

## THE LEAD MARKET

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### Economic outlook

The major regions — N. America, Europe and Asia — have all participated as a capital-spending boom has fuelled growth in OECD industrial production in 1987 (2.9%) and 1988 (5.5%). The burning question for the last year, however, has been whether we will all come down with a bump in 1990 or 1991, when a business cycle downturn could be expected, or has the world got its act together sufficiently to muddle through to a soft landing. The consensus is generally moving to that of muddling through with reasonable overall growth rates. There are liable, however, to be marked differences for each country under such a scenario.

Figure 1 compares forecasts for major regions. The main points to note are:

- the pace of growth will ease everywhere
- growth in Japan and Pacific basin countries will continue to be strong through 1990
- mainland European economies will grow at respectable rates of 2.75 - 3% per annum
- the N. America economies are likely to slow sharply.

The U.S.A. still contributes around a quarter of world economic activity and is therefore vital for overall performance.

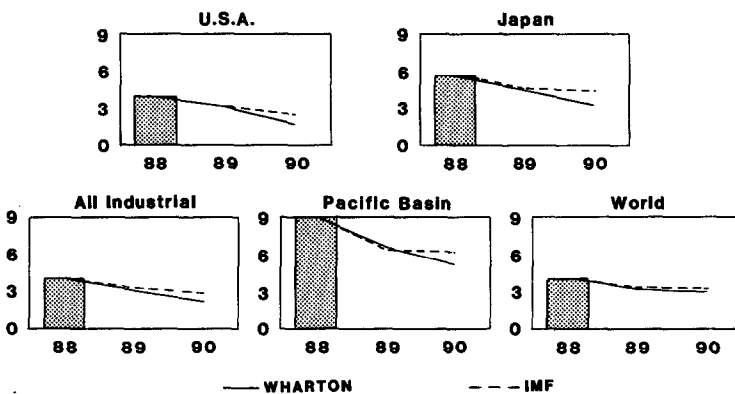


Fig. 1. Growth rate of total real output; % per annum changes for period 1988 to 1990.

Figure 2 shows that the consensus amongst observers in the U.S.A. is that the slowdown will be relatively shallow and brief with growth re-established in the latter half of 1990 (*i.e.*, during the fourth quartile, Q4).

The move to a single European market by the end of 1992 is stimulating restructuring and new investment. The risk for the world economy is that an investment boom might raise world inflation, trigger tighter monetary policy, and thus lead to a general recession in 1991/2. The risks seem, however, to be remote to most forecasters.

Finally, it is necessary to look at the situation for automobiles. One of the surprises of 1989 has been the way in which car sales have held up in general after several years of strength. Weaknesses, however, are beginning to show in Britain and N. America (Table 1).

In view of the summary of economic activity given above, and with regard to the best statistical fit with past data, it is concluded that there will be a consumption increase of lead of 0.7% per annum over the next decade. This will raise demand from 4.1 million tonnes in 1987 to 4.5 million tonnes by the year 2000. Over the following decade, the growth rate is expected to be 1% giving 5.0 million tonnes by 2010. (Incidentally, the recent conversion of the Rolls Royce motor cars belonging to the Queen of England to use lead-free gasoline does not materially affect this estimate!).

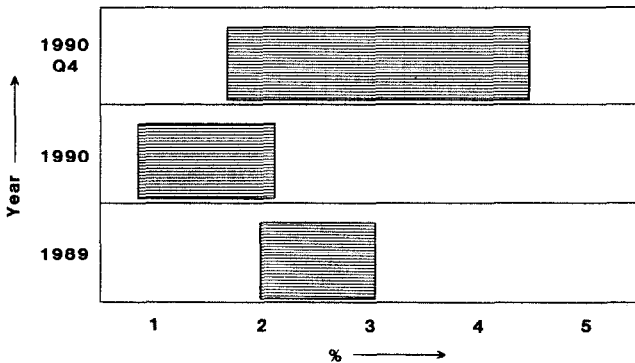


Fig. 2. Forecast changes in real GNP of U.S.A. (% per annum).

TABLE 1

Change (%) in volume of automobiles in U.S.A. Source: Wharton economic outlook, June 1989

Year	Retail sales		Total	Domestic production
	Domestic	Imports		
1988	5.6	-3.1	2.9	No change
1989	-6.7	-3.2	-5.7	-5.6
1990	2.9	3.3	3.0	No change
1991	1.4	6.5	2.9	4.5

**Lead consumption**

Consumption growth has focused on the newly industrialized countries. In an overall growth in consumption of 1.1% per annum since 1980, these countries have run at a corresponding rate of 5.7% (Fig. 3).

With a view to the end use, the consumption has become increasingly focused on batteries (Fig. 4). The growth of vehicle population has more than matched the savings in lead usage arising from the improvements in battery design and quality control. The trend is expected to continue as most other segments have experienced steady declines since the early 1970s and have now stabilized. The exception has been in pigments and compounds, the second largest use of lead, where the downward drift of the early 1980s seems to have been reversed.

The pattern of consumption to 1990 shown in Fig. 5 allows for a short-term downturn in the U.S.A. and some reduction in European usage being partly offset by growth in the Asian regions, albeit at a somewhat slower rate than in earlier years.

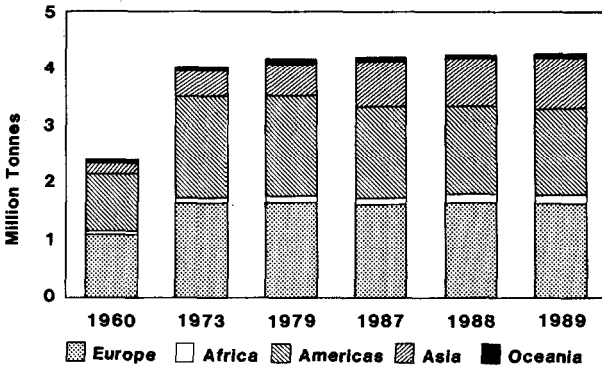


Fig. 3. Lead consumption by region (source: ILZSG).

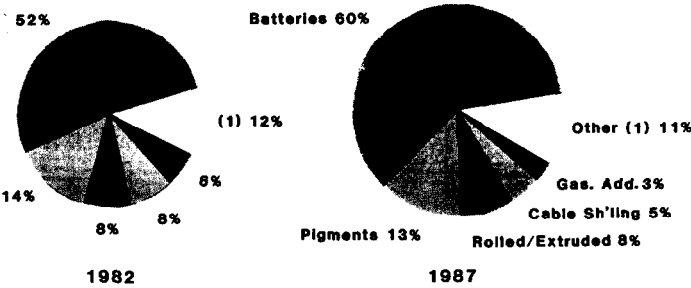


Fig. 4. Lead consumption by end use (source: ILZSG).

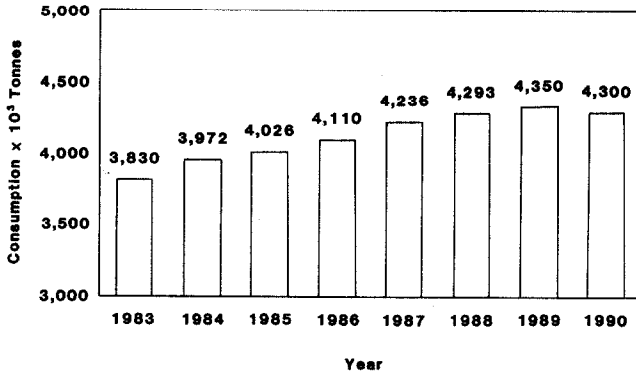


Fig. 5. Western-world consumption of refined lead (sources: ILZSG; Pasmenco).

## Production

The production and consumption of refined lead have kept pace with each other (Fig. 6). The data presented in Fig. 7 show that the role of secondary lead [1] continues to grow. Here, it should be emphasized that environmental pressures, particularly in N. America and Europe, are likely to move secondary production to a central role of near full productive capacity operation. In the U.S.A., secondary capacity could increase by some 20% over the next 5 years as the trend to larger, lower-cost plants continues. In future, primary producers will become the swing production to match consumption changes.

The lead surplus in 1985 (Fig. 8) was largely corrected in 1986 due to reduced or lost production in the U.S.A., Australia and Peru. Since then, the market has remained in deficit. Earlier expectations of a surplus in 1989,

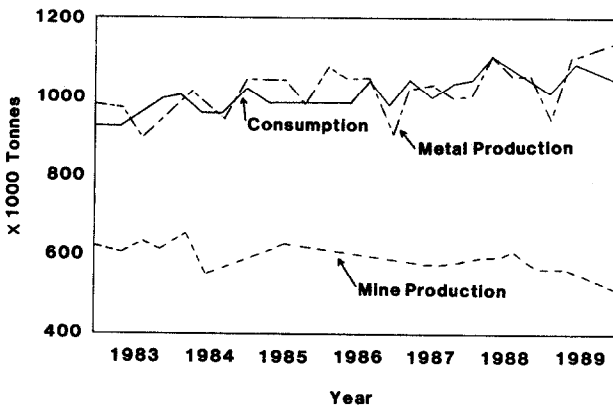


Fig. 6. Production and consumption of lead: quarterly totals (source: ILZSG).

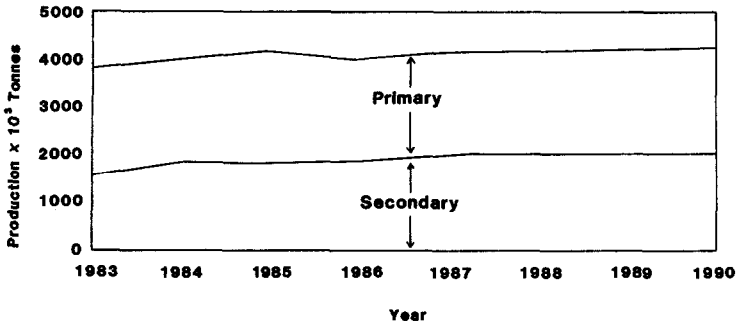


Fig. 7. Western-world production of refined lead (sources: ILZSG; Pasminco).

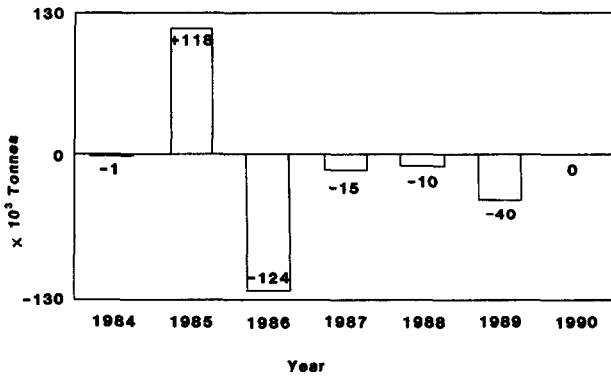


Fig. 8. Lead metal balance in western world (sources: ILZSG; Pasminco).

due to a slowdown in vehicle production and the mild winter, have been reversed to show a continued deficit. Most consumers today will be aware of how sharply the market has tightened over the last few months. It has been a surprise to all in the lead-producing sector. In line with forecasts of improving activity by centrally-planned economies and continued growth in Asia going towards the U.S.A. downturn, the market is expected to remain in balance for 1990.

The stock trends shown in Fig. 9 confirm the continuing tight market. The trend in LME stocks should be particularly noted in view of the fact that the most recent price peak occurred in December.

The present and possible future balances of lead supplies in the Asian regions are given in Table 2. The increase in productive capacity in Asia has assumed that expansion of some 140 000 tonnes per annum will occur between S. Korea, India, Iran and Malaysia. Nevertheless, it is clear that the Asian market looks likely to continue in a deficit which could be aggravated should any project be cancelled or delayed. Finally, the interdependence of countries in the region can be clearly seen alongside the Australian export tonnage.

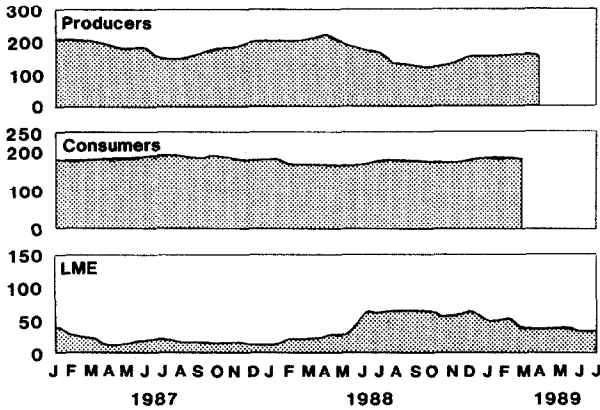


Fig. 9. Stocks of refined metal (source: ILZSG).

TABLE 2

Balance of lead supplies in Asia ( $\times 10^3$  tonnes). Source: ILZSG; Pasmenco

	Year			
	1987	1988	1989	1995
Japanese net import	7	50	70	80
Asia consumption	433	453	510	540
Asia production	(245)	(262)	(288)	(430)
Regional deficit	195	241	292	190
Australia export	149	120	140	145

## Prices

The lead price has been on a downward trend since the 1950s (Fig. 10). This is because demand has declined in many important sectors that now feature only in a comparatively minor way on the demand chart shown in Fig. 4. Since secondary smelters are working at full capacity and an excess of mine capacity is expected in the coming decade after a period of relatively stable production, it is appropriate to look at the marginal cost of primary mine production (Fig. 11) when assessing future long-term price trends. If the market is reasonably balanced, then prices will be less liable to dramatic fluctuations in the range immediately below 28¢/lb than above that figure.

Real costs at mines have fallen considerably from the peak of 1981 (Fig. 12). In 1987, at the ninth decile they were almost 30¢/lb or roughly equal to prices that year.

Figure 13 shows the result of a computer run in early July for the short-term price of lead. For the longer term, it would be appropriate to

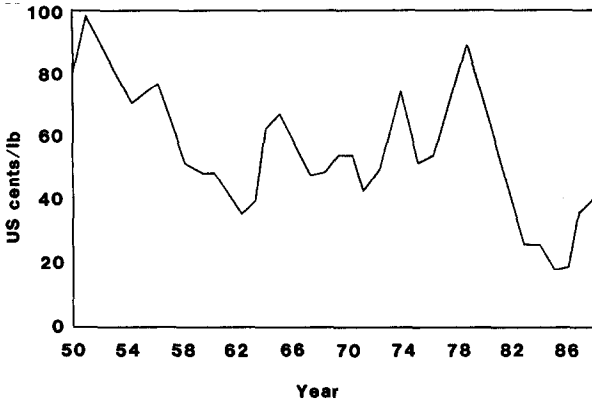


Fig. 10. Lead price (expressed in 1988 terms; LME settlement).

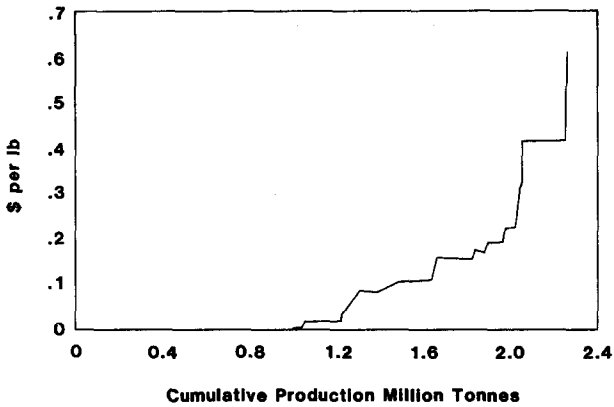


Fig. 11. Lead mines: updated cash breakdown costs (in estimated 1988 terms).

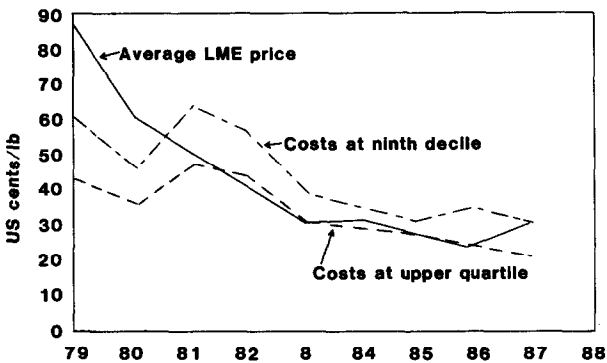


Fig. 12. Lead costs and prices (real 1988 terms).

conclude a price of 27.5 - 28¢/lb in real 1989 terms. It must be said that these figures may be pessimistic. Although the forecasters seem to agree on the muddling through route in 1990, the situation is still haunted by the

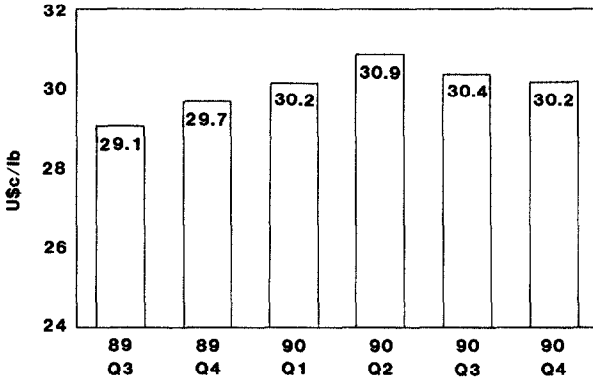


Fig. 13. Short-term LME price for lead.

spectre of an economic slowdown.

In conclusion, the prospects for lead in the early 1990s are:

- consumption should not turn down as severely as previously expected in 1990
- the Asian region will still be a nett importer of lead despite the very necessary capacity increases by 1995
- the outlook predicts price levels to be maintained to 1990, with some weakening, followed by recovery to a long-term figure of around 28¢ in real terms.

## Reference

- 1 G. L. Rae, *J. Power Sources*, 19 (1987) 121.