9 Empirical Research in Taiwan on Factors Underlying Differences in Fertility*

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I. INTRODUCTION

The attention given to fertility levels, trends and differentials in recent years has resulted in an increase both in empirical research, designed to establish facts and relationships, and in theory development, which has sought to synthesise this rapidly expanding body of knowledge. Conceptual models of a social, psychological, and economic nature have been advanced (see as examples Freedman, 1967; Fawcett, 1970; T. W. Schultz, 1973).

The fruitfulness of these theories rests eventually on their ability to account for established relationships and to expand knowledge systematically. The objective of this paper is to present some of the empirical findings concerning fertility in a developing country, Taiwan, with which any comprehensive theory must deal. Taiwan appears to be midway through a demographic transition from high to low fertility, and thus presents interesting challenges to theory development.

Of course, theory and observation can never be entirely divorced, and in selecting the empirical research to be reviewed, some structure is necessary. In keeping with the auspices of this conference, we will focus on variables related to economic models of fertility, and which bear relevance, therefore, to such concepts as demand for children, costs and quality of children, and resources. We do not attempt, however, to apply any particular economic model to the data, nor will we dwell unduly on whether an observed relationship tends to confirm or reject theoretically derived propositions.

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A review paper of this type owes much to the many investigators whose works have been cited. They are not, of course, responsible for the manner in which their findings have been employed. Many other important aspects of Taiwanese fertility patterns, which could not be included here, may be found in the works cited.

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Our data are drawn from a number of investigators who are often pursuing different objectives. We will utilise results based on both micro and macro data. This eclectic and empirical approach will entail, therefore, some sacrifice in coherence and uniformity.

II. DEMOGRAPHIC AND SOCIO-ECONOMIC SETTING

Our concern centres on the period since 1950, with particular emphasis on the 1960–70 decade. A brief excursion back, however, helps set the stage and is not without interest in appraising the determinants of fertility. (Much of the discussion of this early period draws heavily from Liu, 1972, and Barclay, 1954.)

During the period of Japanese rule, 1895–1945, Taiwan was regarded mainly as a supplier of agricultural products. Industrial development to any appreciable extent did not take place until the mid-1930s. The system of agriculture at the start of the period was one of traditional, subsistence, small-scale cultivation; a high proportion of the farms were operated on rental land and cultivated by a closely-knit household. Birth-rates and death-rates were both high, in the neighbourhood of 40 per 1000.¹

The Japanese approach to increasing agricultural production was to keep the social organisation intact and to take steps to increase production per farm, along with some expansion in the number of farms. To this end, they introduced a number of innovations into Taiwanese agricultural practice, among them: irrigation, chemical fertilisers, crop rotation and new rice strains. The scale factors in terms of per farm averages in number of workers, cultivated land, or fixed capital did not change significantly over the colonial period (Liu, 1972, p. 4 and Tables 3 and 4). This system was eminently successful and agricultural production in total and per farm increased markedly. The gains from these increases were mainly captured by the Japanese through their control of the commercial and processing enterprises, and through taxation and their charges for the innovations. As a result, income per family was relatively static throughout the period (Liu, 1972, Table 5).

Since agriculture remained labour intensive, the Japanese took steps to increase population growth by decreasing mortality, there being little room for achieving higher fertility. With judicious expenditures on public health and high administrative skill, they made great strides in reducing mortality from plague, cholera and

¹ Statistics are not available until after 10 years of Japanese rule. The data for 1906–9 show crude birth-rates and death-rates of 40·3 and 33·3 per 1000 respectively (Liu, 1972, Table 7). Barclay (1954, p. 145) conjectures that, as of 1895, the death-rate may have been over 40.