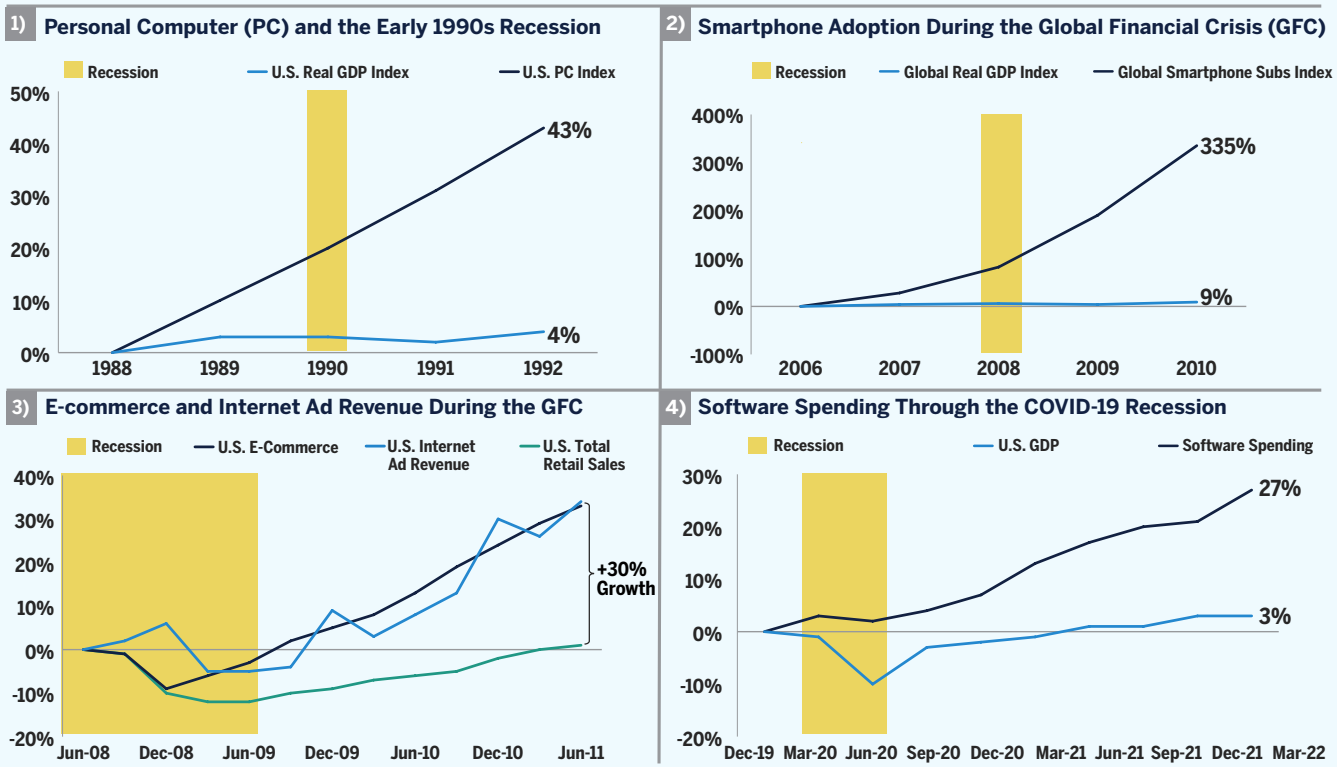
ALGER

Alger On the Money

Growing Through Recessions

Investors are increasingly uneasy about a potential recession driven by uncertainties surrounding global trade policies. While the prospect of weakening economic conditions may raise concerns, investors should also consider the historical resilience of emerging technologies during recessionary periods.

Innovation Through Economic Cycles



Source: NBER (recessions). 1) Diego Comin and Bart Hobijn "Historical Cross County Technology Adoption Dataset"; U.S. Department of Transportation. 2) GSM Association; FactSet. 3) Bureau of Economic Analysis, PwC, Census Bureau. 4) Bureau of Economic Analysis.

- We believe growth stocks are the beneficiaries of technological change, as these companies often enable the innovations that reshape how we live and work. The charts above illustrate how technological innovation has proven resilient during recessionary periods, often emerging stronger and more pervasive in the recovery periods that follow.

1. **Personal Computer (PC) and the Early 1990s Recession:** Despite the economic slowdown of the early 1990s, PCs continued to rapidly penetrate households and businesses and grew faster than the broader economy during the subsequent recovery. Declining hardware costs combined with clear productivity advantages drove PCs to transition from niche business tools to household essentials.
2. **Smartphone Adoption During the Global Financial Crisis (GFC):** While the GFC was one of the worst recessions in modern history, global smartphone subscriptions surged during the period and further accelerated beyond overall economic growth in the recovery phase. This growth was catalyzed by the groundbreaking launch of the iPhone in 2007—its innovative design not only spurred widespread adoption but also created entirely new industries such as ride-sharing and social media.
3. **E-commerce and Internet Ad Revenue During the GFC:** U.S. e-commerce and internet advertising revenues exhibited remarkable resilience throughout the GFC and accelerated during the subsequent recovery, outperforming total U.S. retail sales. Consumers increasingly sought online convenience and competitive pricing, prompting

businesses to allocate marketing budgets toward digital platforms for targeted, measurable, and cost-effective advertising.

4. **Software Spending Through the COVID-19 Recession:** Despite a sharp decline in overall economic activity during the COVID-19 pandemic, businesses accelerated digital transformation efforts, significantly increasing software spending. Investments in cloud infrastructure surged as companies sought to maintain productivity and collaboration amid the shift toward remote work. As a result, software spending not only grew during the recession but also accelerated at a pace that exceeded the broader economic recovery.

- We believe these historical examples reveal a recurring theme: many emerging technologies have not only shown resilience during recessions but also have typically accelerated at a faster rate than the broader economy in the following recovery years. As investors evaluate today's emerging technologies—such as artificial intelligence, autonomous vehicles, robotics, and cell-based therapeutics—history serves as a powerful reminder of the long-term compounding benefits that come from embracing technological advancement, particularly in challenging economic environments.

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