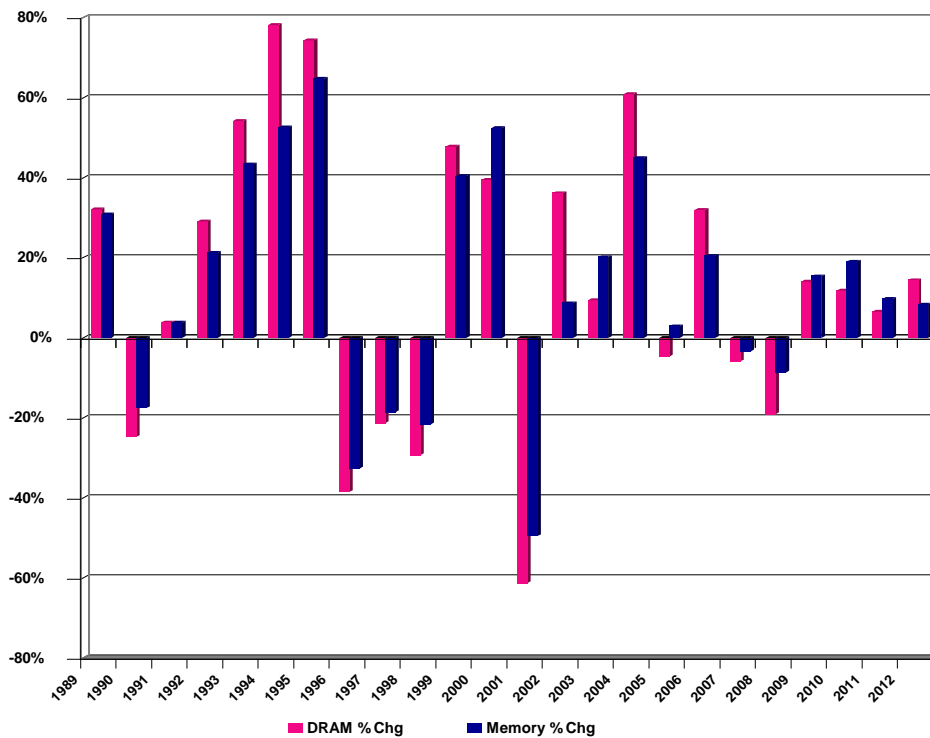


# ***MEMORY CAPACITY PART I DRAM RETURN OF BOOM AND BUST?***

Twenty Years of Percent Revenue Change



January 2008

Prepared by: Bob Merritt  
Report Number VM106-07



**TABLE OF CONTENTS**

**Executive Overview..... 1**

**Methodology..... 2**

**DRAM and NAND Assumptions..... 4**

    Bit Growth..... 4

    Revenue Growth ..... 6

    The Vendors ..... 8

    Conversion to 300 mm Wafers ..... 10

**The DRAM Market..... 12**

    Revenue Forecast..... 12

    DRAM Densities..... 13

**DRAM Wafer Capacity..... 18**

**DRAM CAPEX Impact on Equipment Manufacturers..... 20**

**Semico DRAM Wafer Capacity Model..... 23**

    300mm Wafer Requirements 2006-2009..... 24

**Supply and Demand Implications..... 25**

**SUMMARY..... 27**

**Appendix..... 28**

## TABLES

Table 1: Combined DRAM and NAND Annual Bit Growth .....	5
Table 2: DRAM and NAND Revenue Growth .....	7
Table 3: Combined 2006 DRAM and NAND Suppliers .....	8
Table 4: DRAM and NAND Wafer Capacity (K/Month) .....	11
Table 5: Worldwide DRAM Revenue and Unit Shipments .....	12
Table 6: DRAM % Units by Density .....	13
Table 7: Historic Growth in DRAM Bits.....	16
Table 8: Semico Forecasted DRAM Bit Growth.....	18
Table 9: Capex for Major Memory Companies.....	20
Table 10: Semico's DRAM Unit Forecast (M).....	24
Table 11: Annual DRAM Demand for 300mm Wafers (M).....	25
Table 12: Monthly Wafer Requirements and Capacity .....	25

## FIGURES

Figure 1: % of DRAM and NAND Bit Production.....	6
Figure 2: 1991 – 2011 DRAM Cost-Per-Gigabyte .....	14
Figure 3: DRAM Average Sales Price .....	22
Appendix A1. % DRAM and NAND Bits (Figure 1) .....	28
Appendix A2. Average \$/Gigabyte (Figure 2) .....	28
Appendix A3. Average Sales Price (ASP) (Figure 3).....	28

© Copyright Semico Research Corp. 2008. All rights reserved.

Reproduction in whole or in part is prohibited without permission of Semico Research Corp.

The contents of this report represent the interpretation and analysis of statistics and information that is generally available to the public or released by responsible agencies or individuals, but is not guaranteed as to its accuracy or completeness.

All Semico Research Corp. information is to be used only within the semiconductor and related electronics industries and is not available to the general public. All information received from Semico Research Corp., either written or verbal, is to be considered confidential and solely for internal use within the receiving company.