Chapter 2

The Japanese Market

In this chapter I will present an overview of the Japanese information technology (in future called : IT) market. This market is some type of unique marketplace in the world. The structure is different from the market in USA or Europe. The position of the Japanese IT market in the world IT market and the diverse Japanese hardware market will be presented first in this chapter. In this part I will set the main emphasis on the PC/Workstation (in future called : PC/WKS) market. After that I will present an overview of the Japanese software market (Also mainly for the PC/WKS environment). All statistical data are gathered from different sources like IDC, JCQ, JPL, Softic, Miti, JISA, AEA, JETRO and many more. The problems of gathering these data are, e.g., that the Japanese fiscal year runs from April to March, the main information is only available in Japanese and that most English data are at least 1–3 years old.

2.1 Japanese IT Market in the World Market

The Japanese IT market is the second biggest IT market in the world. This is supported by the fact that the Japanese IT market is a homogeneous market. Unlike in the English speaking countries, where you do not have a homogeneous market (e.g., American, British and Australian English, different terms for technical denominations, different cultural backgrounds, ...). The Top 5 players in the world IT markets are USA, Japan, Germany, France and the UK. The rest of the world market (in future called : ROW) has a joint market share below 30 %, as it is a very diverse market with more than 30 countries and even more different languages as well as cultures. Each country of this group holds a market share below 4 %, more often below 1 %.

2.1.1 Japan vs. World

If we look at the World IT Market 1990 (see page 22, figure 2.1,[32]) we will see the following market situation (regarding IDCs Worldwide IT Market survey) :

- USA 36.2 %
- Japan 18.1 %
- Germany 7.9 %
- France 6.7 %
- UK 5.9 %

The US market is about twice as big as the Japanese market and the Japanese market is more than twice the size than the follow-up market Germany. This fact alone is quite interesting, but if we contemplate the development of the world IT market we will realize that this fact is getting more important in the future. IDC's data for 1991 (see page 23, figure 2.2,[32]) show that the Japanese IT market is the only market with a visible growth rate. The other Top 5 markets, with exception of Germany, have a loss in their world IT market share. This gets even more dramatic if we look at the predicted market shares for 1995 (see page 24, figure 2.3, [32]). The US market share will shrink to 33.9 % which will be just 1.5 times the size of the Japanese market share. Furthermore (compared to the follow-up market Germany) the Japanese share has increased to 2.75 times the German market share. If we take a look at the market shares by IDC world regions (see page 25, figure 2.4,[32]) we will see that the European market share will decrease from about twice as big to about 1.5 times the size of the Japanese market share, but the European market is not a homogeneous market. This fact gives the Japanese market a big plus and that's why the US and Japanese market are the most important markets in the IT world, holding more the 50 % of the world IT market shares.

2.1.2 Japanese Hardware World

Besides the culture and language dependent differences, also the structure of the market in Japan is also different from the rest of the world's IT market. The Japanese IT market is (or was) more oriented to mid-size and large computer systems (see page 26, figure 2.5, [32]). Compared to the market in the USA this fact is quite significant. The 1990 US market share of PCs and Workstations was more than 50 %, compared to 35 % on the Japanese side. If we have a look at the Japanese PC world market share (see page 27, figure 2.6, [32]) we will see that this share was just about 13.8 % in 1989. This market share will significantly increase. When we compare this to the growth rate of small, medium and large systems it will be visible that the PC/WKS market will become quite valuable to about 20 % of the PC world market share. To see how important the Japanese market place is we have to consider the Japanese market share in the Asia/Pacific region (see page 28, figure 2.7,[32]). This makes evident that the Japanese market, with a market share among 70 to 90 % per system class, is the key market in this area. If a software product is successful in Japan this position could be used to penetrate the other markets in the Asia/Pacific region. (Besides that it is easier to adapt a japanized product to other Asian language environments, because the main work is already done, but I will explain this topic later). The future development of the Japanese HW market will change dramatically. Instead of small, medium and large computer systems the PC/WKS will win the biggest HW market share in Japan (see page 29, figure 2.8, [32]) with about 20 % of the IT market share. This is about twice as big as the large systems market share. The PC/WKS is the only systems group with an increasing market share in the next couple of years. Again let us look at the estimated US and European spread of system types compared with Japan (see page 30, figure 2.10 and page 31, figure 2.10,[19]) in the near future 1995. We will recognize the Japanese PC/WKS market share is still about 13 to 15 % smaller than in USA or Europe. Nevertheless it is the fastest growing market in the world.

PC/WKS Market

I will now give a brief overview about the Japanese PC/WKS market. This rapidly growing market has a fast changing structure. In the year 1990 the biggest PC/WKS market share was represented by the combined WKS market share with more than 64 % followed by Notebook and Laptop computer types (see page 32, figure 2.11, [19]). This will change until 1995 to a 55.5 % market share for Notebooks compared to a combined 38 % market share for WKS. This does not imply that the Notebook or Laptop computers are low power machines. It shows that the future demand for HW and the way of HW development in Japan will go towards small, highly integrated, sophisticated, powerful machines. These fit the Japanese working environment where the demand to save office space is very high, because office rents in Japan are sky-high and consequently the office space is limited. This is supported by the fact that the Japanese users prefer high power, fast and reliable machines (see page 33, figure 2.12,[19]) equipped with fast processors. Since manufacturers are able to wrap this high speed technology in smaller cases, which provide the same power as a desktop type PC, the sales of Laptops (and Notebooks) are rapidly increasing (see page 34, figure 2.13,[33]).

IBM vs. NEC

Unlike outside Japan, where IBM / IBM-Clones have the biggest market share in the PC world (or at least IBM has set the rules belonging the system structure), the Japanese PC market is dominated by the Japanese computer manufacturer NEC (Nippon Electronic Corp.). This fact causes, besides the culture and language dependent differences, the biggest problems for foreign software vendors. The NEC and the compatible machines from Epson hold a market share close to 60 %. IBM however, which has, since years, dictated the PC/WKS market in the USA and Europe, has a market share as small as 7 %. The other big PC/WKS manufacturers which are represented in the Japanese market are Apple, Toshiba and Fujitsu. Each of these manufacturers has their own, incompatible system and OS to the other manufactures (see page 35, figure 2.14,[23]).

OS in Japan

Regarding this fact it is interesting to see that in the year 1990 MS-DOS had the biggest market share in shipped PCs (see page 36, figure 2.15,[19], Later I will talk about the problems concerning the incompatible machines and OS). If we look at the estimated figures for the year 1995 we will see that MS/DOS will still hold a market share of more than 75 % (down from 83.6 %) that, compared with their market share 1990, UNIX and OS/2 will significantly increase their market share (see page 37, figure 2.16,[10]). In a survey from JPL 64.8 % of the questioned people believed in an increase in the market share of UNIX, with close follow-ups by the MS/DOS based MS-Windows and other MS/DOS type operating systems (see page 38, figure 2.17,[34]). This trend is supported by the fast growing numbers in WKS shipment in Japan, which are mainly driven by the UNIX or UNIX like Operating Systems (see page 39, figure 2.18,[19]) In a survey (see page 40, figure 2.19,[38]), done by SOFTIC, it is shown that the Japanese market for software products is split into three parts

- Systems Software (35 %)
- Business Applications (42 %)
- Dedicated Applications (23 %)

and that Business Applications hold the top position with 42 % of the market. Combined with Dedicated Applications the applications market share is 77 %. Furthermore you can divide the HW Platforms, which are running this software, into three parts

- Mainframe (22 %)
- General purpose Mini (small & medium type) (16 %)
- PC/WKS (62 %)

Again it is easy to recognize that the biggest share belongs to the PC/WKS type of systems. In this big market the JPL institute did a survey about the question if Japanese computer users are interested in foreign software and if so, on which HW platforms they would like to run this software (see page 41, figure 2.20,[34]). More than 70 % of the questioned users are interested in foreign software. Again UNIX gained a big share nearly equal to MAC and IBM PC. The IBM is in the lead with a 6.6 % higher share.

According to the indicators it is visible that there is an increasing PC/WKS market in Japan so that this raising market should be considered as one of the main software markets in the future. In the next section I will give an overview about the Japanese software market.

2.1.3 Japans Software World

In the 1989 Miti survey " Software Demand Forecast " the Japanese software market is predicted to have a high, increasing potential. The " mighty Miti ", which is the control organization for the Japanese industries, estimated the growth of the Japanese software market in a survey from 1989. From 1990 to the year 2000 the demand for software will raise to a market potential which is 4 times bigger than the actual market from 1990 (see page 42, figure 2.21,[34]). The same figures are estimated for the computer software market. There is a tremendous high growth rate expected over the next couple of years (see page 43, figure 2.22,[35]). Compared to the US and Europe the demand for Software Products is considered as a fast growing part of the Japanese IT market (see page 44, figure 2.23, [36]). Here the expectations are even higher. JISA is expecting over 4 times the market potential of 1989 in the year 2000.

Software Japanese Style

These forecasts sound quite good but to understand the Japanese software market you have to know how software is made in Japan. Today the biggest part of software development in Japan is still done independently. This is caused by the need for highly customized software systems in Japan. Compared to the market share of domestic developers and imported software this market share is around 1.5 times bigger and will rise towards twice the size of the combined market share of the two other fields. The two other sectors are also gaining a good share of the market leaving plenty of room for japanized software (see page 45, figure 2.24,[36]). Another surprising fact about the Japanese software product market is that the structure is very similar to the structure of the American software product market. There are only slight differences in the percentage of the different fields, also here the development trend of these markets is similar. In the year 1995 the highest market share in Japan belongs to application solutions (42 %), followed by Application tools (25.2 %). Similar to the USA the system/utilities market share will significantly decrease to 32.8 %. Let us have a look at the spread of custom software and software products in Japan (see page 47, figure 2.26,[36]). In the year 1989 the customized software market was about 6 times bigger than the market for software products. Again the reason is or was the high demand for customized solutions in the Japanese IT environment. Even if the market share of software products will raise, it will not reach the size of the customized software market in the year 2000. Even then the market share of custom software will be 3.75 times bigger than the market share of software products. If we contemplate the sales figures which are published by JISA (see page 48, figure 2.27,[36]) we will see that the sales figures are much bigger in the custom software field than in the software product's field. Furthermore the growth rate of custom software is higher than the growth rate of software products. In the market forecast for software services 1993 by IDC we will notice that most fields will nearly double their sales and the system integration sales will be 4 times bigger than 1988 (see page 49, figure 2.28,[19]).

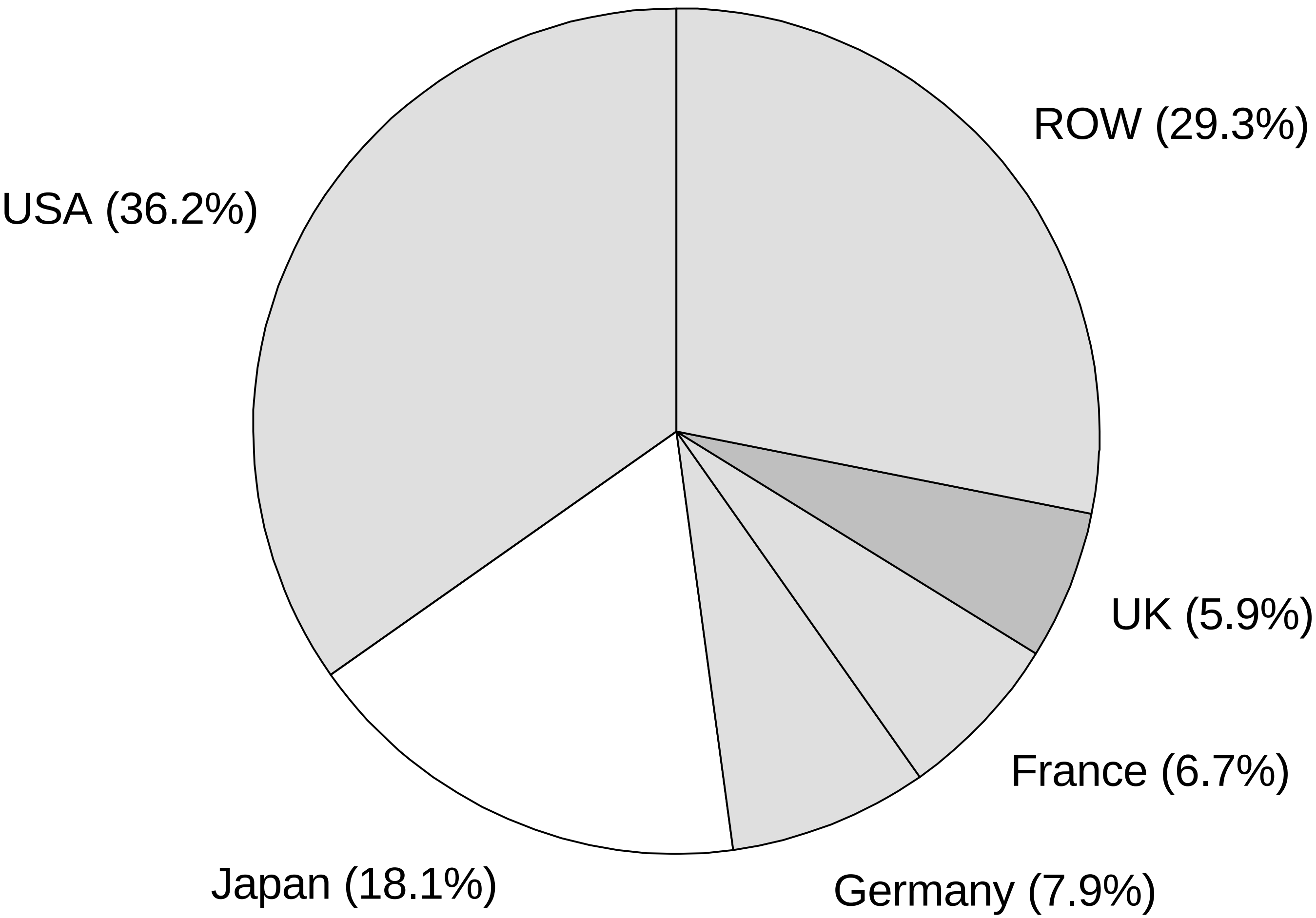
Package SW vs. Custom SW

It is easy to see that the market for custom software services is more then twice as big as the market for packaged software. When we compare the historic growth of this market share between the Top 5 IT nations we will see that the Japanese share is far below the share of packaged software in other countries (see page 50, figure 2.29,[37]). The market share of packaged software in Germany 1988 was close to 50 % compared with a Japanese market share of 8 %. It is understandable because the custom software market share in Japan is so huge. Today the market share for packaged software in Japan is somewhere between 10 and 20 %, depending on the source of information. This is still small compared with the market share of packaged software in the USA (60–75 %) and Europe (40–60 %) (see page 51, figure 2.30, [10]). The last, but not least, point is the analysis of the Japanese PC/WKS packaged software market. In an IDC survey from 1990 the market share of the Top 30 selling software packages in Japan was dominated by office related programs like databases, Japanese word processors, spreadsheets and accounting software (see page 52, figure 2.31,[19]). These four software types represented about 69 % of the software packages sold in Japan. An interesting fact is that game software would be under the Top 3 software products if you considered it as a software package.

A Growing Market

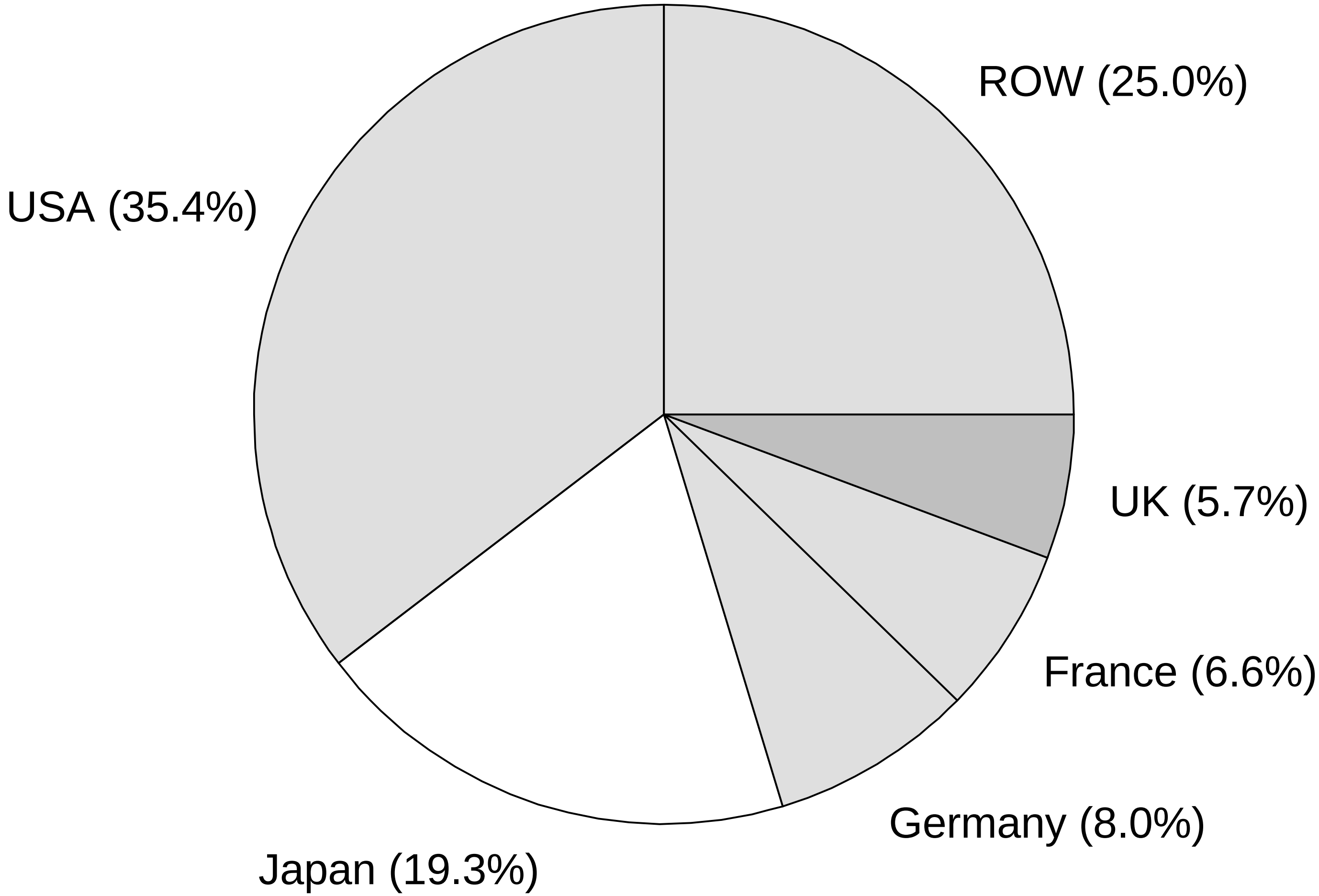
The Japanese software industry looks as if it was the only growing homogeneous market in the next couple of years. Especially the booming PC/WKS with the rocketing notebook market seems to be an attractive market for software services, products and packages. Even if it is difficult to launch a product at the beginning, the reward will be even higher. Besides the decreasing American market the Japanese market has to be considered as one of the big chances for software companies today.

Worldwide IT Market Share 1990



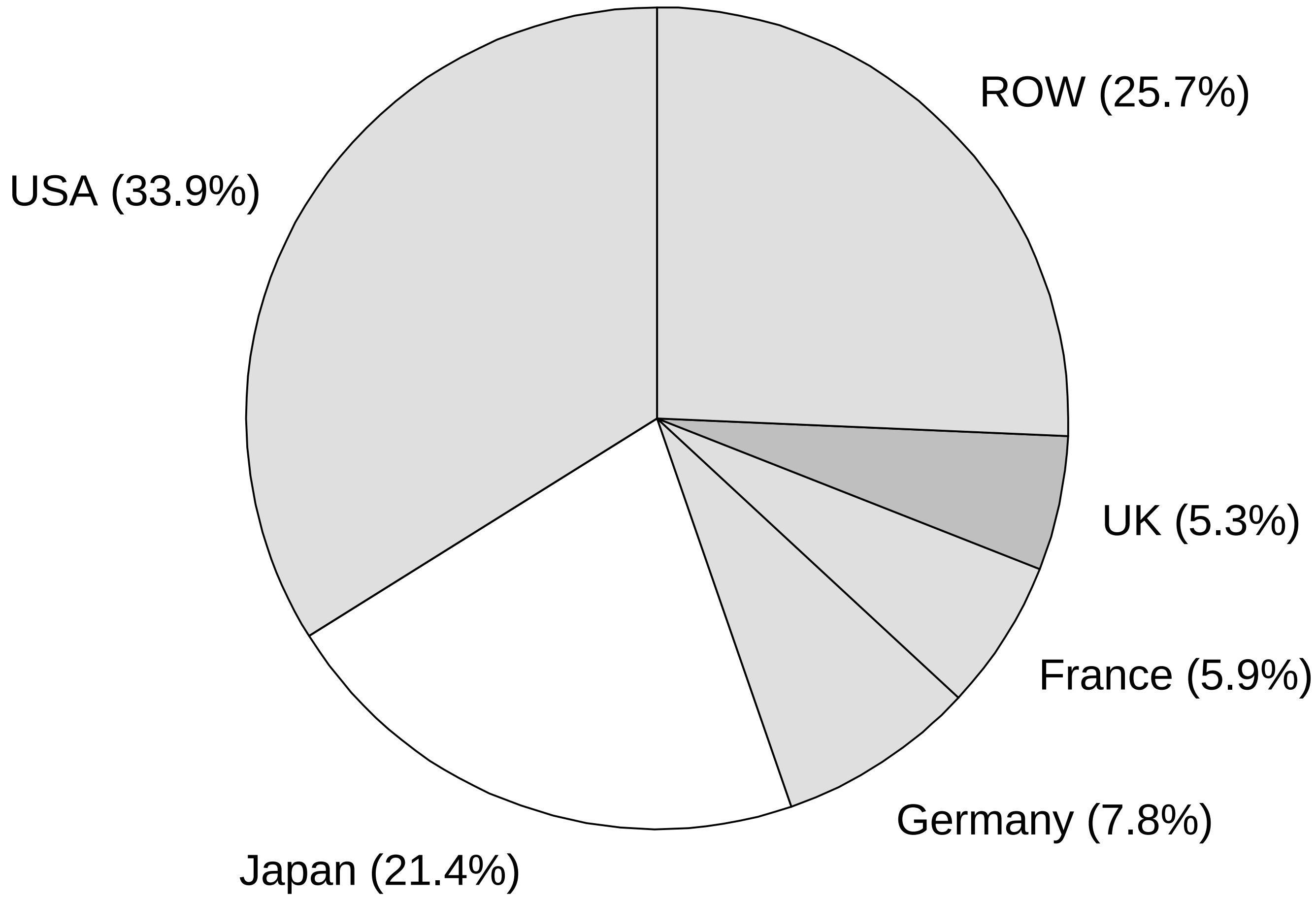
Source: IDC, 1991

Worldwide IT Market Share 1991



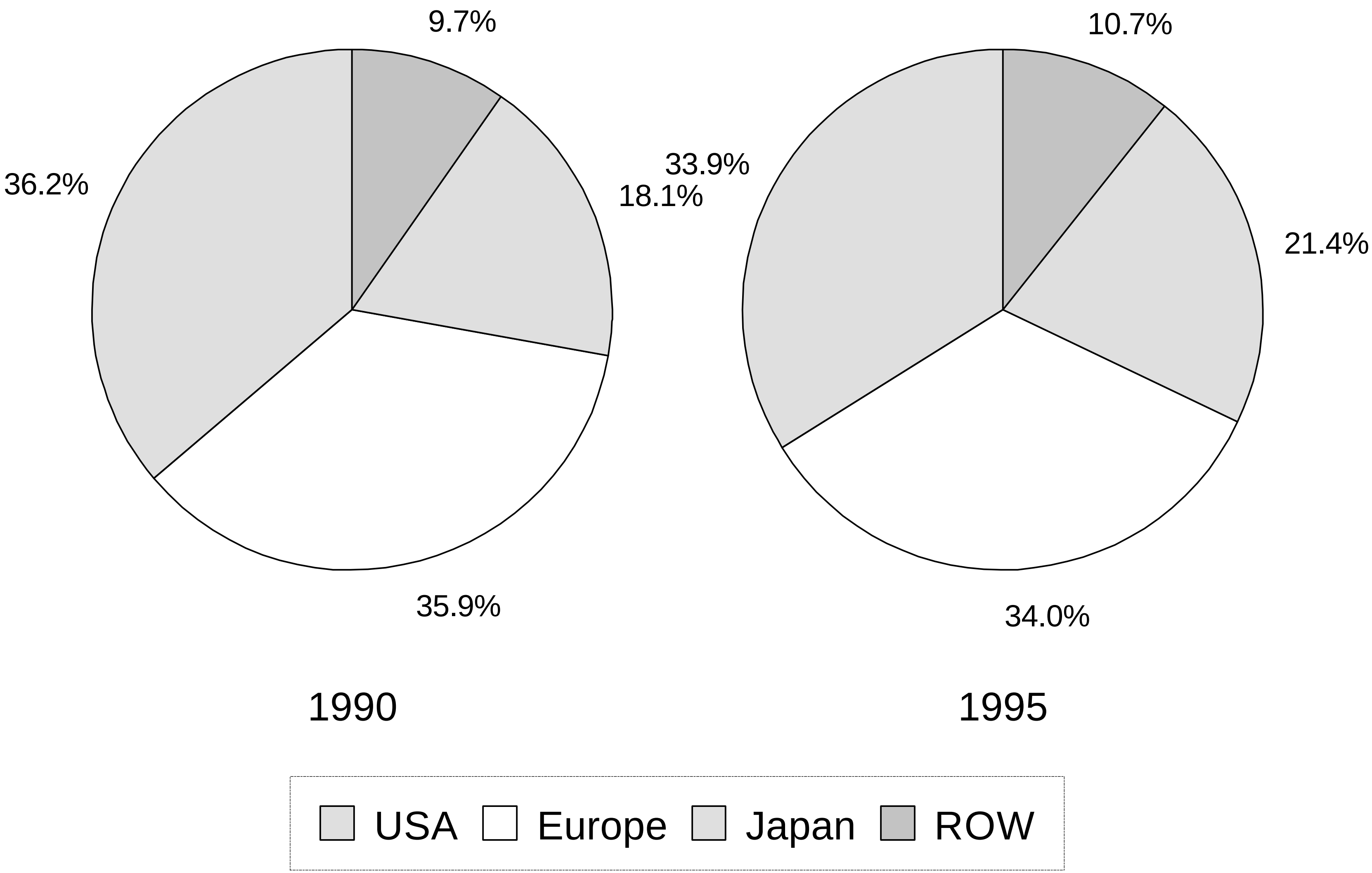
Source: IDC, 1991

Worldwide IT Market Share 1995



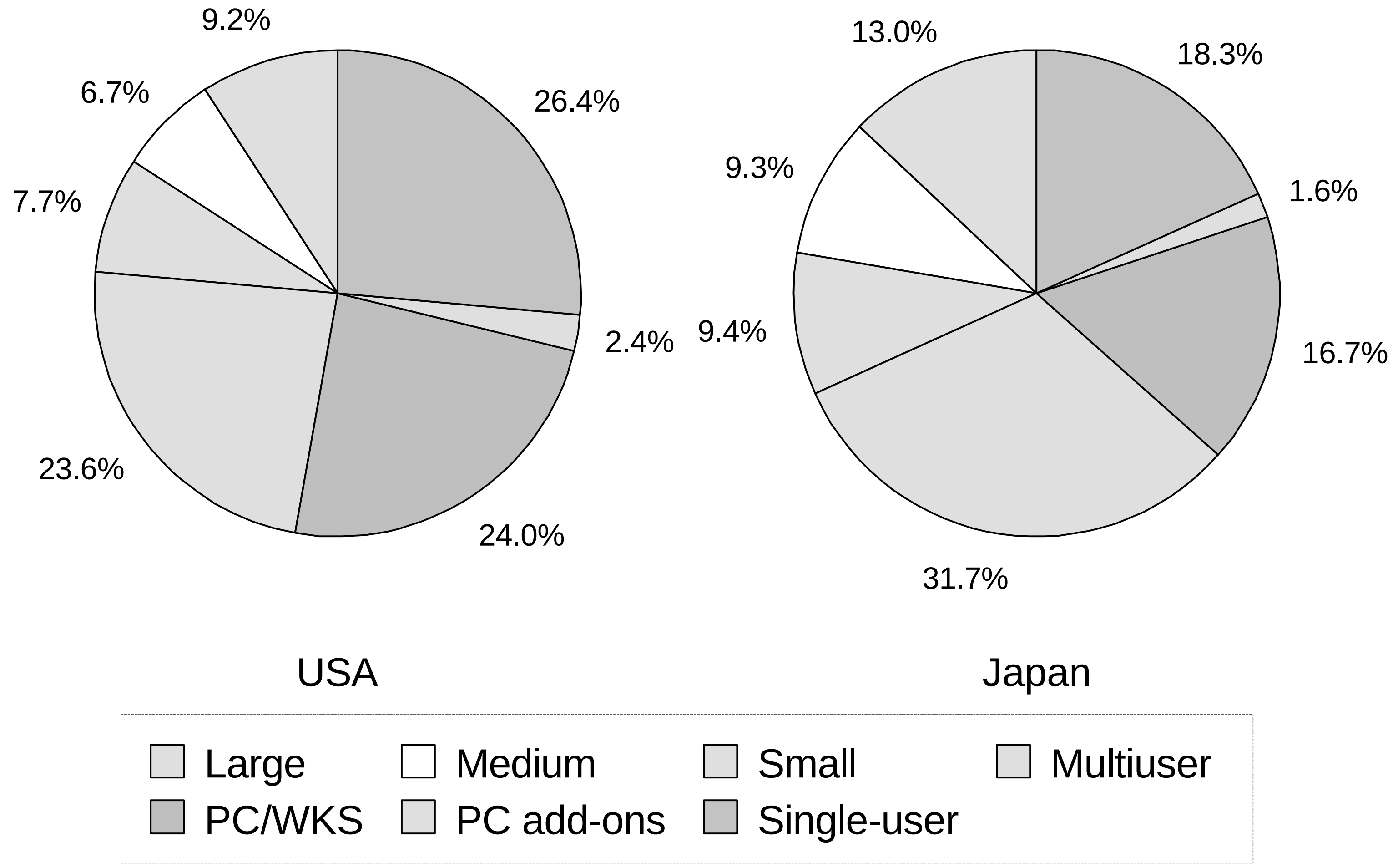
Source: IDC, 1991; estimated

Worldwide IT Market by IDC Regions



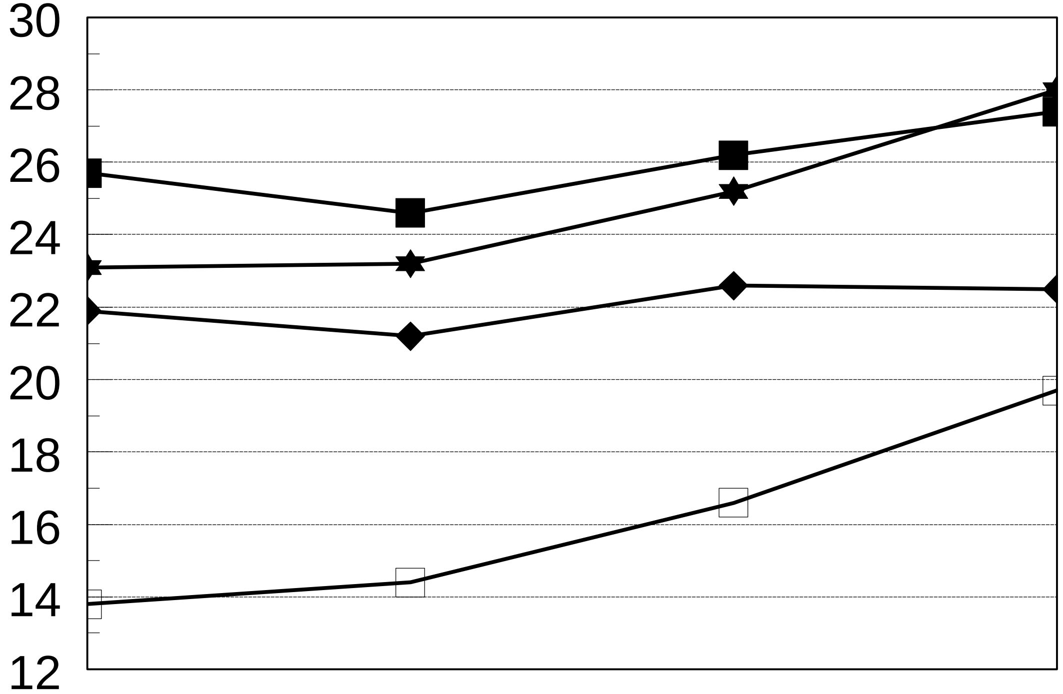
Source: IDC, 1991,percentage of World IT Market

Proportions of IT Market 1990
Hardware in USA vs Japan



Source: IDC, 1991

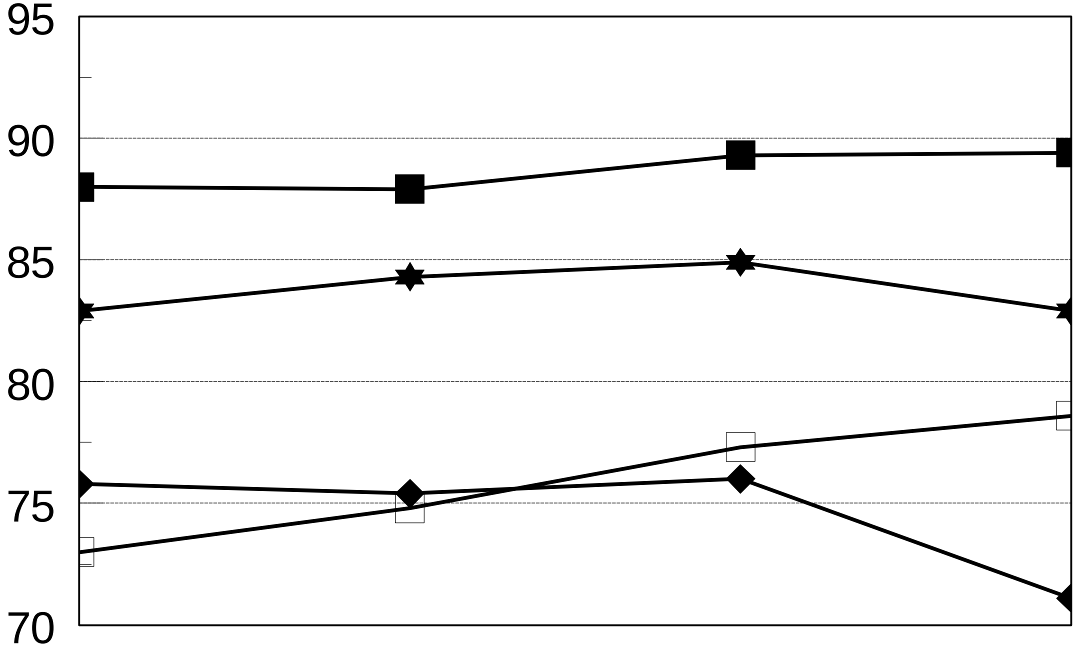
Japan's Proportions of World IT Market 1990
Hardware



	1989	1990	1991	1995
Large	25.7	24.6	26.2	27.4
Medium	21.9	21.2	22.6	22.5
Small	23.1	23.2	25.2	28.0
PC/WKS	13.8	14.4	16.6	19.7

Source: IDC, 1991, percentage; forecast

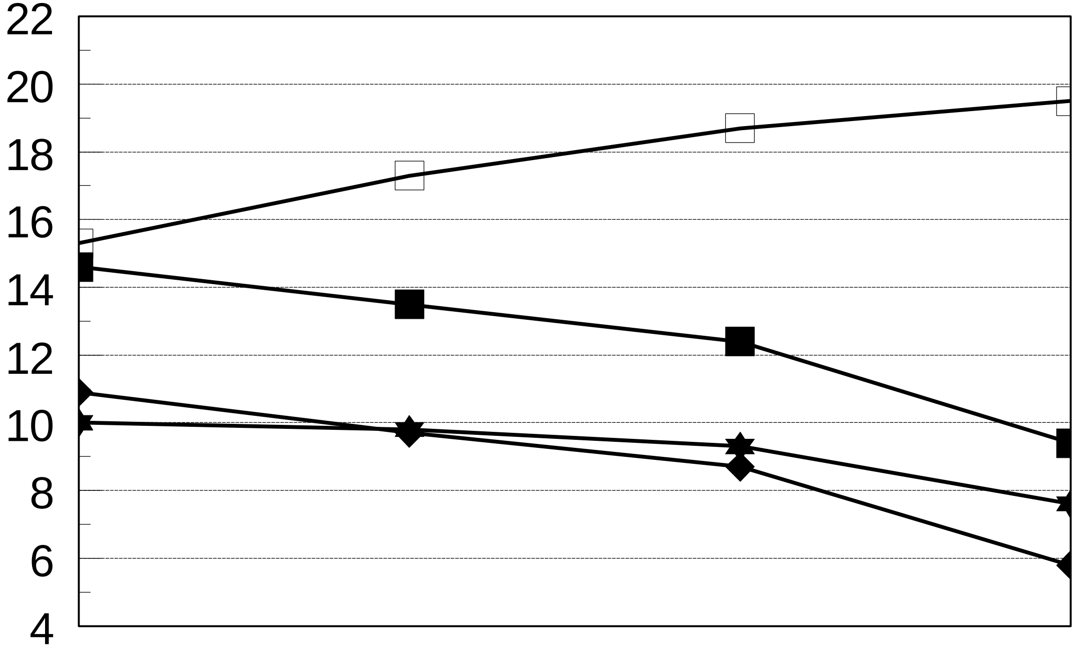
Japan's Proportions of Asia/Pacific IT Market 1990 Hardware



	1989	1990	1991	1995
Large	88.0	87.9	89.3	89.4
Medium	75.8	75.4	76.0	71.1
Small	82.9	84.3	84.9	82.9
PC/WKS	73.0	74.8	77.3	78.6

Source: IDC, 1991, percentage; forecast

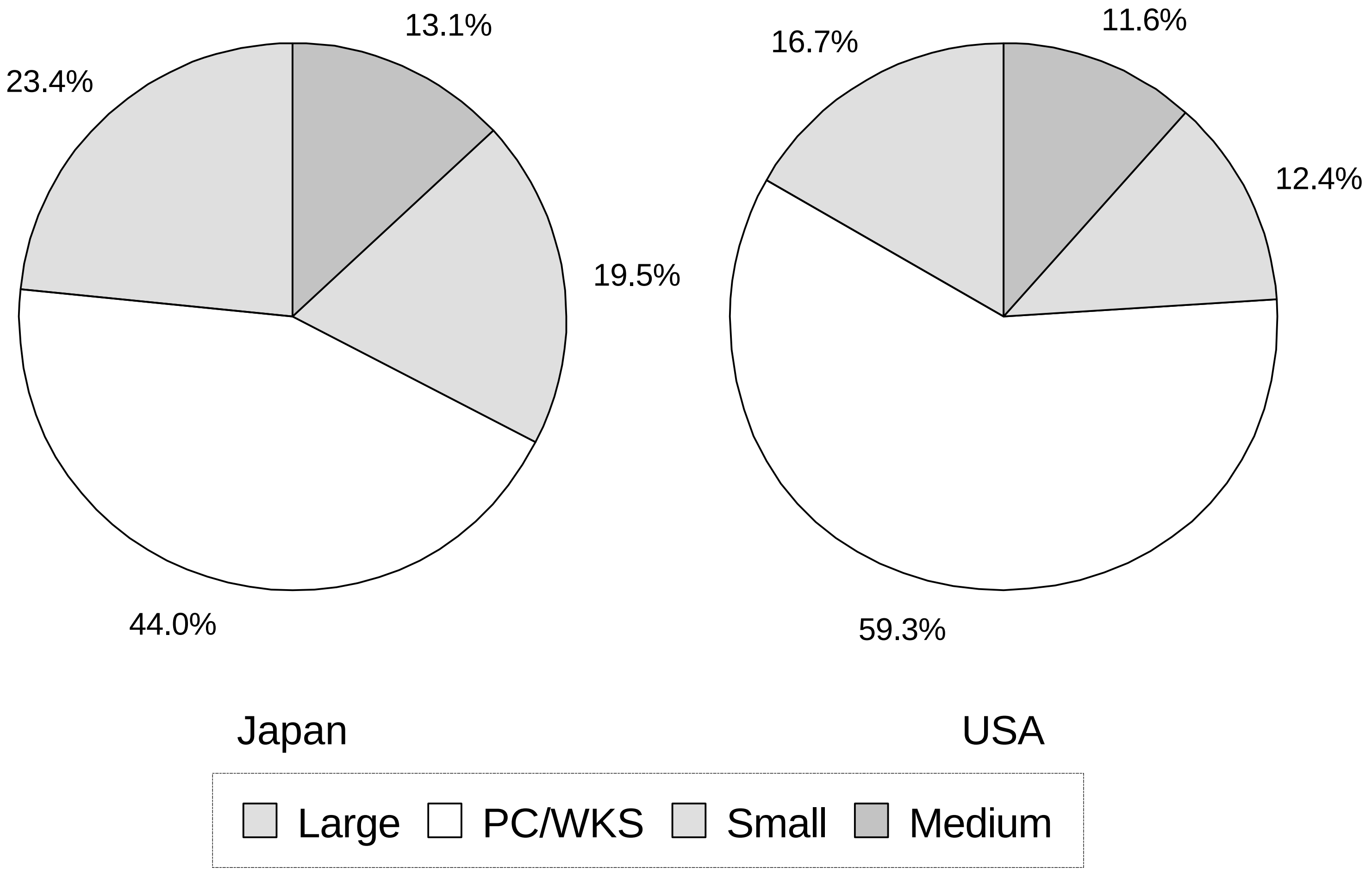
Proportions of IT Market 1990
Hardware in Japan



	1989	1990	1991	1995
Large	14.6	13.5	12.4	9.4
Medium	10.9	9.7	8.7	5.8
Small	10.0	9.8	9.3	7.6
PC/WKS	15.3	17.3	18.7	19.5

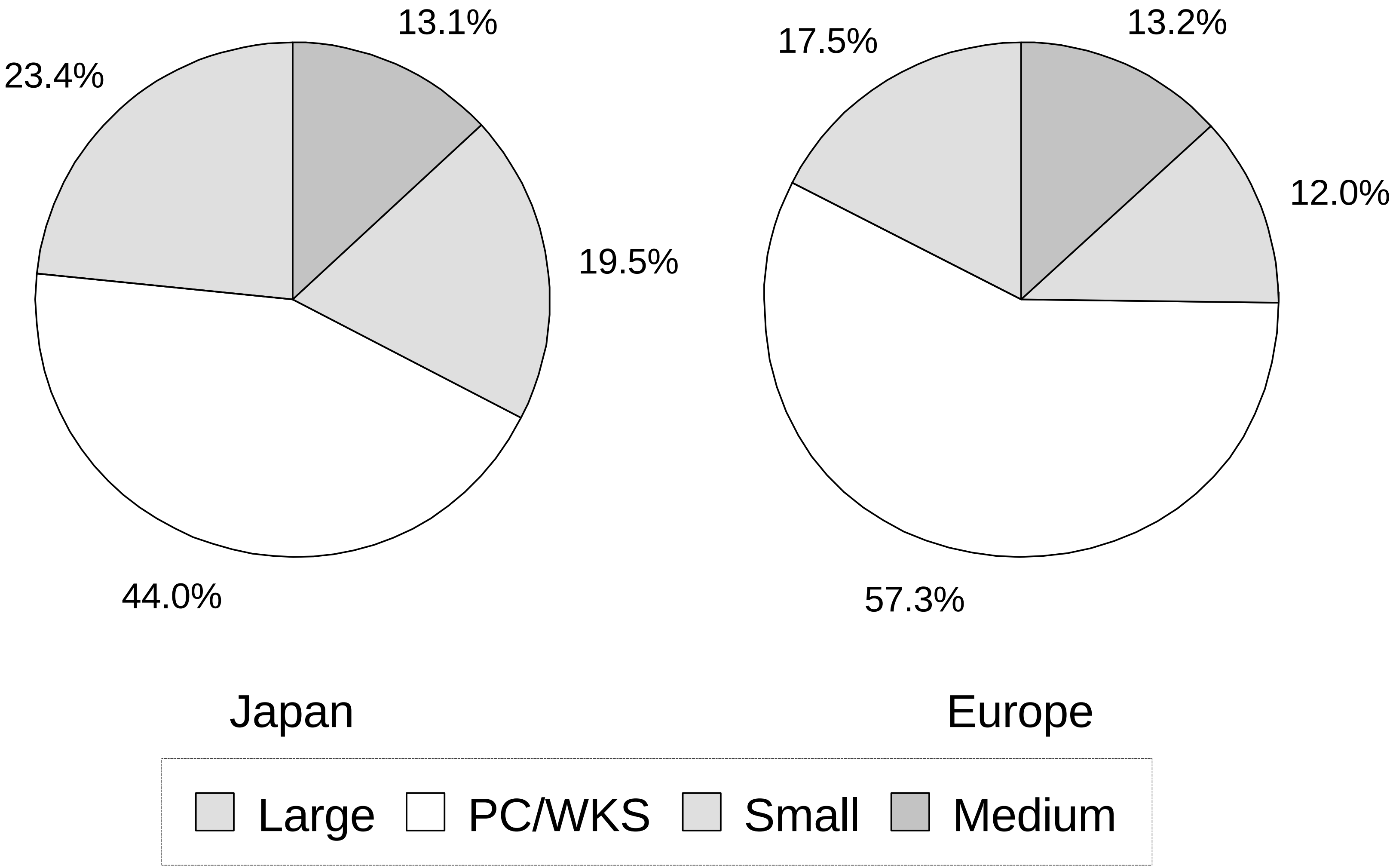
Source: IDC, 1991, percentage; forecast

Major IT Markets 1995
Japan vs. USA



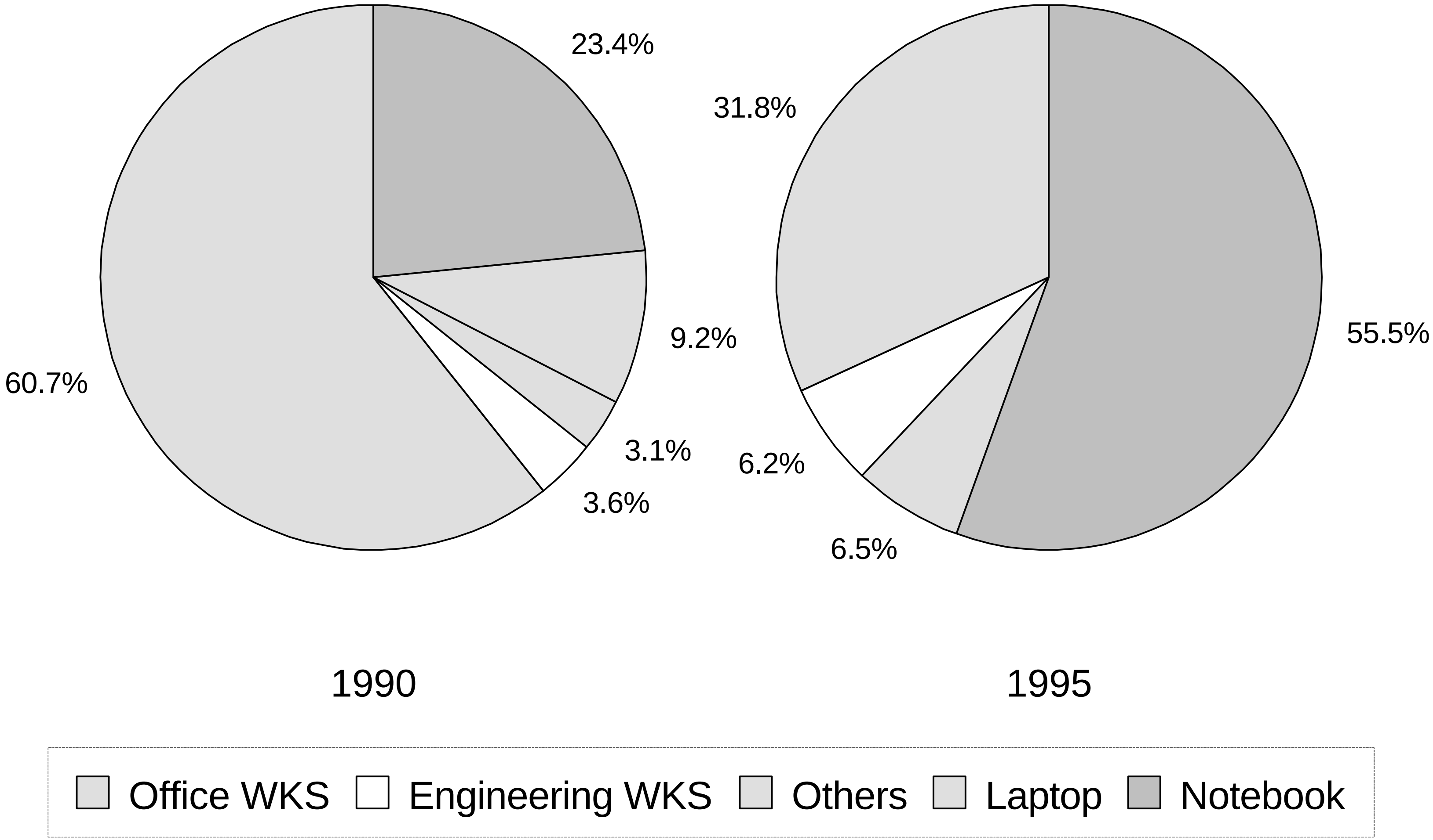
Source: IDC, 1991,percentage; forecast

Major IT Markets 1995
Japan vs. Europe



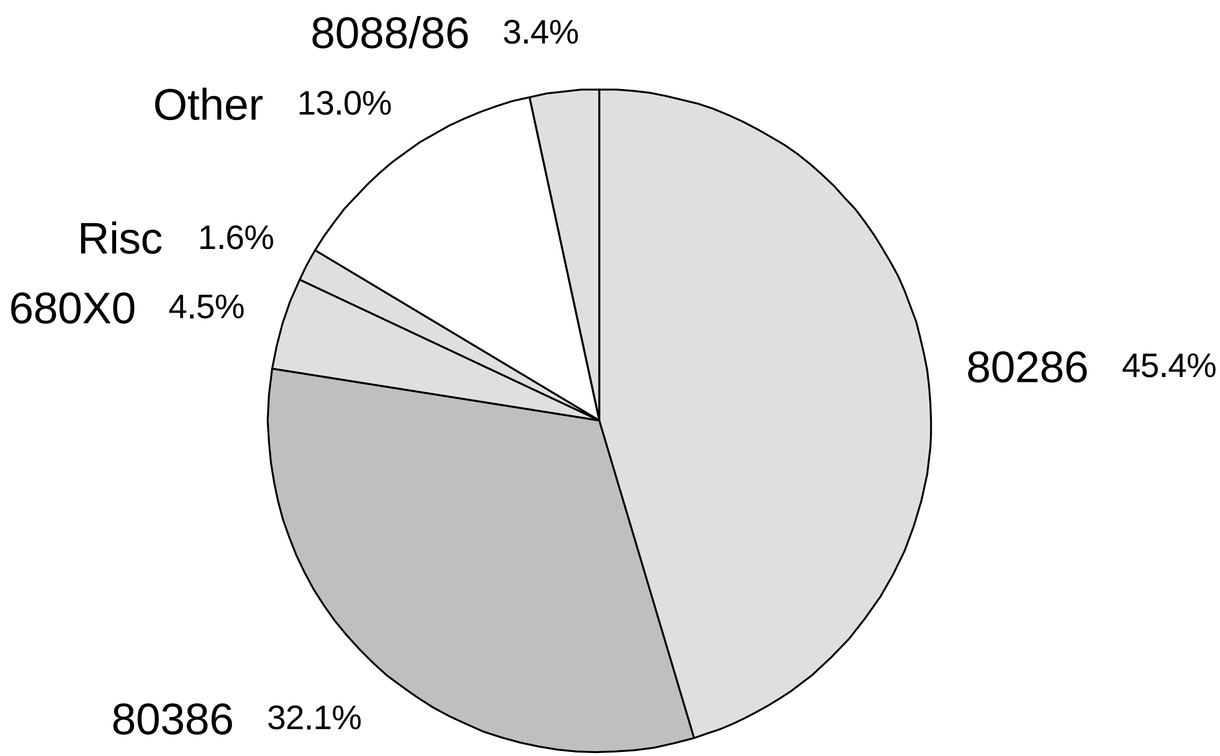
Source: IDC, 1991,percentage of IT Market

Projected PC Shipment in Japan by Type



Source: IDC, 1991; forecast for 1995

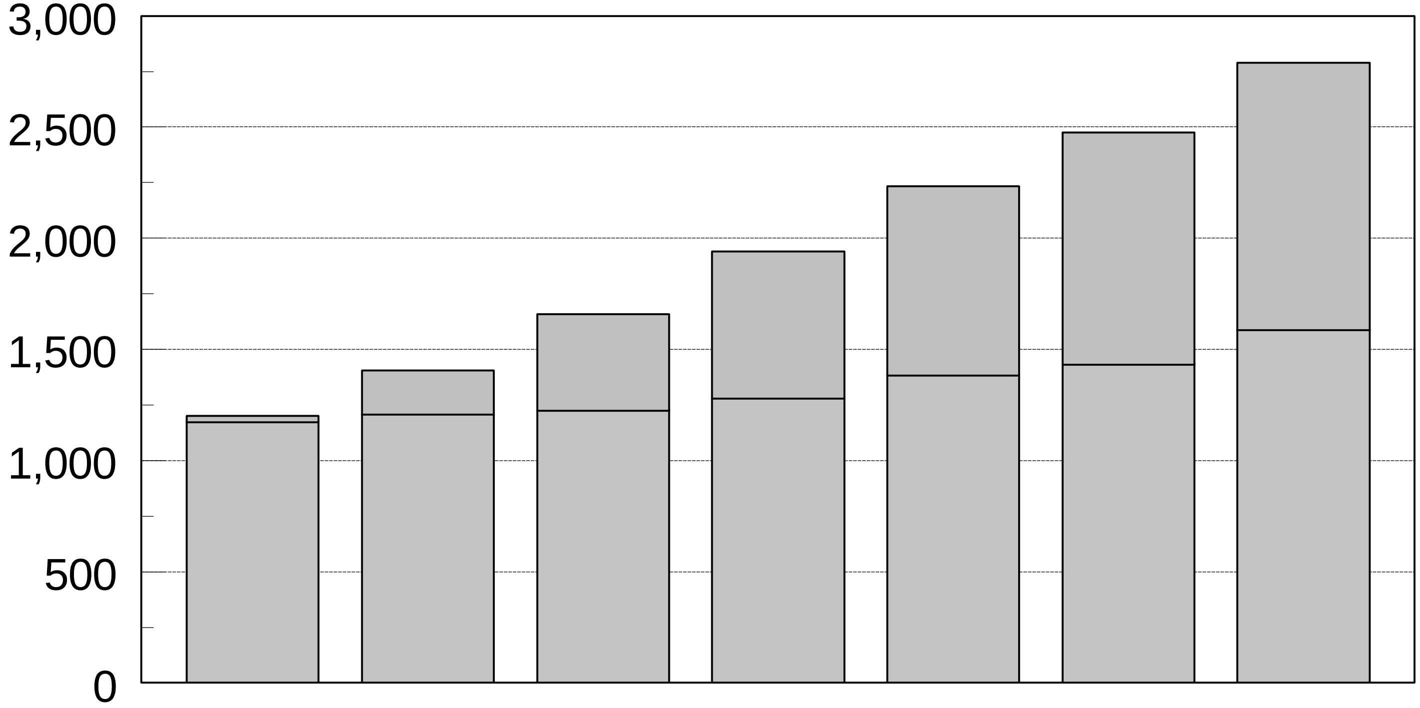
PC Shipment in Japan by CPU Type 1990



CPU type

Source: IDC, 1991, in percentage

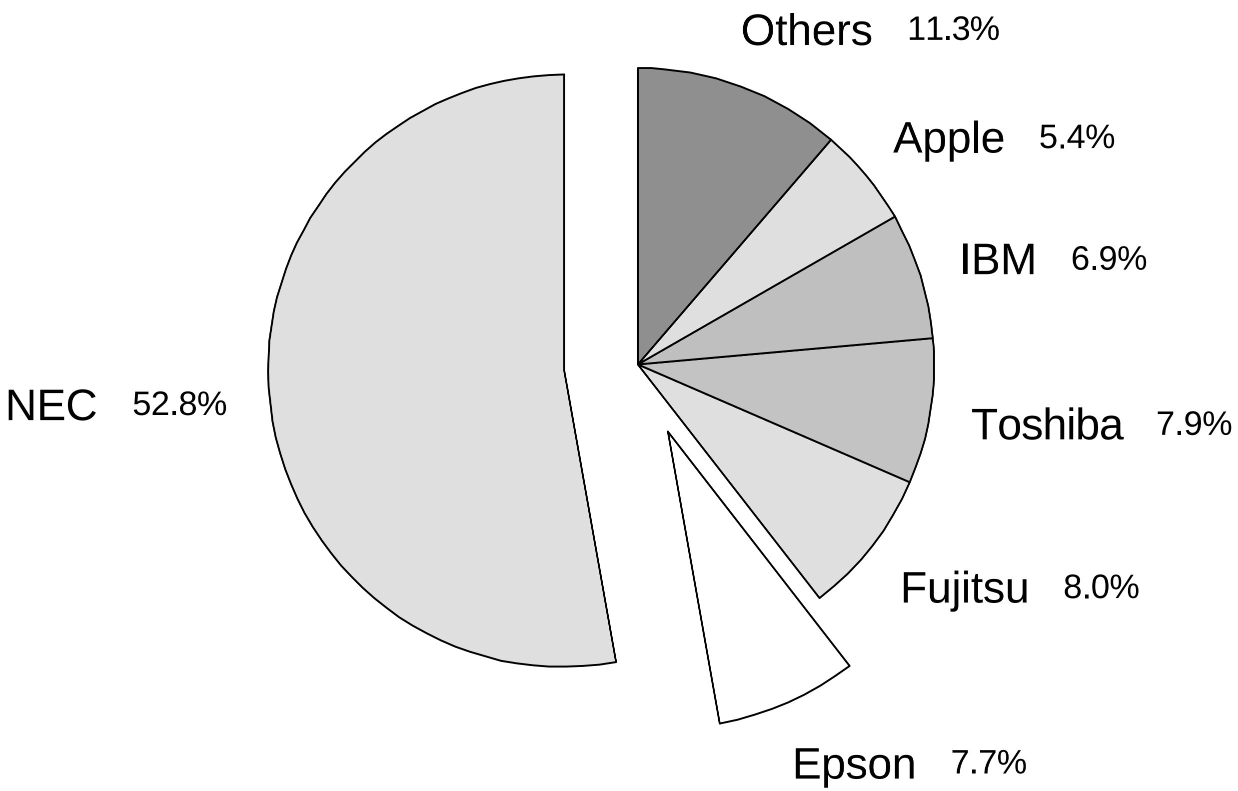
Shipment Trends of PC & Laptop Computers



	1987	1988	1989	1990	1991	1992	1993
PC	1,176	1,210	1,229	1,281	1,386	1,436	1,590
Laptop	24	197	432	660	850	1,040	1,200

Source: JCQ, per 1000 Computers; forecast

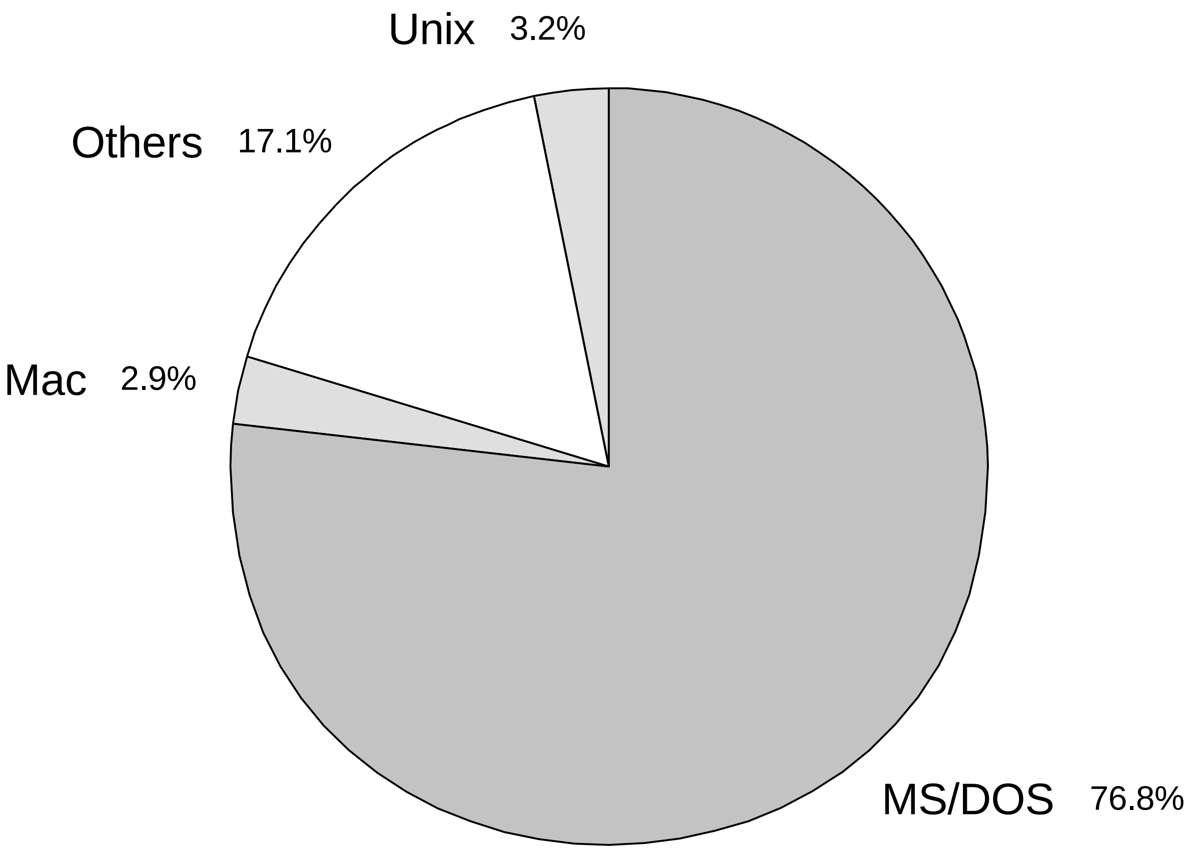
PC Market Share in Japan



1991

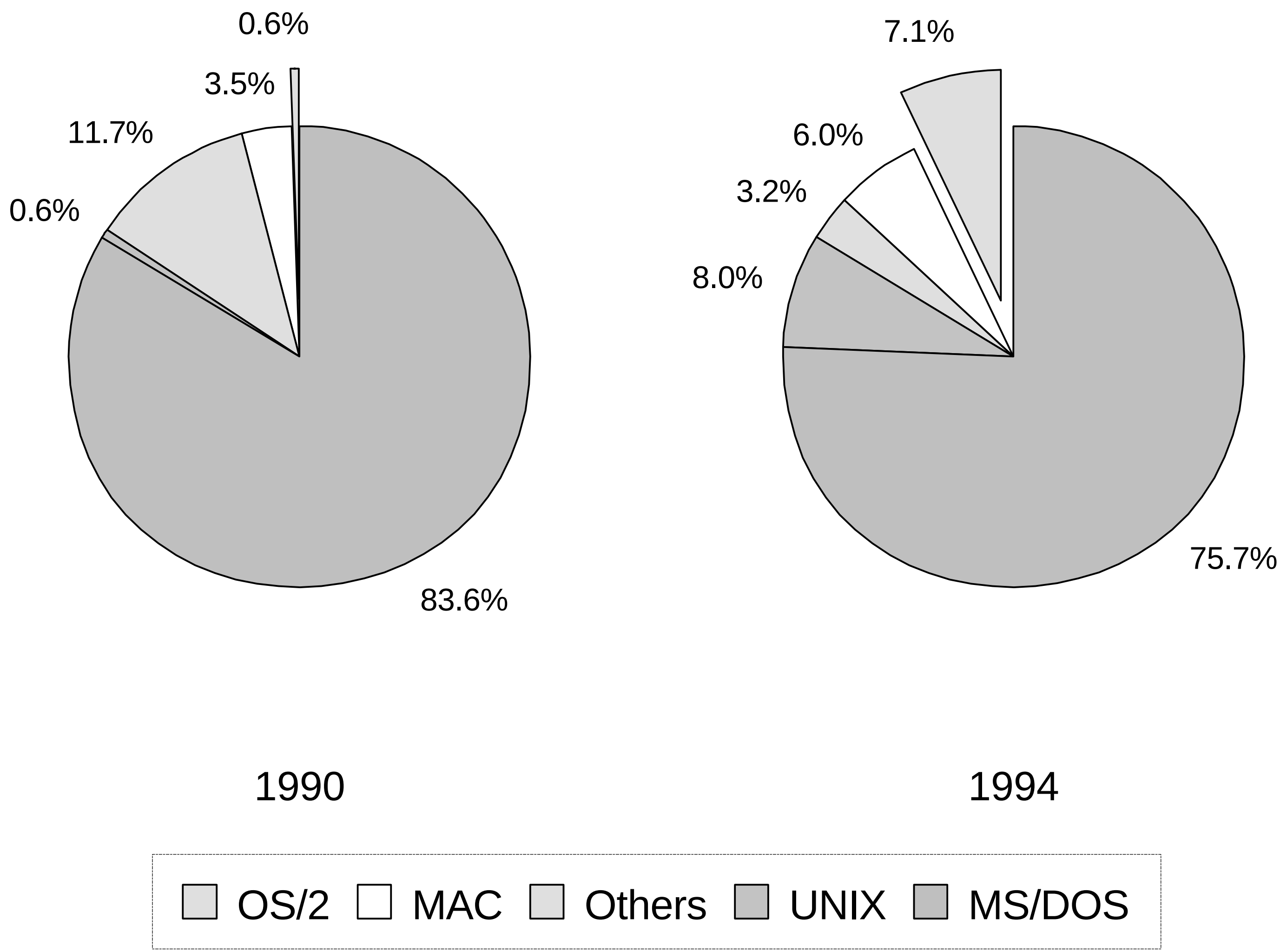
Sources: NEC, in percantage; estimated

PC Shipment in Japan by OS Type
1990



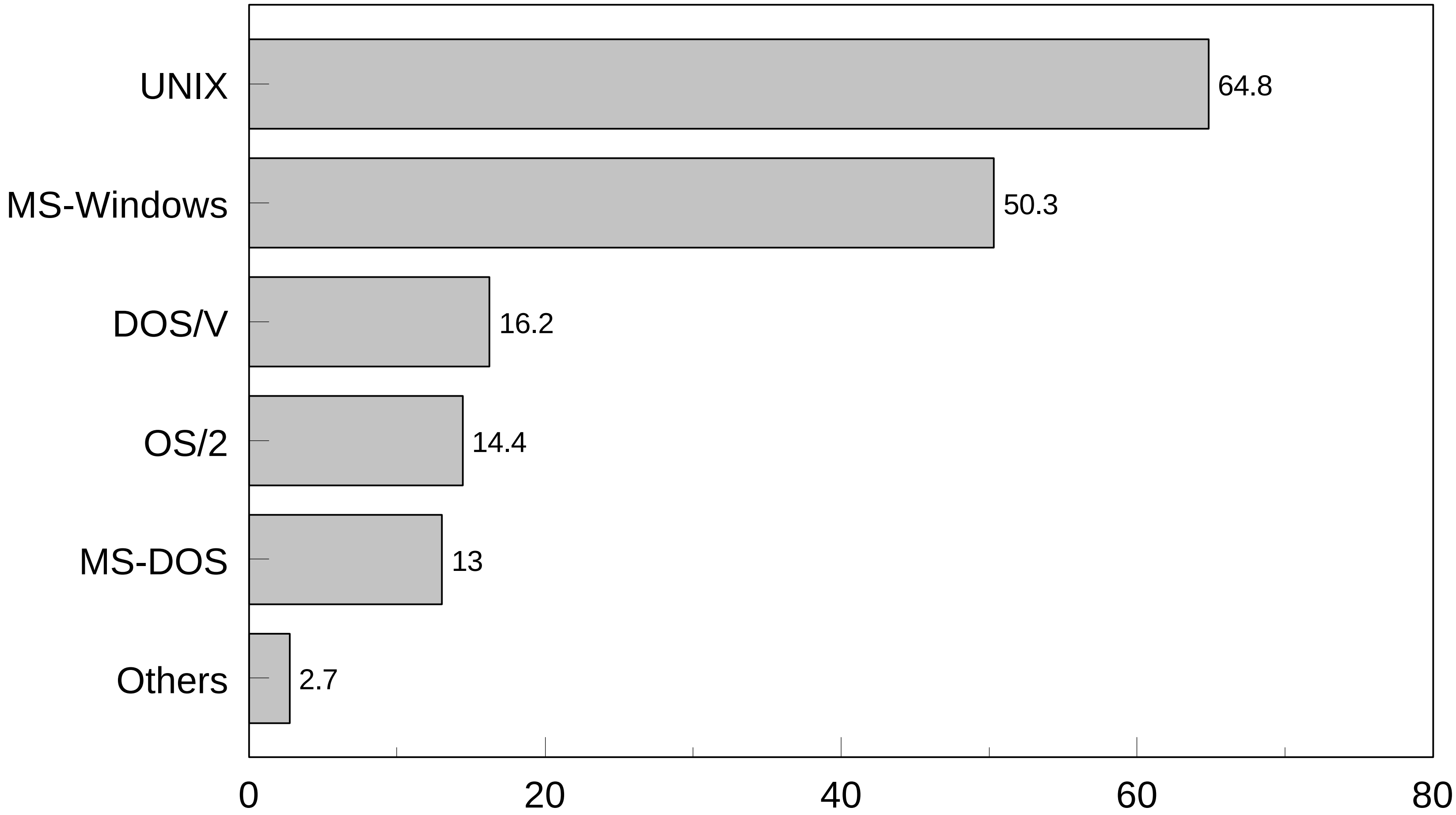
Source: IDC, 1991, in percentage

PC Market by OS



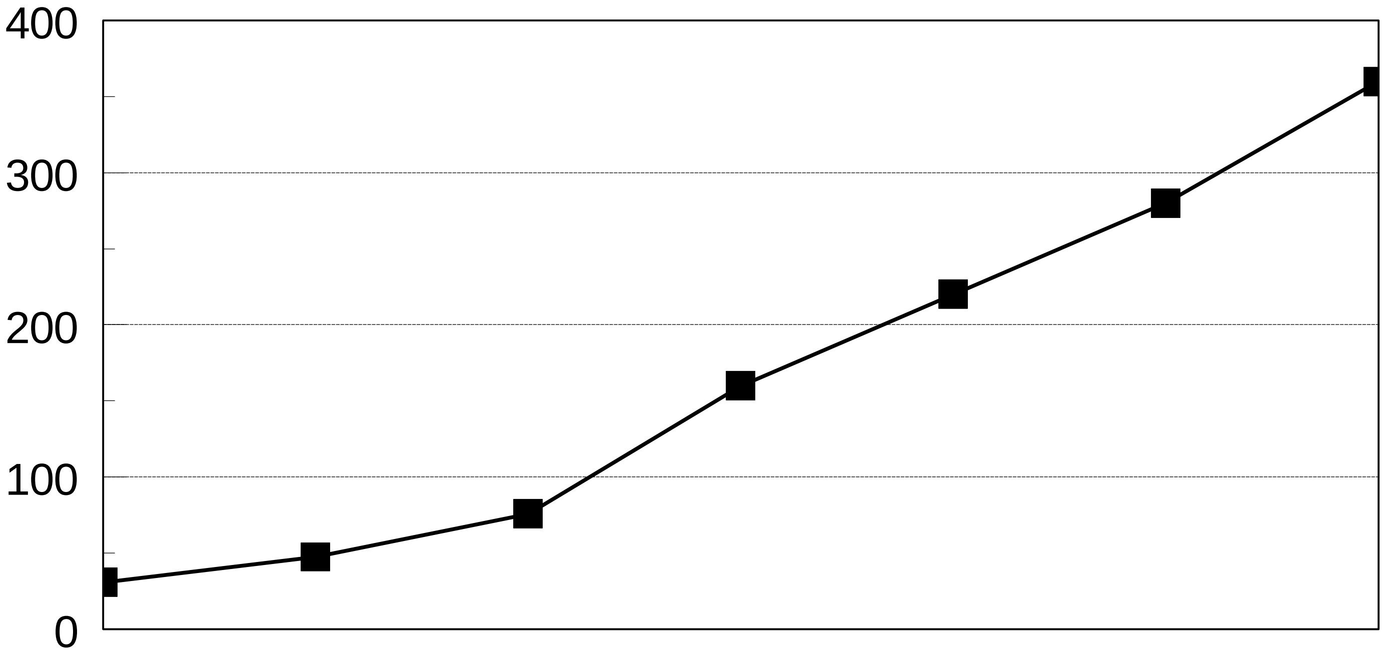
Sources: AEA, IDC, in percantage, estimated

Expanding OS Market Share
Forecast for Japan



Source: Monthly Software Industry Report

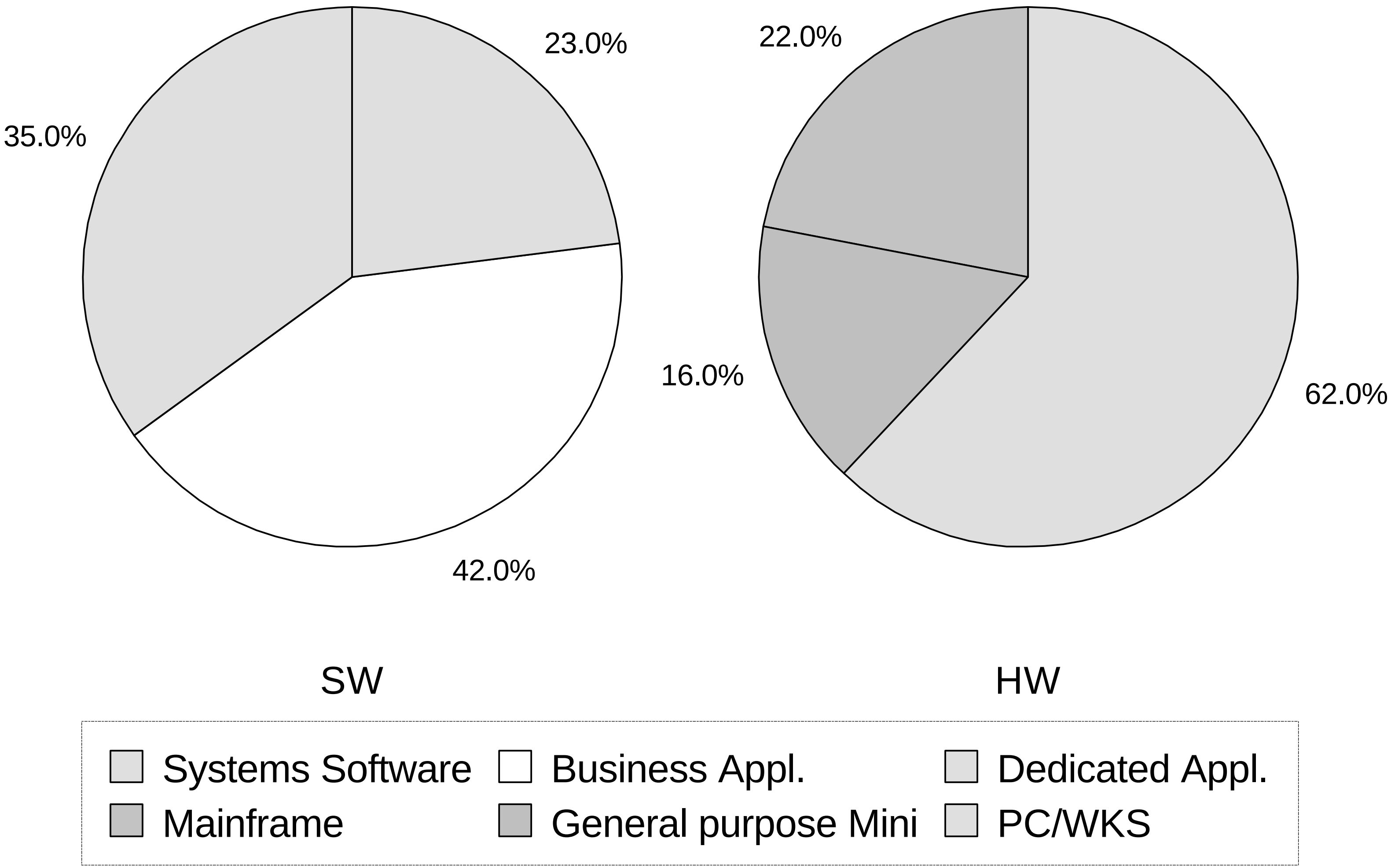
WKS Shipment in Japan
1988 - 1994



1988	1989	1990	1991	1992	1993	1994
30.7	47.5	75.8	160.0	220.0	280.0	360.0

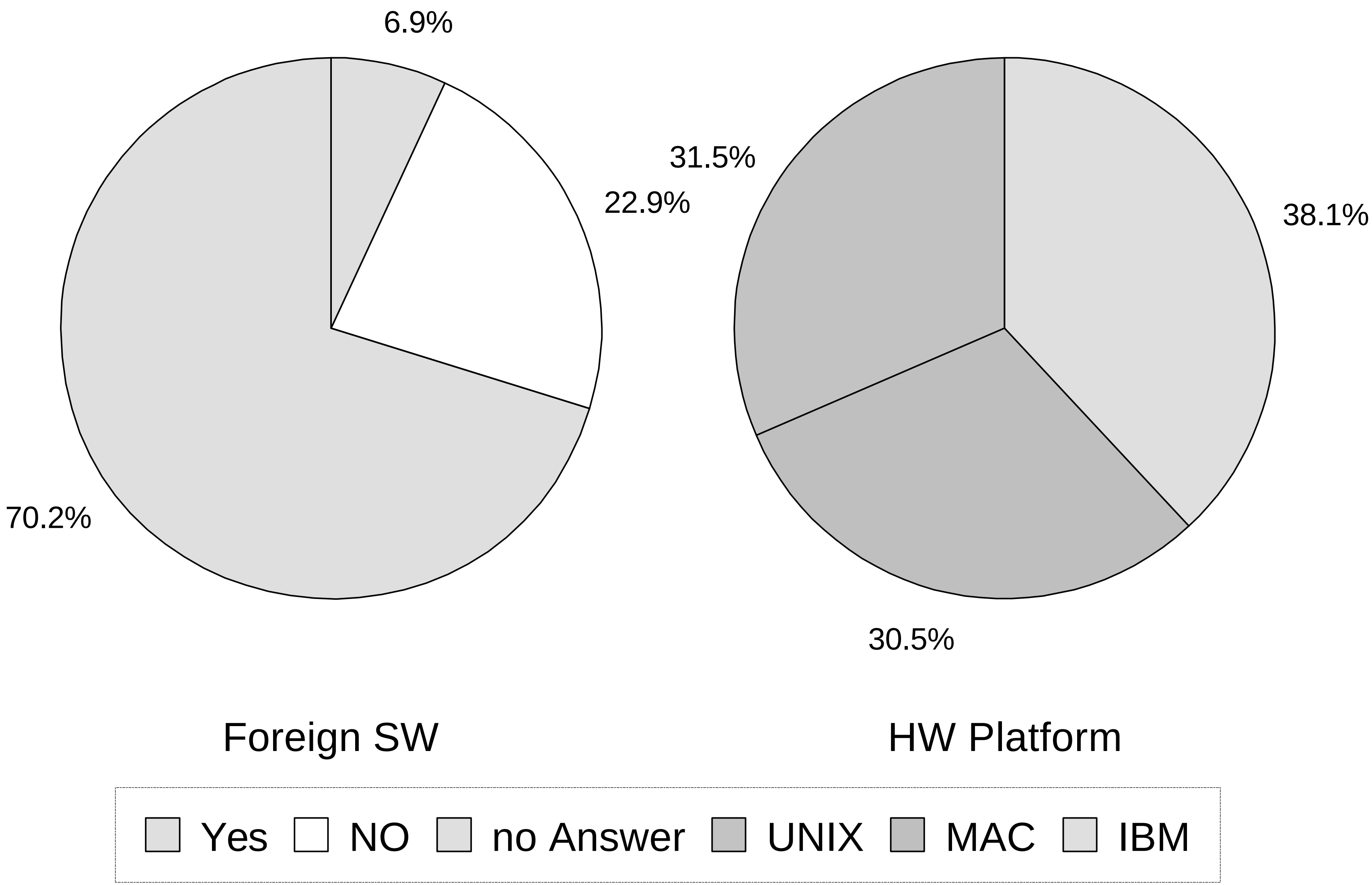
Source: various, per 1000 Units; forecast

Software Products & Hardware Platforms in Japan



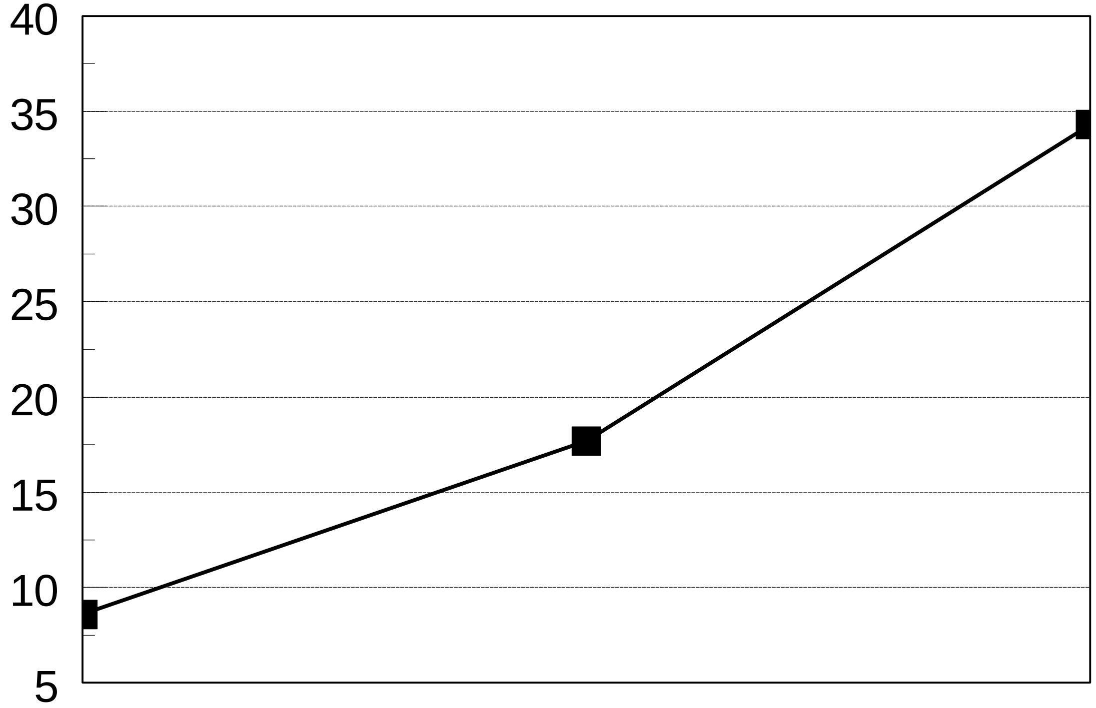
Sources:JISA, SOFTIC, in percentage

Interest in foreign SW on HW Platforms



Sources: JPL

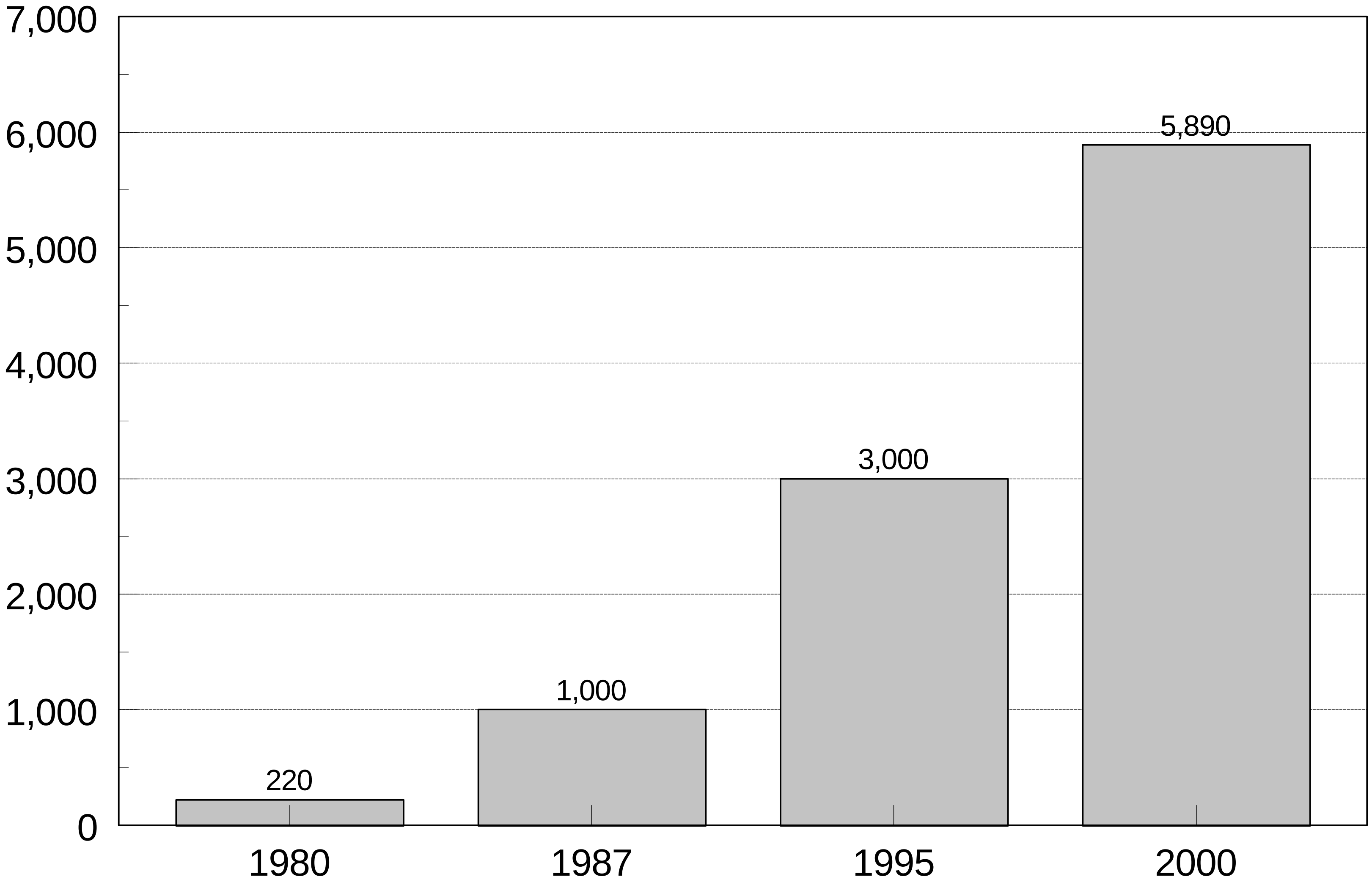
Software Demand Forecast 1990's



1990	1995	2000
8.6	17.7	34.3

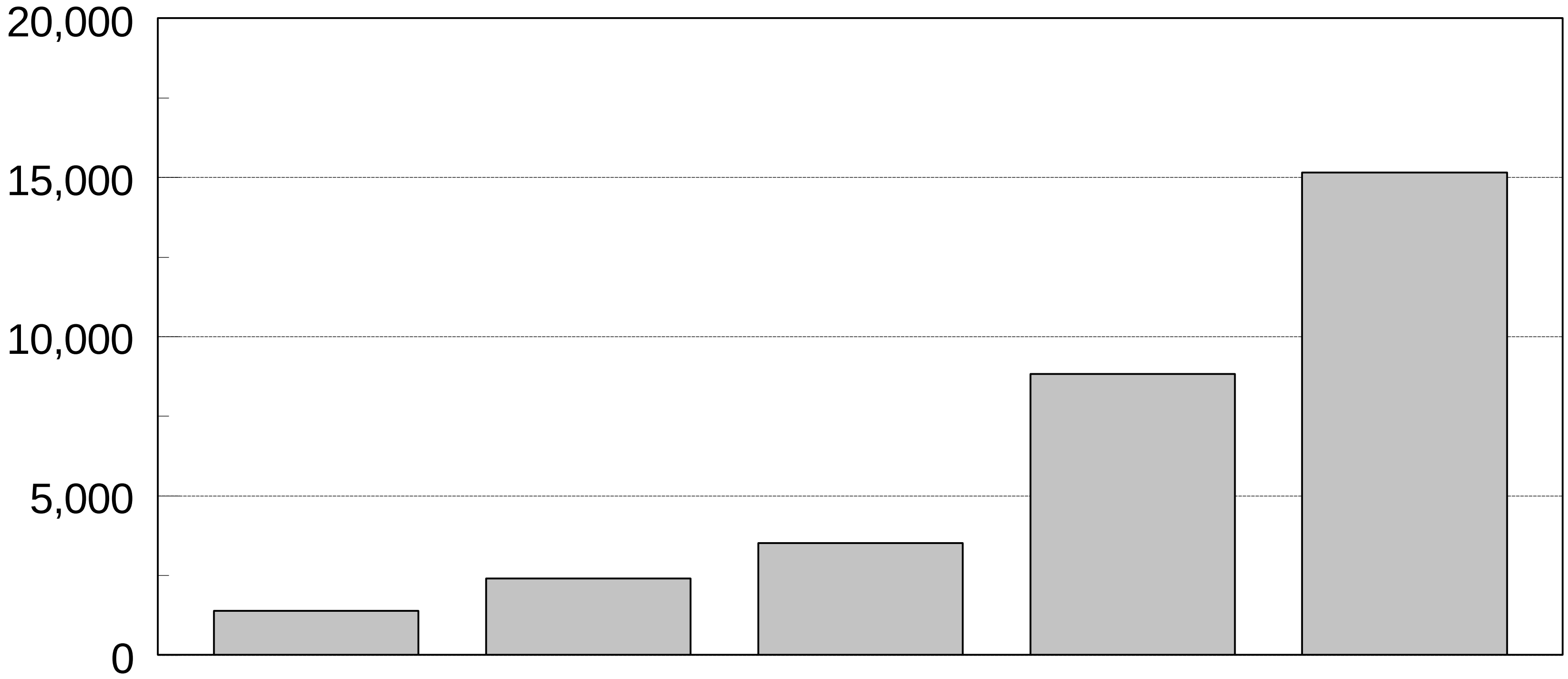
Source: JQL (MITI Survey), Trillions of \

Projection of Computer Software Market



Source: Jetro, Units : Billion \,estimated

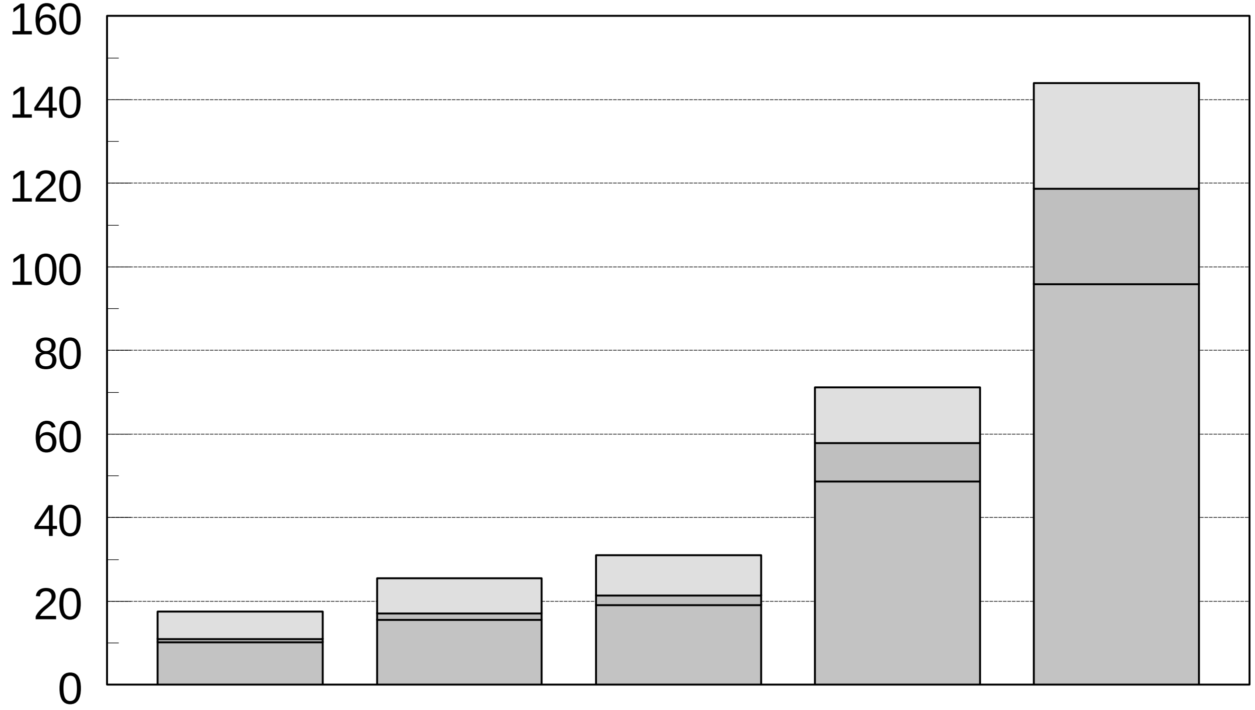
Software Products Trends in Japan



1987	1988	1989	1995	2000
1,406	2,421	3,532	8,841	15,158

Sources:JISA, in 100 million \, forecast

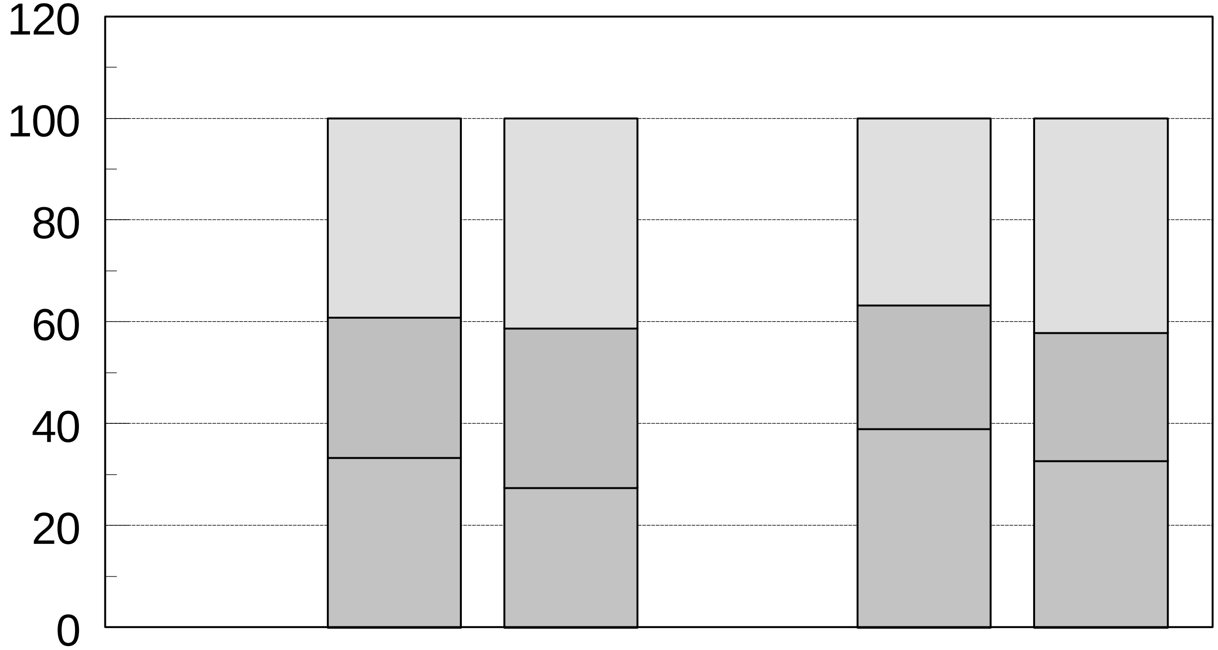
Type of Software Product Development



	1987	1988	1989	1992	1994
Independently	10.3	15.7	19.3	48.9	96.0
Developer	0.8	1.6	2.3	9.1	22.9
Imported	6.5	8.2	9.5	13.2	25.1

Sources:JISA, in 100 million \

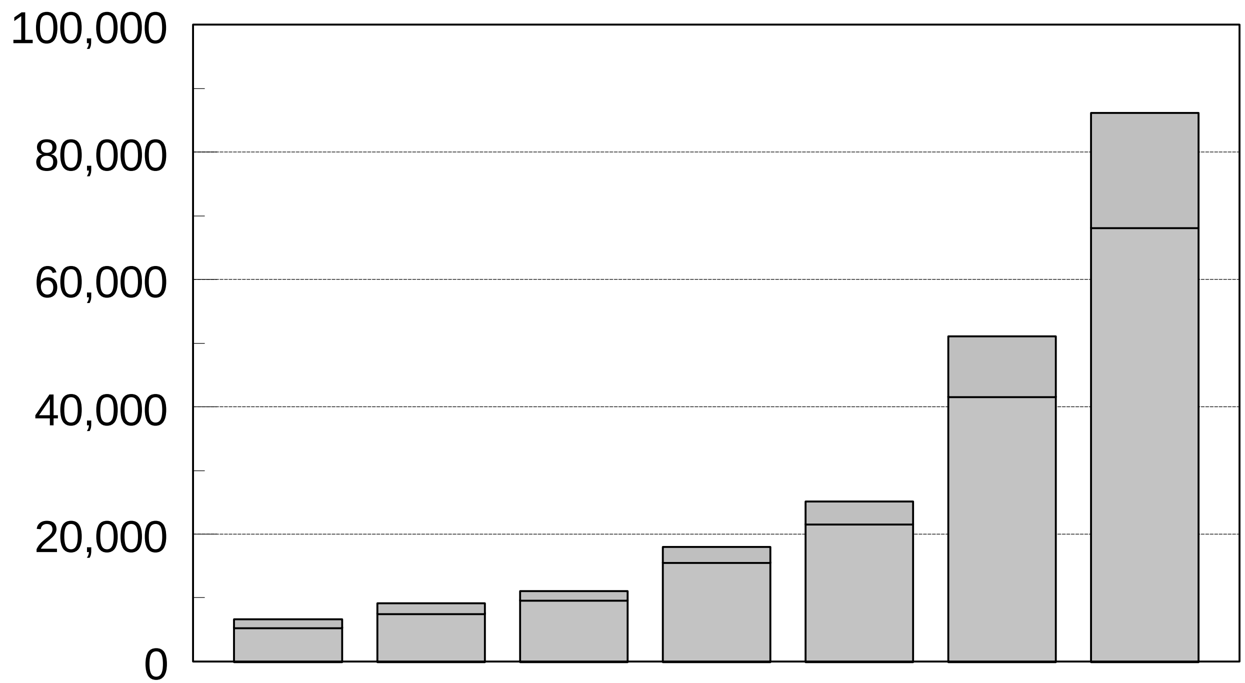
Comparison of Software Products Market
USA vs. Japan (1990 and 1995)



		USA	1990	1995	Japan	1990	1995
System/Utilities			33.4	27.5		39.1	32.8
Application Tools			27.6	31.3		24.3	25.2
Application Solution			39.0	41.2		36.6	42.0

Source : IDC 1991, in percentage; forecast

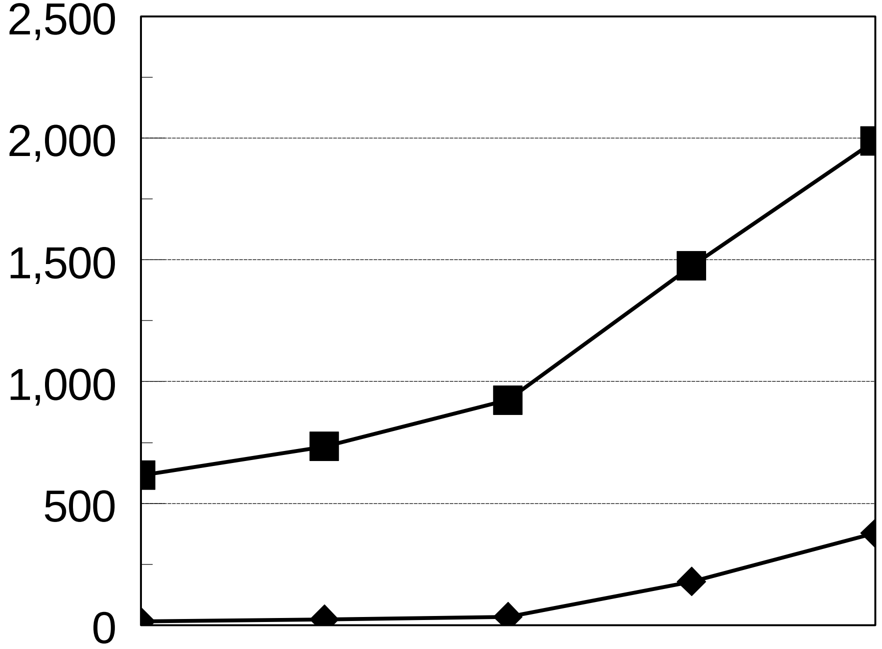
Software development & Programming



	1985	1986	1987	1988	1989	1995	2000
Custom Software	5,360	7,567	9,639	15,571	21,593	41,585	68,137
Software Products	1,220	1,560	1,406	2,421	3,532	9,520	18,100

Sources:JISA, MITI, Units : 100 Million \
estimated figures

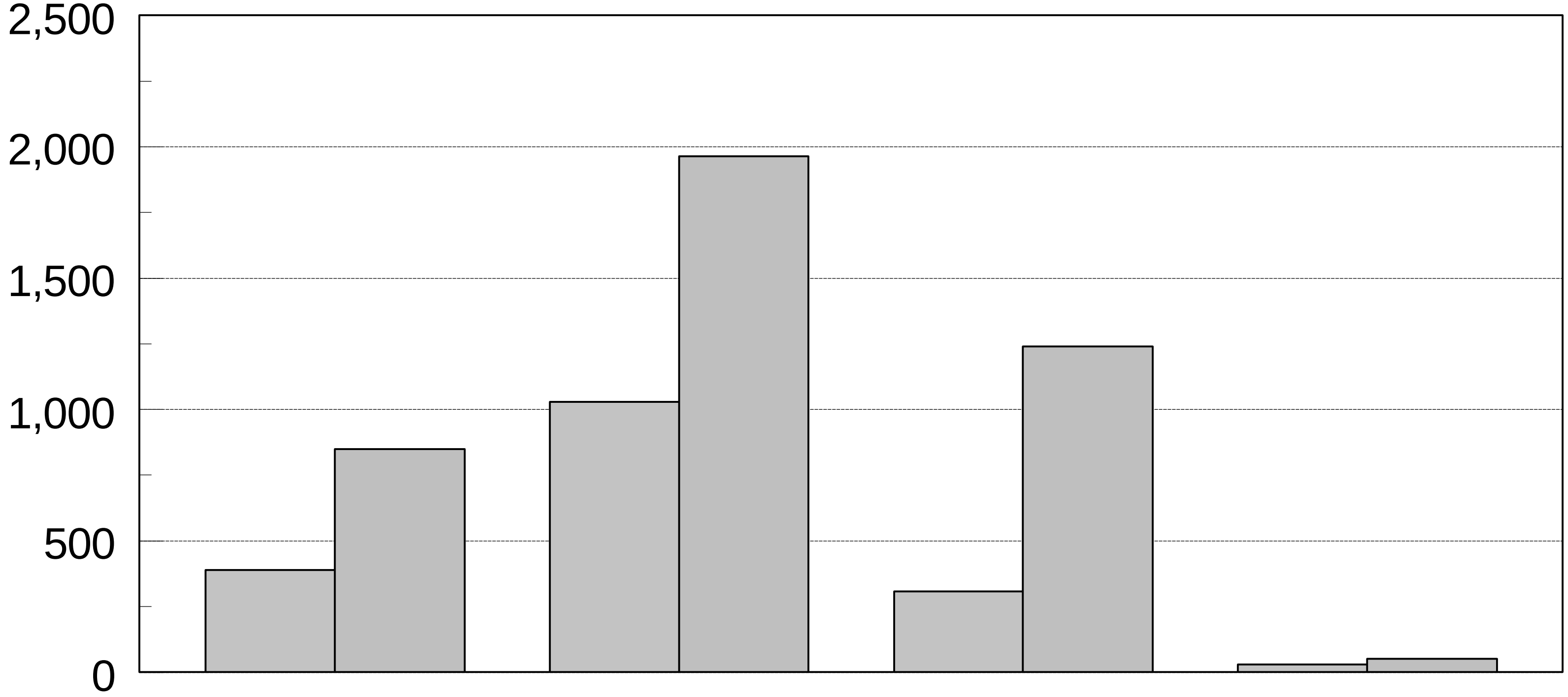
Custom Software & Software Products in Software Development Sales



	1987	1988	1989	1992	1994
Custom Software	615.5	733.9	925.1	1,475.2	1,989.5
Software Products	14.3	24.4	33.9	179.2	377.6

Sources:JISA, in 100 million \; forecast

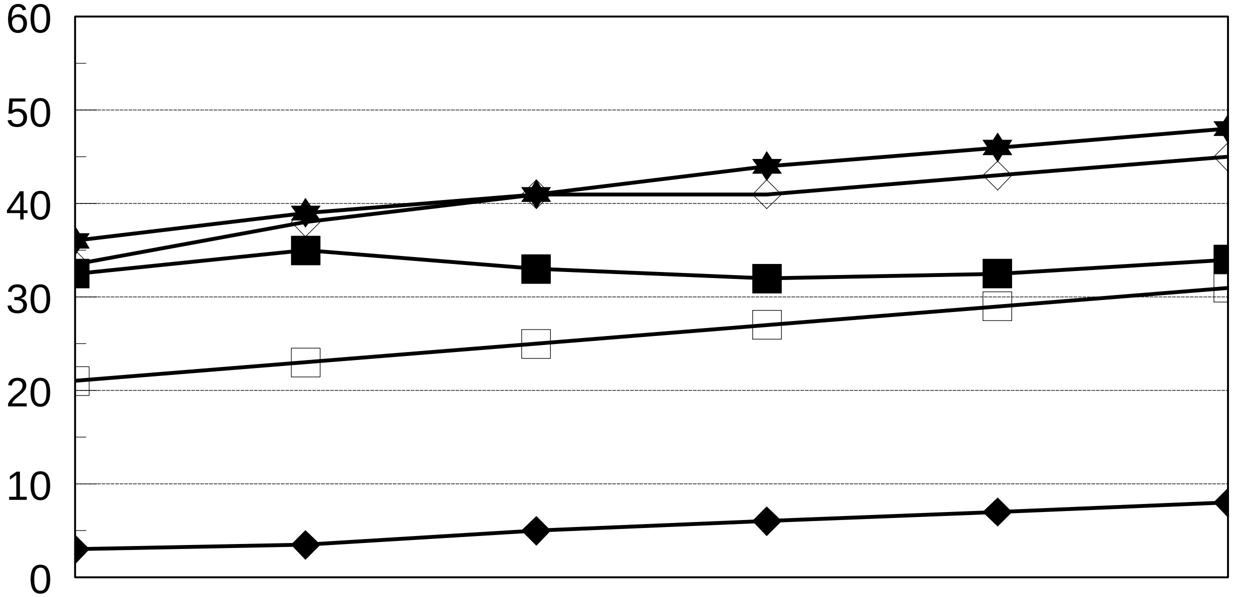
Software Service Market Forecast for 1993



	Packaged Software	Coustom Software	System Integration	Consulting
1988	390	1,030	310	30
1993	850	1,965	1,242	53

Source: IDC, in Billions of \; forecast

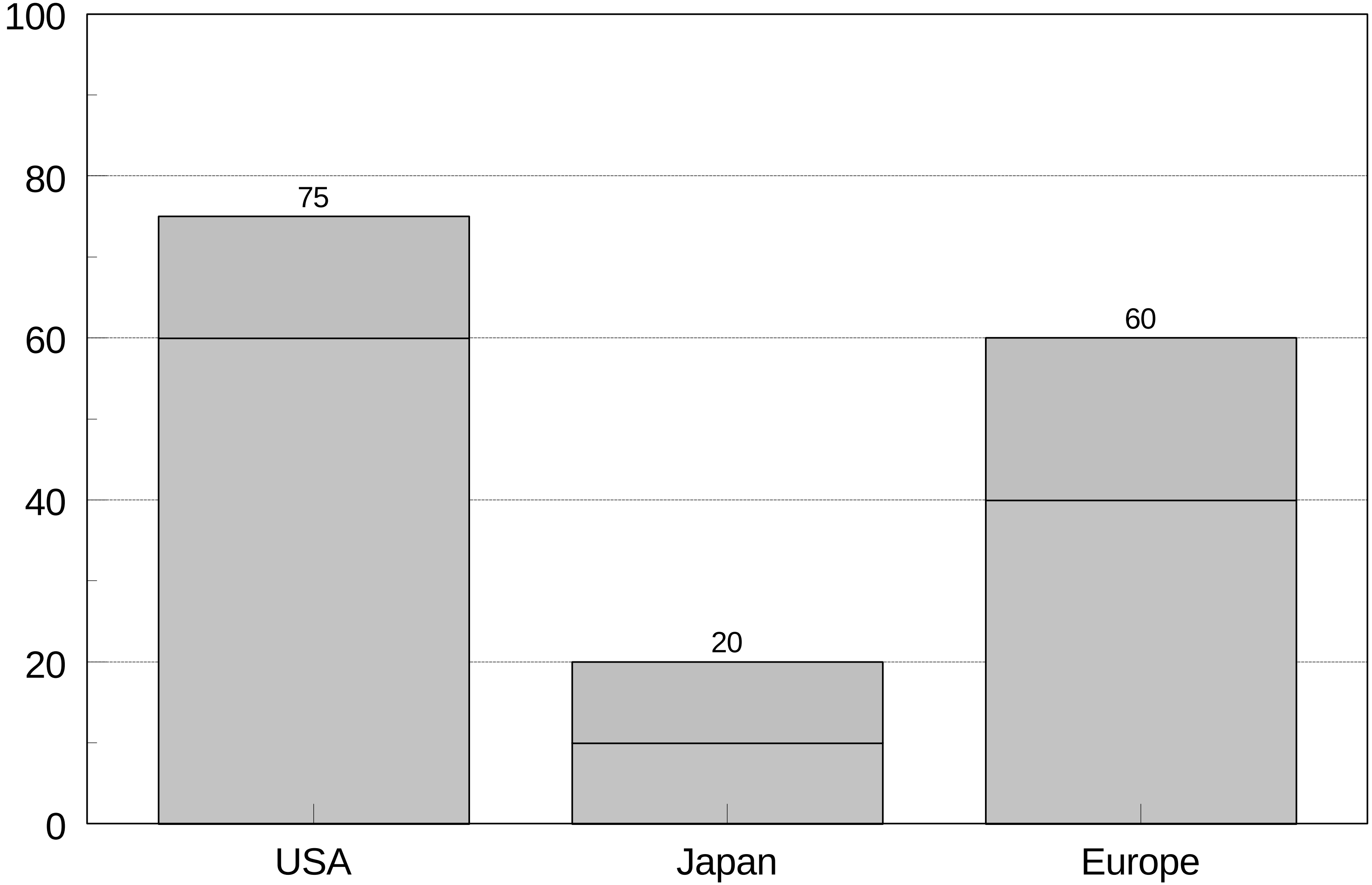
Market share of packaged software
1983 - 1988



	1983	1984	1985	1986	1987	1988
USA	32.5	35.0	33.0	32.0	32.5	34.0
Japan	3.0	3.5	5.0	6.0	7.0	8.0
Germany	36.0	39.0	41.0	44.0	46.0	48.0
France	21.0	23.0	25.0	27.0	29.0	31.0
UK	33.5	38.0	41.0	41.0	43.0	45.0

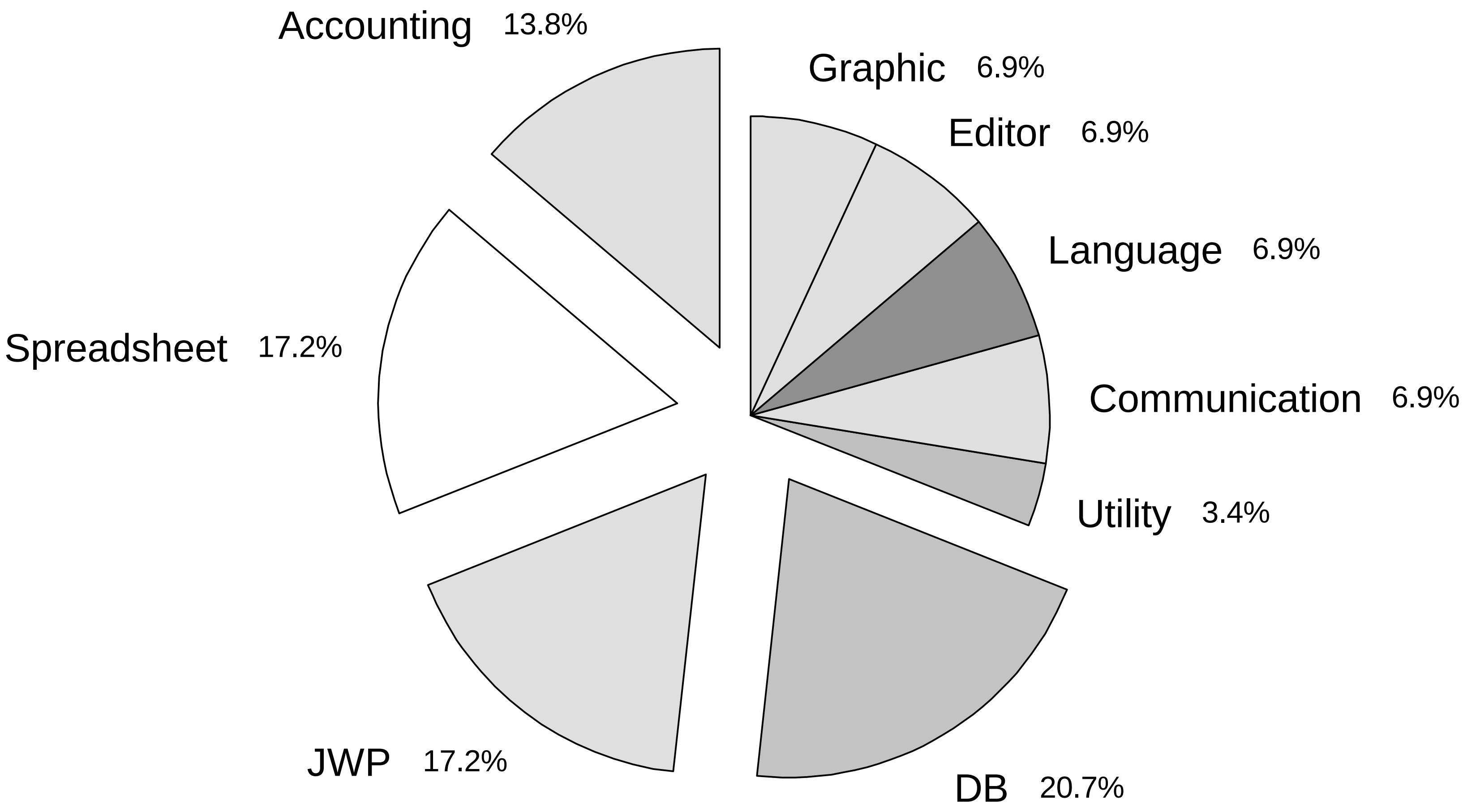
Source: IDC, 1988, in percentage

Market share of packaged software



Source: various, in percent

Top 30 Software Packages Sold in Japan



Sources: IDC 1990, in percantage