

Preface

This book examines the patterns, determinants and labour market implications of international fragmentation of production – the cross-border splitting of the production process within vertically integrated manufacturing industries – focusing on the experience of Japanese manufacturing.

Despite the rapidly growing importance of production fragmentation in Japanese manufacturing, there is little systematic empirical analyses of this phenomenon and its implications for labour market performance and adjustments. The few available studies have focused narrowly on the emerging patterns and intensity of fragmentation-based trade. In the absence of such systematic analyses of the Japanese case, debates on the implications of production fragmentation for manufacturing performance and labour market adjustments rely largely on studies of the US manufacturing experience, though it is well known that there are important differences between Japanese and US manufacturing industries. As in other developed economies, there is a widespread perception in Japan that production fragmentation leads to losses in Japanese manufacturing employment. This book aims to explore the Japanese case in depth, compare it with the US experience and to draw out the main trade and labour market implications of production fragmentation from this comparative perspective.

The book begins with a comprehensive interpretative survey of the theory of production fragmentation in order to place the empirical analysis in context. The empirical analysis, which forms the core of the book, has three main components. First, it examines patterns and determinants of cross-border trade in parts and components ('fragmentation trade') by using trade data compiled on the basis of a new commodity list of parts and components of manufacturing trade over the period 1988–2005.

The second part comprises an analysis of the effects of fragmentation trade on the skills structure of manufacturing employment in Japan using a panel data set covering 52 Japanese manufacturing industries over the period 1980–2000. The analysis makes use of a newly constructed measure of the intensity of fragmentation trade which enables a richer analysis to be conducted. It also allows for differential effects of the geographical location of fragmentation trade on the skills mix of employment, an important

aspect of fragmentation-based international specialization which has been overlooked so far in the literature.

The third part is a firm-level data analysis of the implications of production fragmentation for employment in the home country operations of Japanese manufacturing multinational enterprises (MNEs). This analysis is based on new panel data compiled from the unpublished returns of two firm-level surveys; 'The Basic Survey of Business Structure and Activity' and 'The Basic Survey of Overseas Japanese Business Activity', both conducted by the Japanese Ministry of Economy, Trade and Industry (METI), for the period 1991–2002. It estimates directly the effects of expanded overseas operations of foreign affiliates driven by production fragmentation on home employment in Japan.

One of the striking differences between Japan and the USA is that for Japan unit labour costs and transportation costs (proxied by geographical distance) are relatively more important determinants of inter-country differences in fragmentation trade. The greater importance of labour costs in the Japanese case suggests that its fragmentation trade is more strongly driven by potential cost reductions from relocating labour-intensive production processes to neighbouring countries. Japan's global production management strategy, 'just-in-time' logistics and the importance of physical proximity for quality maintenance may explain why transport costs (distance) play a stronger role.

Turning to the labour market implications, our findings indicate that fragmentation trade has brought about a shift in favour of skilled workers in the employment structure of Japanese manufacturing. In particular, fragmentation trade with developing countries in East Asia has had a significant skill upgrading effect on manufacturing employment in Japan. In contrast, trade with OECD countries has had a skill downgrading effect. The firm-level analysis finds no evidence of employment losses in Japanese manufacturing at home due to product fragmentation. In fact, there is some evidence of a complementary relationship between overseas employment of MNEs and their home employment. In conjunction with the fact that increased profitability of Japanese firms would have a demand induced indirect employment expansion effect in other sectors of the economy, our empirical findings lead us to strongly reject the view that production fragmentation and associated overseas investment by Japanese firms has a negative impact on overall employment in Japan.