong reasons to assume that an expansion of total demand today will be directed towards imports rather than domestic intermediates and employ relatively less labor than during the sixties. The leakages have increased and external balance today, thus, has a higher cost in terms of unemployment than during the sixties.

The paper is organized as follows. Section II presents the model, derived relationships used in the computations and the method of triangulation. A brief description of data is also included here but for a more thorough description of data, together with a presentation of sectoring plans and aggregation schemes see Östblom (1986). The results of computations and triangulations are analyzed in Sections III and IV. The analyses are summarized in Section V. The numerical results of computations performed are given in the appendix.

II Methodological Background and Available Data

The production relationships examined in the following sections are derived from the open static Leontief system. Changes noted in the use of intermediates for a given final demand will be interpreted in input-output analysis as a result of technical change or changes in the organization of production. When specifying other production relationships such changes could also be the consequence of substituting labor and capital for intermediates in production, or one kind for another kind of intermediates. Also, the assumption of sector specific production, used in constructing the input-output tables studied here, causes some problems of interpretation. Price induced