FIGURE 2

Content of Software Products Sales – 1987
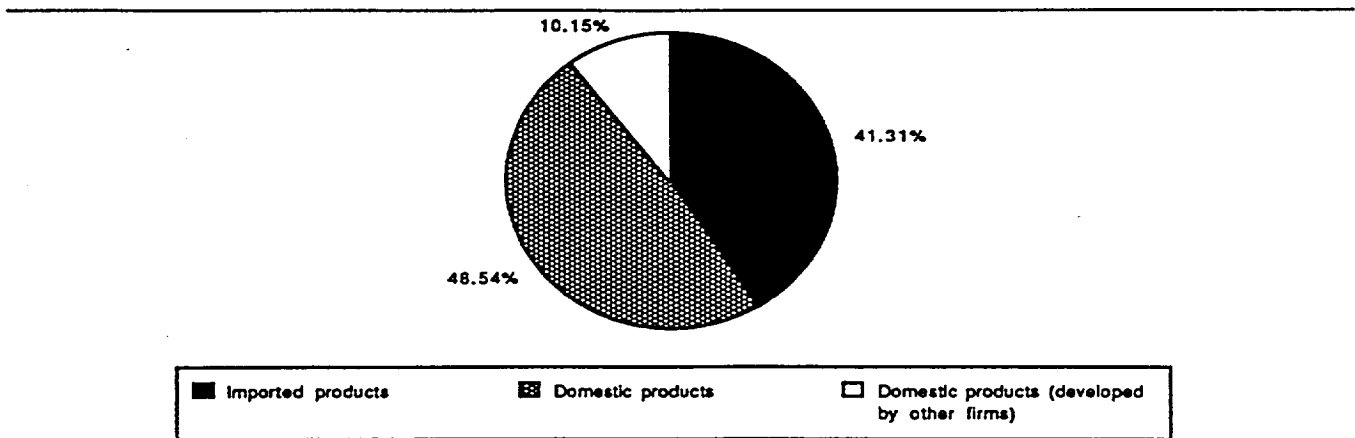
Characteristics of the Japanese Software Industry

In spite of tremendous sales growth, Japanese hardware manufacturers have hindered the growth of new software sales and marketing activities, including software subcontracting.

- *Leadership and influence of hardware manufacturers.* In Japan, the software industry is strongly influenced by hardware manufacturers.

  The problems are rooted in the Japanese tradition of trusting a large company or large organization. For example, most computer users prefer to be supplied by larger companies such as NEC, Fujitsu, Hitachi, Mitsubishi and IBM Japan. Secondary choices include Unysis Japan, Oki and Toshiba.

  Users, usually purchase software with hardware. This is one reason why it has been difficult to determine the value of each in the Japanese market.

  Since the purchase of a large computer system involves risks, purchasers of such systems tend to trust the large hardware manufacturers who also employ the best software engineers.

- *Immaturity of the software product sales market.* Japanese users do not understand the cost of

software. They are not familiar with the concept of buying software separately from hardware, as they expect it to be included.

In Japan, there are too many hardware platforms to support Japanese software development. In the United States, IBM and DEC machines supply 60 to 70 per cent of both the mainframe and mini-computer markets. This makes it easier for U.S. software developers to develop products as only two main types of hardware systems are used for platforms.

In Japan, there are several competing hardware manufacturers, thus making it difficult for third-party software developers to develop and market general-purpose software products. This has hampered the entry of foreign software products.

- *Subcontracting.* This is a frequent practice in many Japanese industries, particularly in the programming industry.

  Medium or large sized projects, which require more than 100 engineers, usually employ 70 per cent of their staff under sub-contract. This makes it difficult to differentiate responsibility for separate parts of the system. However, the technical skills of subcontracted software developers are not always first-rate or uniform.

  In most cases, hardware manufacturers develop the set-up specifications of basic software systems. Third-party software developers are encouraged to