

MONTHLY RESEARCH WEBINAR

SEMICONDUCTORS: POWERING DIGITAL TRANSFORMATION

Moderator:

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Director of Research

March 6, 2024

■ **Semiconductors: Powering Digital Transformation**

- Jim Kelleher, CFA, Director of Research
- John Eade, Argus President

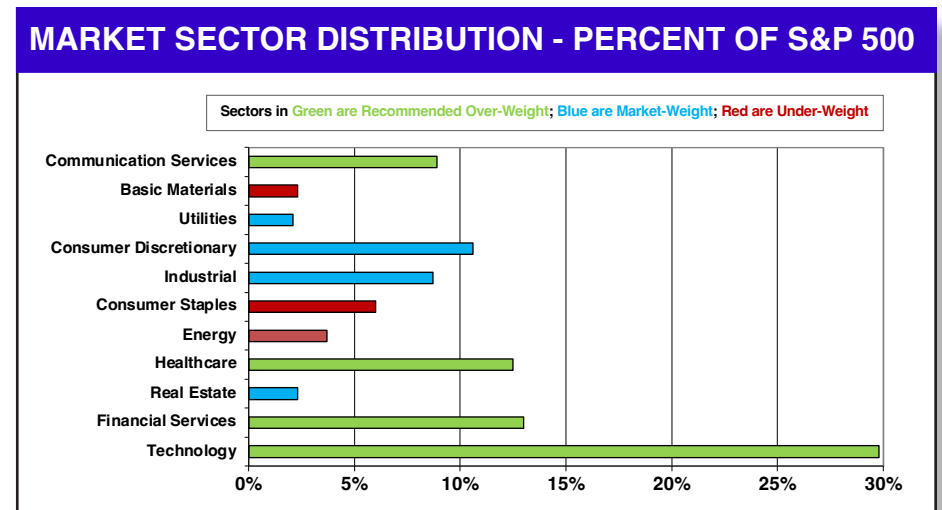
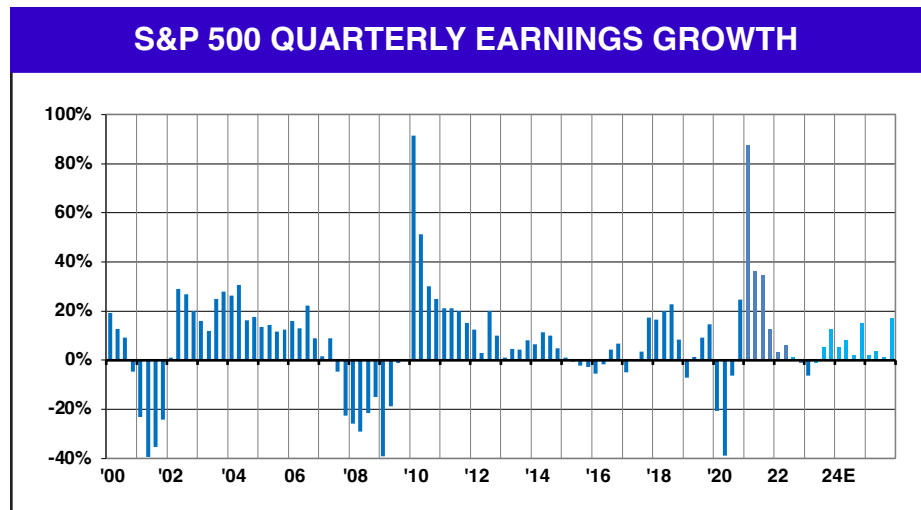
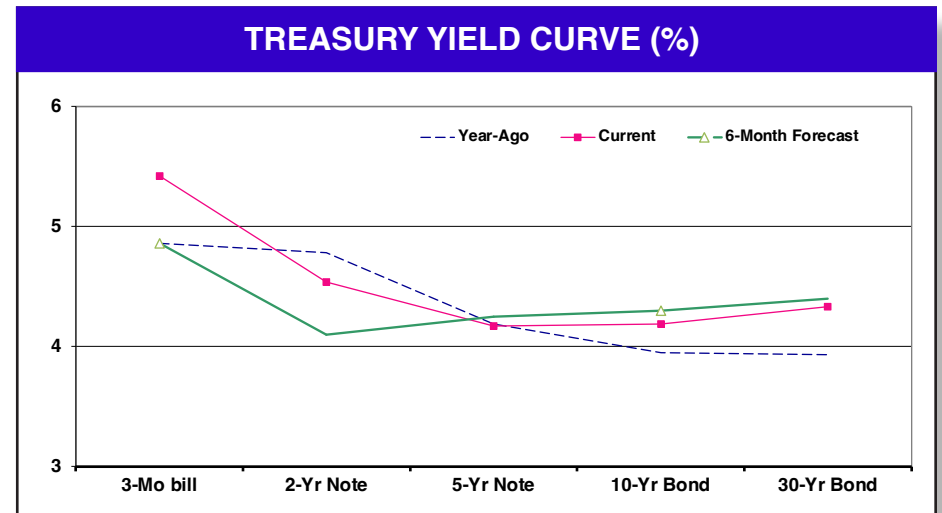
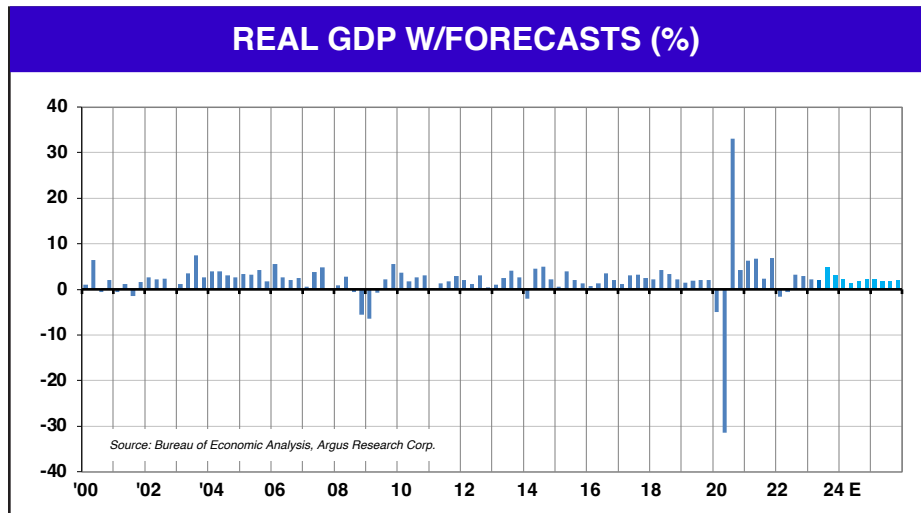
■ **Argus Quick Notes**

- Companies Raising Guidance
- High-Yield Stocks
- 13Fs Show Insiders Buying
- Super Bowl Stocks
- Find these on the homepage of our website

■ **Portfolio Update: the Argus Min Vol Model Portfolio**

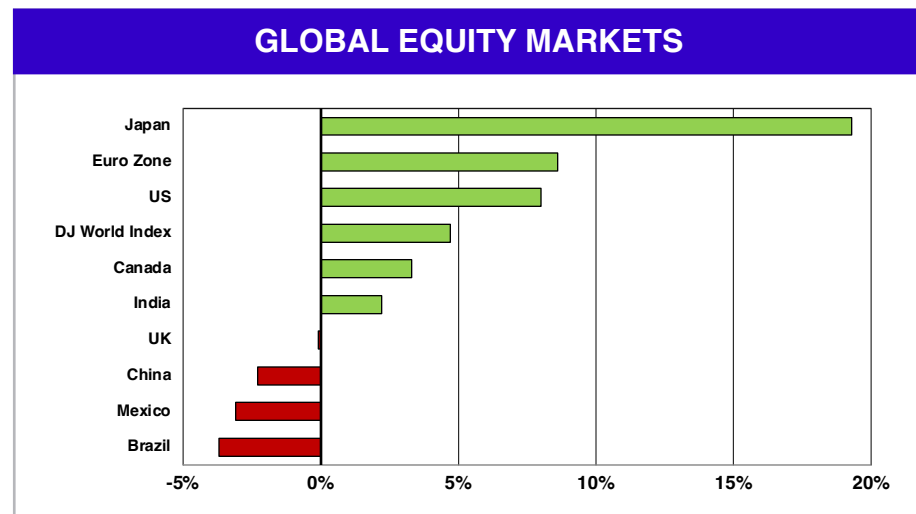
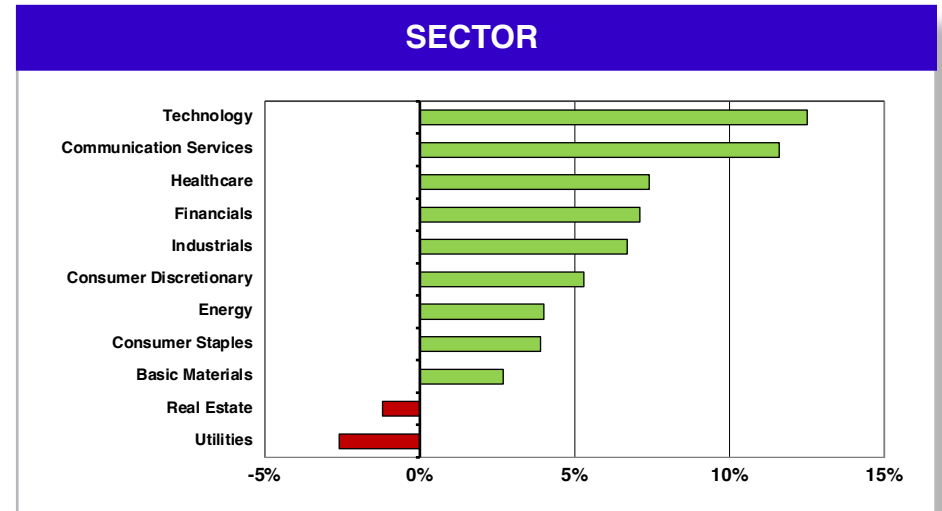
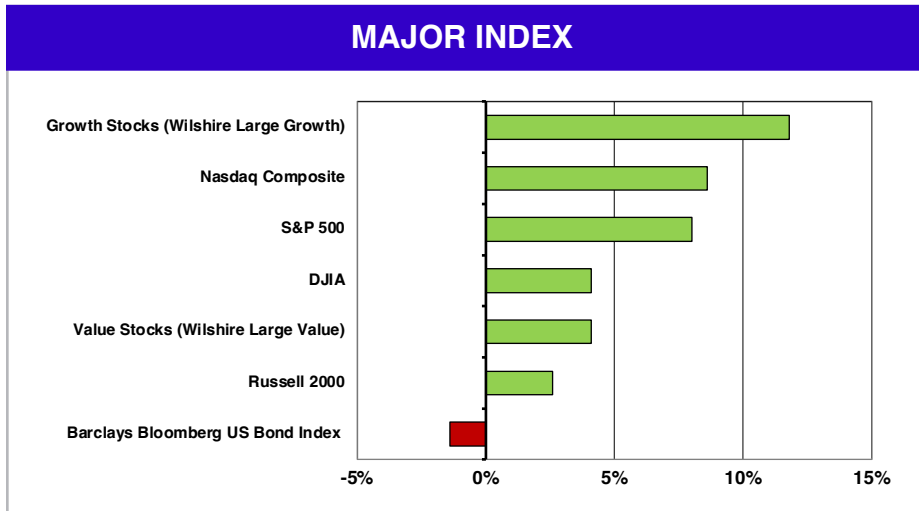
- During the 2022 bear market, value outperformed growth
- Growth has retaken lead, but Fed is keeping rates high
- With fixed-income yields high, equity yields are too
- Growth is getting pricey, while value is the place for income
- Find the Argus High-Yield MP on the homepage of our website

MACRO FORECASTS



MARKET PERFORMANCE

DATA AS OF FEBRUARY 29, 2024



- **Performance: After 2023 decline, poised for 2024 recovery**
- **Cyclical: recovery in edge devices, enterprise IT spending**
- **Demographics: rise of the global middle class**
- **Secular: IoT, cloud, EVs, robotics, AI**
- **Strategic: semiconductor on-shoring as national priority**

■ **Global Semi & WFE revenue down 12% in 2023**

- Memory down 60%; Logic & Foundry up 1%-3%

■ **Semi & WFE spending forecast up mid-teen percentages in 2024**

- Memory recovery on edge devices, enterprise IT, Cloud data center
- Foundry sharply higher on soaring GPU demand

- **Edge Device demand collapsed on inflation, supply glut, “good enough”**
- **We look for accelerating PC and smartphone demand as inflation recedes, consumers stay strong, “old” devices age**
- **Enterprise IT demand impacted by business caution, cost containment**
- **Enterprise IT recovery will track consumer demand recovery**
- **Cloud service providers have worked through inventory digestion, now in expansion phase to accommodate Gen AI implementations**

- **Digitization both enables growth in global middle class and benefits from it**
- **Legacy policies locked generations into poverty & subsistence**
- **Digitization democratizes information & business access, deletes class barriers**
- **By 2030, five billion in global middle class (citing Homi Kharas)**
- **Device access key to joining middle class: business/social/family (multi-device)**

- **IoT & Automation: factories/workspaces require modernization to compete**
- **EVs: EV & hybrid EV have 2x electronic content of ICE vehicles**
- **Enterprise data center: upgrades as a competitive imperative**
- **The Gen AI data center is hardware-intensive**
- **Massive networking needs for delivering Gen AI-as-a-service**

- **Trade war, COVID, supply-chain crisis underscore vulnerability of semi supply**
- **US: over 50% of global semi revenues, only 12% of physical production**
- **CHIPS & Science Act: Grants, tax breaks, state & local incentives**
- **US companies anticipated CHIPS with years of preparation**
- **Over \$200 billion in planned US fab spending in coming decade**
- **Europe, parts of Asia are similarly incenting fab production**

■ Qualcomm (QCOM)

- Target price \$180
- Recovery in smartphone demand including in China market
- Top customer Apple now #1 in global smartphone share
- Snapdragon Summit: Products for on-device Gen AI
- Forecasting high-single-digit global smartphone unit growth in 2024
- Wearables, PCs, tablets – multiple AI-capable edge devices

■ Intel (INTC)

- Target price \$60
- Lost PC & server CPU market share; finally fighting back under CEO Gelsinger
- “Five nodes in four years” designed to reclaim fab leadership from TSM
- Angstrom age devices (20A and 18A) are key to merchant fab strategy
- Seeking to recapture momentum in high-margined data center business
- Reversal of fortune in time for age of Gen AI

■ Texas Instruments (TXN)

- Target price \$225
- Industrial/auto (B2B) sales held up as device sales weakened in 2H22-1H23
- B2B customer weakness should follow similar recovery pattern in 2024
- Fragmented, long-lived, ruggedized, mission critical markets w/high margins
- TI invests in capacity to support customers' lead times, ready for rebound

■ NXP Semiconductor (NXPI)

- Target price \$260
- Netherlands-based leader in automotive semiconductors
- Consistently growing automotive sales faster than total company sales
- Auto volumes benefiting from higher content in EV, EVx, ICE
- Rising content per vehicle can offset unit volume pressures
- Also a leader in NFC and in communications infrastructure

■ Nvidia (NVDA)

- Target price \$NM
- GTC 2023: ChatGPT creates “iPhone moment” for AI
- DGX H100 AI supercomputer with “Grace Hopper” superchip
- Four inference platforms to train LLMs
- AI foundations to enable enterprises to operate custom AI models
- DGX Cloud: AI infrastructure-as-a-service delivered via cloud
- Nvidia data center: \$40 billion revenue in FY24 (vs. \$15 billion in FY23)
- Nvidia leads in all parts of AI economy and is early leader in AlaaS via cloud

■ Advanced Micro Devices (AMD)

- Target price \$NM
- Diversified “giant killer” unafraid to take on INTC and now NVDA
- In CPU, Ryzen (PC) and EPYC (server) have taken share from Intel
- Instinct MI300 series accelerators now taking on Nvidia in LLMs, etc.
- Gaming consoles overdue for refresh, future growth driver
- Despite AI-driven surge, AMD price not discounting PC, gaming, embedded

- **The Industrial sector accounts for 9% of the S&P 500**
- **Our Recommendation is MarketWeight**
- **Performance**
 - Sector up 6.4% through February vs 9% gain for broad market
 - Construction Machinery, Engineering, Electrical Components lead performance
 - Aerospace & Defense, Air Freight and Ag machinery lag
- **Historical Perspective**
 - Sector lagged in 2023 as well
 - Headwinds have included inflation, global growth, strong dollar, declining oil prices.
 - Sector, which includes many leading companies, below midpoint of historical market cap range of 7-12%.
- **Looking Ahead**
 - Focus on pick-up in volumes, dividend growth, raising guidance
 - Recent 4Q EPS growth of 8%, forecasts call for slowdown in 1H24 along with global economy

■ Roper Technologies (ROP)

- Application software, Network software = 75% of sales; conservative guidance

■ Eaton Corp. (ETN)

- Electrical equipment = 70% of sales; history of outperforming

■ Emerson Electric Co. (EMR)

- Intelligent Devices = 70% of sales; new CEO

■ General Dynamics (LMT)

- Technologies = 27% of company revenues; Gulfstream back on track

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