

# CHAPTER 5

## INTERNATIONAL COMPARISONS

### 5.1 Introduction

Innovation surveys have been routinely carried out in developed countries since the publication of the Oslo Manual in the early 1990s. The European Community (EC) countries have been in the forefront of innovation with their Community Innovation Surveys (CIS). The National Innovation Surveys (NIS) that have been carried in Malaysia is explicitly modelled after the CIS. Using comparable methodology to that of CIS means that the innovations survey results in Malaysia can be compared with the results from the latest CIS. This chapters sets out to compare the latest findings from CIS with Malaysia's own innovation survey.

The list of countries selected for comparison is heavily influenced by data availability on innovation. Data on innovation surveys in other countries are obtained from the document titled *Statistics on Innovation in Europe* published in 2001 by the European Commission. The statistics on innovation in the document is based on the *Second Community Innovation Survey* (CIS-2). At the time of writing this report, the *Third Community Innovation Survey* (CIS-3) is on-going. Thus, data from the CIS-3 is not available.

The countries and group of countries selected for comparison include:

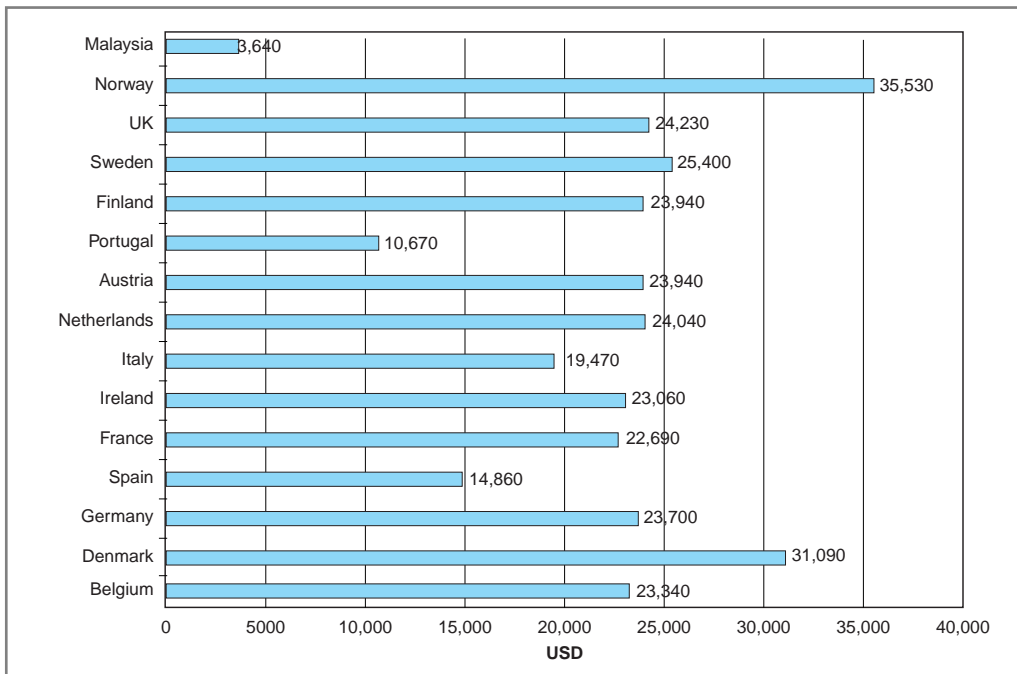
- European Union (EU)
- Belgium (B)
- Denmark (DK)
- Germany (D)
- Spain (E)
- France (F)
- Ireland (IRL)
- Norway (NO)
- Italy (I)
- Netherlands (NL)
- Austria (A)
- Portugal (P)
- Finland (FIN)
- Sweden (S)
- United Kingdom (UK)

### 5.2 Economic Characteristics of Countries Compared

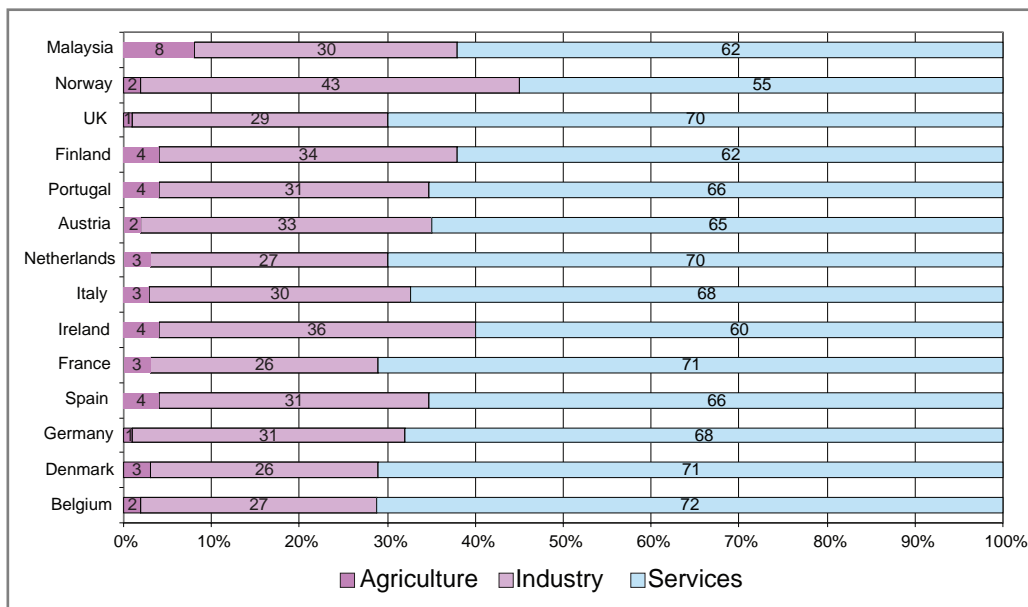
In order to have a meaningful comparison between Malaysia's experience in innovation and other countries' experiences, it is useful to briefly review economic characteristics of these other countries. This would provide the context within which the comparisons are made.

The countries that are being compared to Malaysia have per capita national income levels that ranges from three times (Portugal) to ten times (Norway) the level of Malaysia's pre capita national income (see Figure 5.1). Obviously these are countries that are much more developed than Malaysia. In terms of the structure of output, Malaysia's economic structure is very similar to that of the other countries compared. In these countries, the manufacturing sector's share of the GDP falls in the range of 26-36%.

**FIGURE 5.1: PER CAPITA NATIONAL INCOME FOR SELECTED COUNTRIES**



**FIGURE 5.2: STRUCTURE OF OUTPUT OF SELECTED COUNTRIES, 2002**

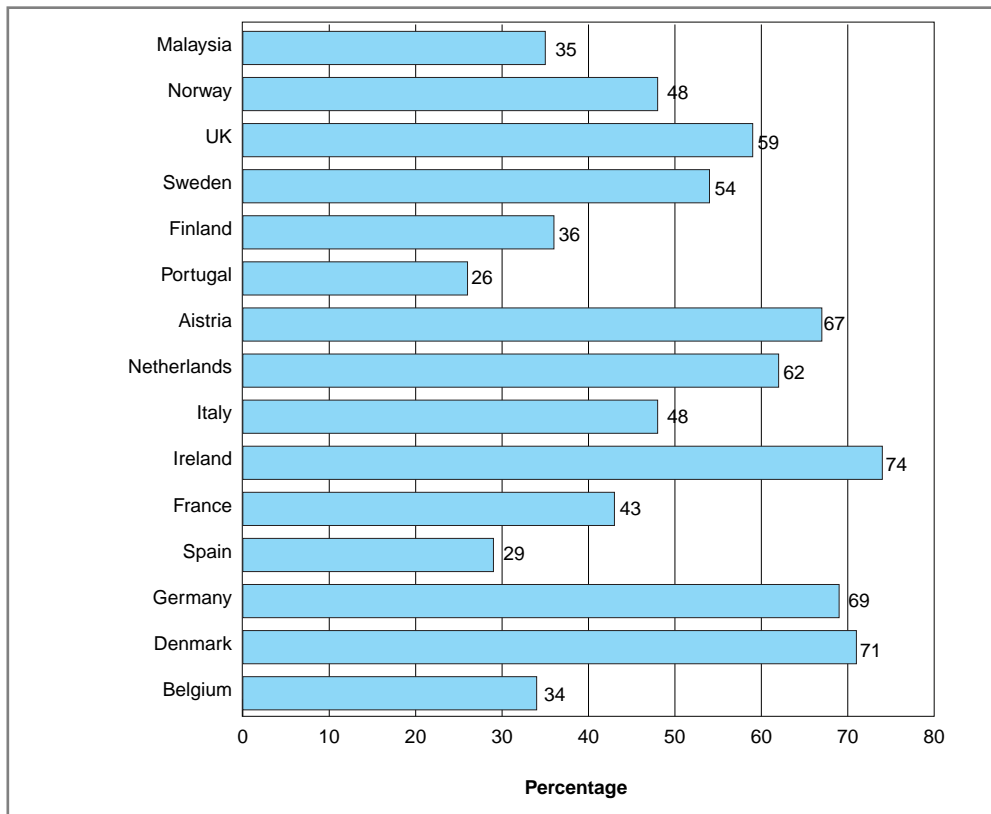


### 5.3 A Comparison Between Innovation in Malaysia and Other Countries

#### Overall Level of Innovation in Manufacturing Sector

The level of innovation in the Malaysian manufacturing sector is slightly below that observed in developed countries (see Figure 5.3). The incidence of innovation in Malaysia (35%) exceeds that of Portugal (26%) and Spain (29%). However, the incidence of innovation in other European countries is significantly higher than that in Malaysia. Countries with comparable levels of innovation include Finland (36%) and Belgium (34%).

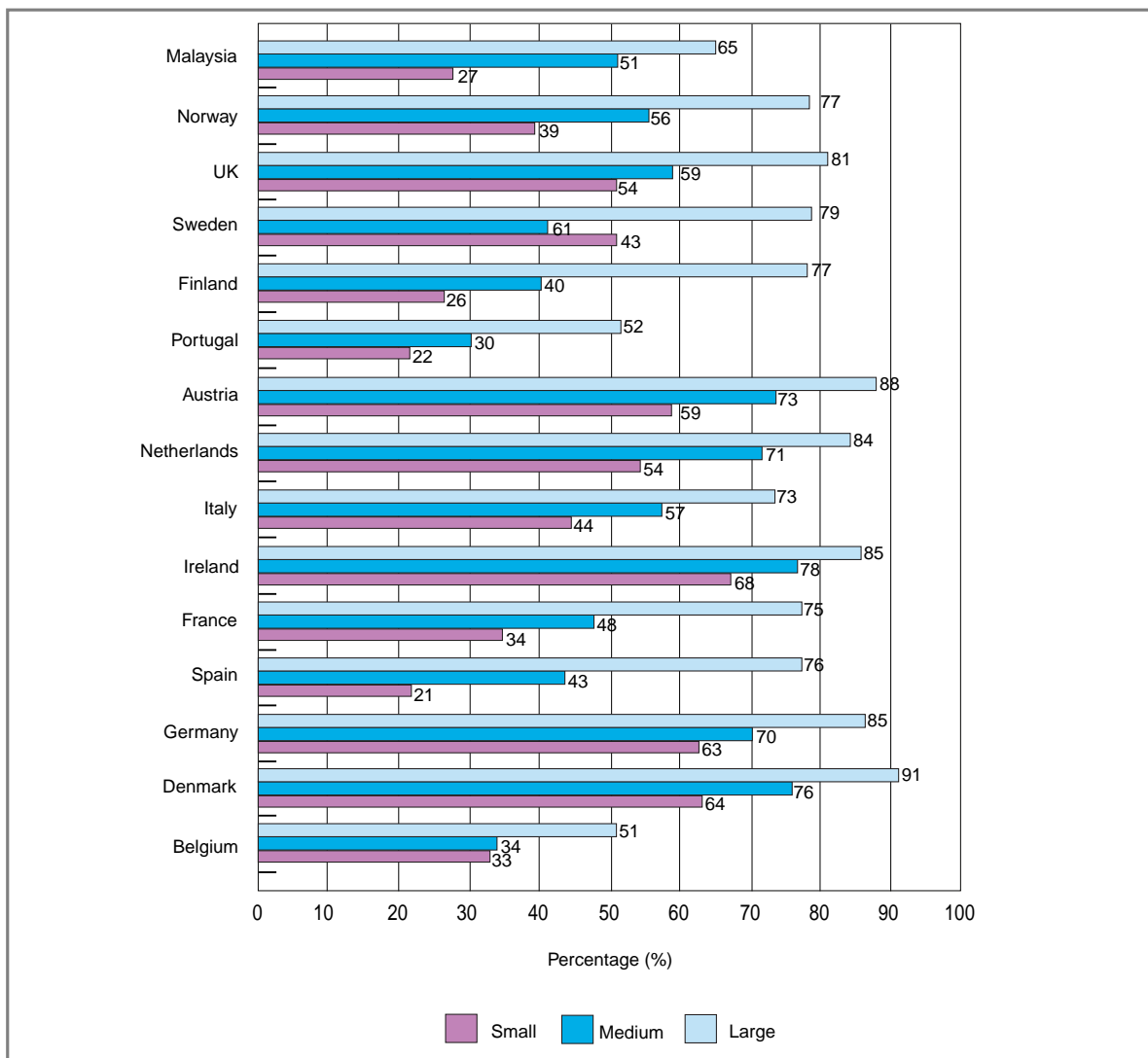
FIGURE 5.3: NUMBER OF INNOVATORS IN SELECTED COUNTRIES (%)



## Innovation and Firm Size

In terms of firm size, the variations in the level of innovation across small-sized firms (< 49 employees), medium-sized firms (50-249 employees) and large-sized firms (> 250 employees) are similar to that observed in other countries (see Figure 5.4). In general, large-sized firms are more innovative than their smaller counterparts. The innovation gap between large firms and medium sized firms are almost the same as that between medium sized firms and small firms.

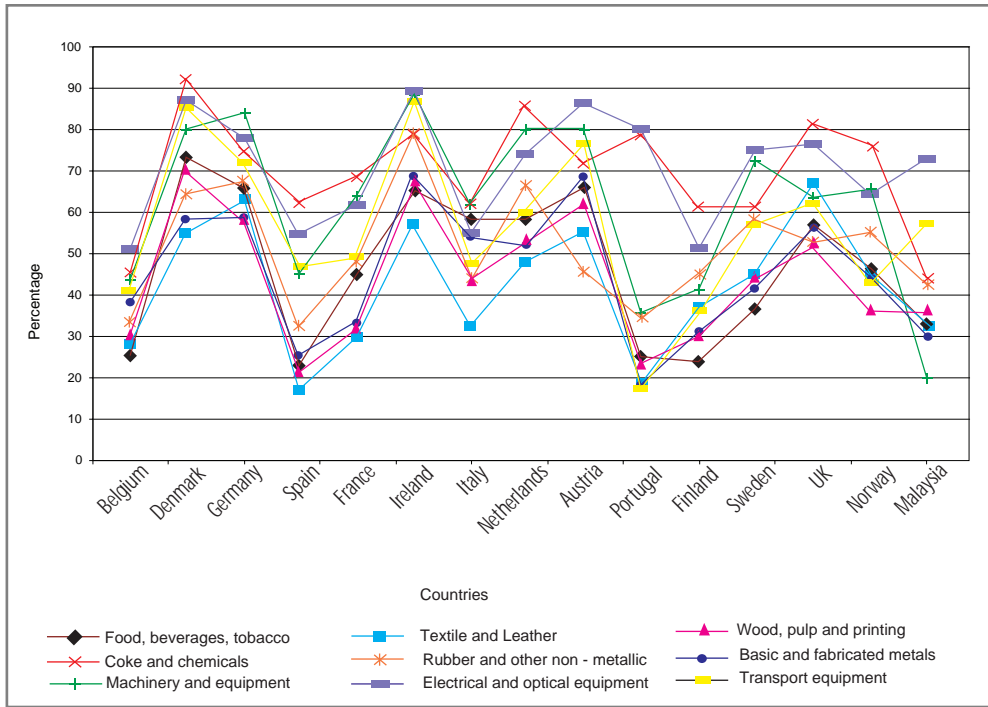
FIGURE 5.4: NUMBER OF INNOVATORS (%) BY FIRM SIZE IN SELECTED COUNTRIES



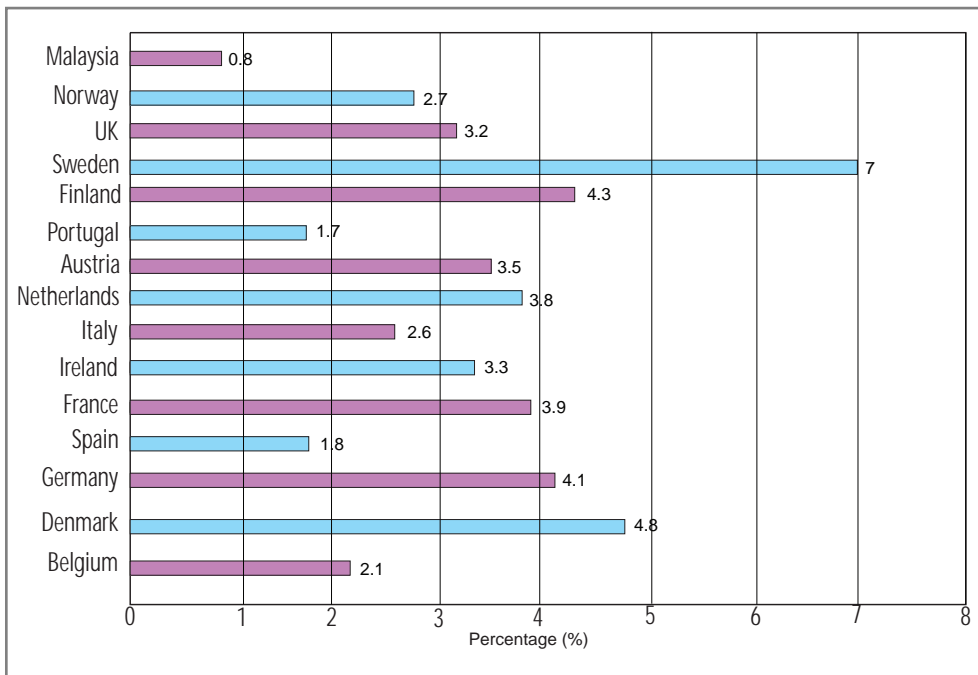
## Innovation in Manufacturing Industries

In terms of the incidence of innovation in different manufacturing industries, Malaysia's experience is similar to that observed in other countries (even though the number of innovators tends to be lower) (see Figure 5.5). There are a few exceptions. These are transport equipment and electrical and optical equipment. It is plausible that such differences are merely a reflection of "catching-up" technological diffusion.

**FIGURE 5.5: NUMBER OF INNOVATORS (%) ACROSS MANUFACTURING IN SELECTED COUNTRIES**



**FIGURE 5.6: INNOVATION EXPENDITURE AS A SHARE OF TOTAL TURNOVER FOR SELECTED COUNTRIES**



## Innovation Expenditure

The high level of innovation in developed countries is accompanied by high levels of expenditure on innovation such as R&D, training etc. In most of the developed European countries, innovation expenditure as a percentage of total turnover exceeds 3% (see Figure 5.6). Compared to these countries, the corresponding figure for Malaysia is relatively low at 0.8%.

## Impact of Innovation on Turnover

One measure of the impact of innovation is the share new and improved products in turnover. In most of the developed European countries the combined share of new and improved products in turnover usually falls in the range of (20 – 45%). Surprisingly, the share of new and improved products in turnover at 47% is very high in Malaysia.

**FIGURE 5.7: TURNOVER DUE TO NEW, IMPROVED AND UNCHANGED PRODUCTS IN SELECTED COUNTRIES**

