

## **WELCOME TO “THE NEW NORMAL”**

A Strategic Assessment of the Next 8 Years in America

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presented by

**David Pearce Snyder, *Consulting Futurist***

for the

### **2012 MINITRENDS CONFERENCE**

sponsored by

**TECHNOLOGY FUTURES, INC.**

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## **THE FUTURIST MINDSET**

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"Futurists think constantly and by preference of things to come, and of present things mainly in relation to the results that must arise from them."

H.G.Wells

"The Discovery of the Future"

address to the Royal Society

January 24, 1902

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## THE MINITREND MINDSET

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"Applying the minitrends concept is not a step-by-step process, but rather the adoption of a mindset that encompasses all of the elements of the concept."

John Vanston  
*Minitrends* (p. 1815)  
Technology Futures, Inc.  
2010

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## THE MACROTRENDS MINDSET

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Understanding the "knowable future" - the inertial realities of the present - and of "the results that must arise from them," to serve as a context for assessing the future potential of all new things, **including Minitrends.**

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What does the future have to  
do with *THE NEW NORMAL*?

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Something that is “new”  
has only been in existence  
for a short time.

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Something that has become  
“normal” is likely to stay  
that way for a while.

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The phrase “New Normal” implies  
that we have recently crossed a  
*threshold in time*, and entered a  
future that will be distinctly  
different from our immediate past.

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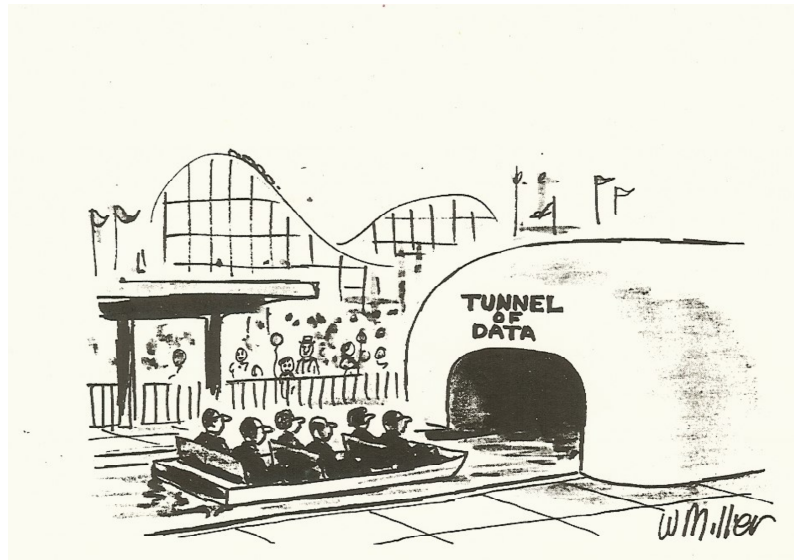
## INERTIAL REALITIES OF “THE NEW NORMAL”

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- **DEMOGRAPHIC FORECASTS** – The future size and make-up of the U.S. adult population – including our labor pool and our consumer markets – can be accurately forecast **fifteen years out**.
- **ECONOMETRIC FORECASTS** – The future size and make-up of the U.S. economy and workforce can be accurately forecast **ten years out**.
- **TECHNOLOGIC FORECASTS** – Mass-market applications of new technology can be accurately forecast **seven to eight years out**.

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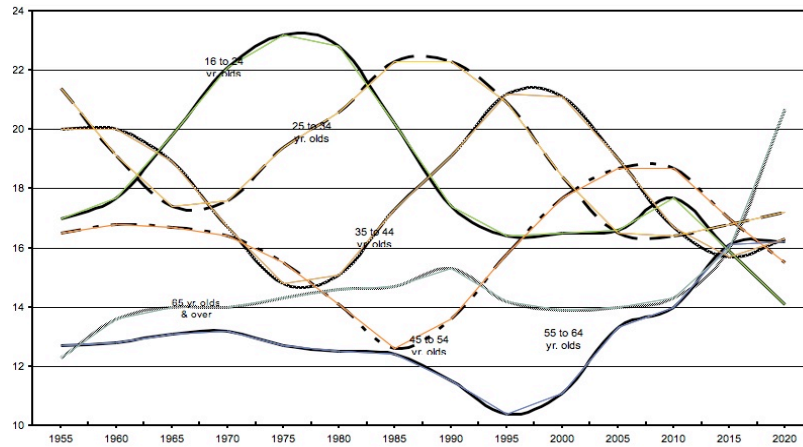
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Now entering  
**"THE NEW NORMAL"**  
**BE PREPARED FOR:**  
• **an older society**

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(Fig. 1) AGE COMPOSITION OF THE U.S. ADULT POPULATION 1955-2020

SOURCE: U.S. CENSUS BUREAU

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## WANTED! DIGITAL NATIVES!

### US LABOR FORCE – 2010 TO 2020 (PROJECTED)

AGE COHORT	2010 (1000's)	2020 (1000's)	Change (1000's)	Change % Rate	Distribution	
					2010	2020
16 to 24	20,934	18,330	- 2,604	- 12.4%	13.6%	11.2%
25 to 54	102,940	104,619	+ 1,679	+1.6%	66.9%	63.7%
55 & over	30,014	41,411	+ 11,397	+ 38.0%	19.5%	25.2%
<b>TOTALS</b>	<b>153,889</b>	<b>164,360</b>	<b>11,306</b>	<b>6.8%</b>	<b>100%</b>	<b>100%</b>

MEANWHILE, THE **BABY BOOM**  
IS STILL OUR BIGGEST GENERATION

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## AMERICA'S BIGGEST GENERATION FINALLY MATURES

### WHAT'S NEXT FOR THE BABY BOOMERS?

- They're delaying retirement by about 5 years!
- The warranty has begun to **EXPIRE** on their parts!

Boomers are not as healthy as  
their parents were at the same age;  
**2/3 are overweight and 1/3 are obese !**

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### THE CHANGING AMERICAN ECONOMY

#### 15 U.S. Industries with Largest Employment Growth - 2010 and 2020 (projected)

INDUSTRY DIVISION	EMPLOYMENT 2010	(IN 1000s) 2020	CHANGE (1,000s) %	
1. Construction	5,526	7,365	+1,839	+33.3%
2. Retail trade	14,414	16,182	+1,768	+12.3%
3. Health practitioners' offices	3,818	5,209	+ 1,391	+36.4%
4. Hospitals	4,685	5,564	+ 879	+ 18.8%
5. Home healthcare services	1,081	1,952	+ 871	+ 80.1%
6. Eating & drinking places	9,352	10,212	+ 860	+ 9.2%
7. Individual & family services	1,251	2,066	+ 851	+ 70.0%
8. Nursing & residential care facilities	3,129	3,951	+ 822	+ 26.3%
9. Wholesale trade	5,456	6,200	+ 744	+ 13.6%
10. Local government education services	8,010	8,751	+ 741	+ 9.3%
11. Computer system design services	1,442	2,113	+ 671	+ 46.5%
12. Employment services	2,717	3,348	+ 631	+ 23.2%
13. Professional, scientific & technical consulting services	991	1,567	+ 576	+ 58.1%
14. Post-secondary education	1,694	2,171	+ 477	+28.2%
15. Outpatient, laboratory & other ambulatory care services	1,077	1,471	+ 394	+36.6%

<http://www.bls.gov>

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## HEALTH CARE – 2010 TO 2020

### AMERICA'S BIGGEST INDUSTRY GETS BIGGER!

- Over-65-year-olds – who consume 2/3 of all medical services – will become the biggest age cohort in the U.S. population by 2015.
- Healthcare now 17% of GDP, projected to rise to 20% by 2020; **25% by 2025! (CBO)**
- Healthcare employs 1/8 of U.S. workers today, and creates 1/4 of all new jobs; **1 out of 5 U.S. jobs will be in health or medicine by 2020!**
- National & regional “chains” dominate U.S. healthcare, **operating hundreds of “Urgent Care” clinics; Medical Malls.**

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## THE CHANGING AMERICAN ECONOMY

### U.S. Employment by Major Industry Division - 2010 & 2020 (projected)

INDUSTRY DIVISION	EMPLOYMENT (IN 1,000s)		CHANGE	
	2010	2020	(1,000s)	(%)
TOTAL - ALL INDUSTRIES	143,068	163,537	+20,469	+14.3%
GOODS PRODUCING (non-agriculture)	17,706	19,497	+1,791	+10.1 %
Construction	5,526	7,365	+1,839	+33.3%
Manufacturing & mining	12,180	12,131	- 49	- 0.0%
ALL SERVICE PROVIDING	112,731	130,680	+17,950	+15.9%
Retail Trade	14,414	16,182	+1,768	+12.3%
Financial Activities	7,630	8,411	+781	+ 10.2%
Professional, scientific, technical & business services (non-Med/Ed)	16,688	20,497	+3,809	+ 22.8%
Education, Training & Libraries	9,194	10,597	+1,403	+ 15.3%
Health care & social assistance	16,415	22,054	+5,639	+ 34.4%
Leisure and hospitality	13,020	14,362	+1,343	+ 10.3%
Federal, state & local government (non-ed & non-med)	16,437	17,123	+686	+ 4.2%
Other services	12,039	13,567	+1,528	+12.7%
AGRICULTURE	2,136	2,005	- 131	- 6.1%
SELF-EMPLOYED	10,386	11,242	+856	+8.2%

<http://www.bls.gov>

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## THE U.S. JOB CREATION RATE IS FALLING !

### COMPARATIVE 10-YEAR PROJECTIONS FOR U.S. POPULATION AND JOB GROWTH

2000 to 2010 — 2002 to 2012 — 2004 to 2014 — 2006 to 2016 — 2008 to 2018

Years	Projected Population Growth		Projected Job Growth		Job Creation Rate
	Numbers	%	Numbers	%	
2000 to 2010	28.1 million	10%	22.2 million	15.2%	100:79
2002 to 2012	28.8 million	10%	21.3 million	14.8%	100:74
2004 to 2014	29.4 million	10%	18.9 million	13.0%	100:64
2006 to 2016	30.2 million	10%	15.6 million	10.4%	100:52
2008 to 2018	30.8 million	10%	15.3 million	10.1%	100:49

SOURCE: U.S. Bureau of Labor Statistics (BLS)

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## BLAME IT ON THE WEB !

THE BROADBAND INTERNET HAS ACCELERATED  
TWO LONG-STANDING WORKPLACE TRENDS:

- GLOBAL ECONOMIC INTEGRATION
- INFORMATION AUTOMATION (“INFOMATION”)

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Because their productivity can't be increased by technology, most consumer service workers get less pay than do their blue-collar counterparts!

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### **VANISHING MIDDLE INCOME JOBS**

*"Rapidly-growing Service Sector employment requires higher average skills, but pays lower average wages and benefits than do our shrinking capital-intensive manufacturing and primary industries." As a result . . .*

### **Median U.S. income is falling!**

Source: Economic Policy Institute, 2005

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This all begins to sound pretty

**GLOOMY!**

WHAT ABOUT THE **"HIGH-TECH BOOM"**  
PEOPLE KEEP TALKING ABOUT ?

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## THE BUST BEFORE THE BOOM

Historically, rising tides of technology-based productivity improvement that “lift all boats” have been preceded by what economist Joseph Schumpeter once described as:

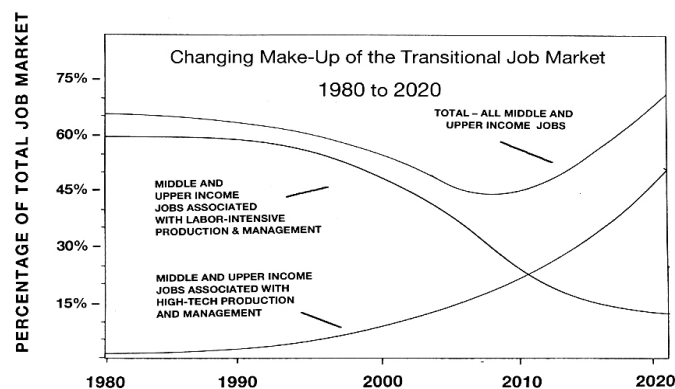
**“waves of creative destruction!”**

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**“a wave of creative destruction. . .”**

Joseph Schumpeter  
*Business Cycles* –1939

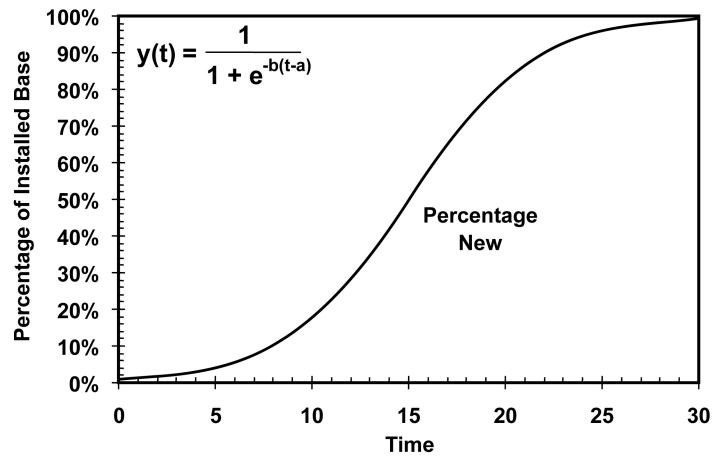


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## Fisher-Pry Model

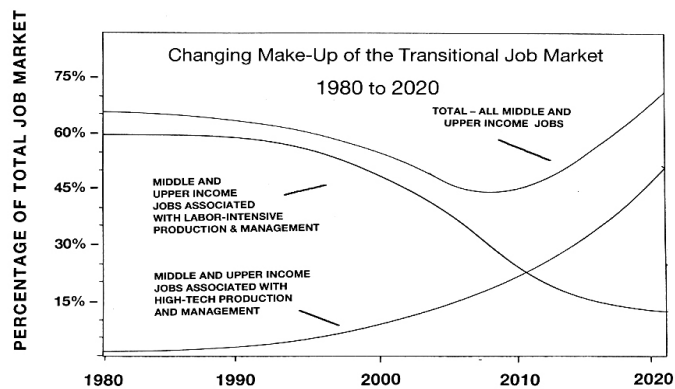


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## "a wave of creative destruction. . ."

Joseph Schumpeter  
*Business Cycles* -1939



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We are literally in the middle of the  
**INFORMATION REVOLUTION!\***

- \* Politicians never use the “**R**” word, because it would suggest that historic circumstances were beyond our control — which no politician would ever admit, even if it were true.

*Because of this, most people — including many political and business leaders — do not comprehend the **permanent structural** nature of the **changes** that are happening to the economy.*

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## **PAVED WITH GOOD INTENTIONS**

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- (2001) To assist the beleaguered middle class, Congress (and most states) reduce income and capital gains taxes.
- (2001 →) To stimulate economic growth, the Federal Reserve lowers the discount rate, further reducing the cost of credit.
- **MEANWHILE** (1995 →) Computer risk analysis permits the financial services sector to create new forms of investment — **derivatives, securitized debt obligations** — that increase the supply of capital and drive down interest rates for both commercial and consumer credit.

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## EASY CREDIT FOR UNCLE SAM

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- (2000 →) China & Japan invest over \$3 trillion of their trade surpluses in U.S. sovereign debt acquired as a result of cutting Federal taxes while fighting 2 wars and expanding Medicare drug benefits
- (2000 →) Because China & Japan purchase most U.S. sovereign debt, Federal borrowing does not have to compete in the financial marketplace, which keeps the supply of capital high and the cost of commercial/consumer credit low.

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## DOIN' WHAT COMES NATURALLY

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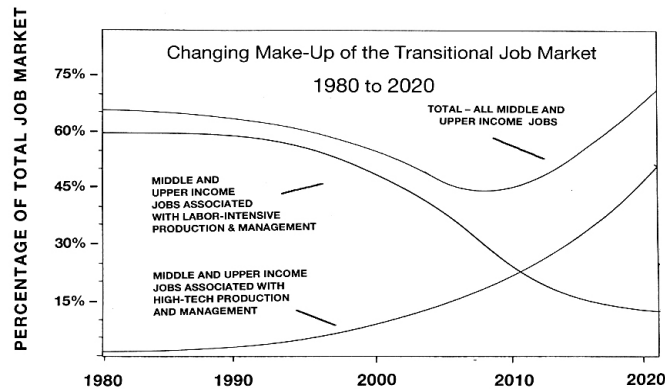
- (2000 - 2007) Buoyed by cheap credit and low taxes, American consumers become the driving force behind U.S. economic growth, **using borrowed money.**
- (2000 - 2007 ) **HOME EQUITY LINES-OF-CREDIT ALONE ADD \$1 TRILLION PER YEAR TO U.S. CONSUMER SPENDING,** which rises from 67% to 72% of U.S. GDP **in spite of falling household income!**
- (2000 - 2007) 1/4 of Boomers purchase 2<sup>nd</sup> homes.
- (2006) The share of U.S. households in owner-occupied homes briefly reaches 69%.

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**“a wave of creative destruction. . .”**

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**ING! WARNING! WARNING! WARNING! WA**

(1999/2001) **“REGULATE SDOs!”** Brooksley Born, CFTC

(2005 →) Economists caution that U.S. households are “living beyond their means,” and that:

- “U.S. household savings rate has gone negative!”  
(- 2.7%, April, 2005)
- “There is a huge and growing commercial and consumer debt overhang,”
- “The housing ‘bubble’ is unsustainable!”
- **“75% of all capital is now invested in high risk, non-regulated securities!”**

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## Remember the ***ANDREA GAIL***

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## WHAT BLOWS UP ....

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### **Sure enough, the economists were right!**

- (2007) Housing bubble bursts; Recession begins!
- (2008 - 2009) A notional \$60 trillion "evaporates" from the global capital supply; U.S. housing and stock values fall by more than \$13 trillion!
- (2007 →) 8+ million jobs vanish.
- (2007-10 ) Median U.S. household net worth falls 39% from \$126K to \$77K.
- (2007-2011) Over \$2 trillion in "scared money" flees equities into depository accounts & CDs.

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Now entering a  
**"NEW NORMAL"**

**BE PREPARED FOR:**

- **an older society**
- **an austere economy**

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### THE \$1.5 TRILLION QUESTION:

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*“Were the bank bailout and the stimulus package big enough to counteract the effects of a **\$13 trillion** combined home value / stock market **LOSS**, the contraction of the credit markets, and the **elimination of 8.5 million jobs?**”*

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## THE \$1.5 TRILLION ANSWER:

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**“NO !”**

But *deficit hawks* have blocked further stimulus measures in Congress because they are much more concerned with the answer to a different question:

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## **"How are we going to pay for all this?"**

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"To avoid large and eventually unsustainable budget deficits, the nation will **ultimately** have to choose among higher taxes, modifications to entitlements such as Social Security and Medicare, less spending on everything else from education to defense, or some combination of the three."

Ben Bernake, Chairman  
U.S. Federal Reserve Bank  
speech to Dallas Chamber of Commerce  
April 8, 2010

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**In the financial world,  
what Mr. Bernanke is describing  
is called “deleveraging.”**

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### **DEBT, DELEVERAGING & AUSTERITY**

#### *Credit Bubbles and Their Economic Consequences*

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A 2010 McKinsey Global Institute analysis of 45 historic episodes during which 10 developed nations and 4 developing nations significantly reduced their total debt-to-GDP ratios since 1930, found:

- long periods of deleveraging nearly always follow major financial crises;
- deleveraging lasts 6 or 7 years, on average, during which
- public & private sector debt are typically reduced by 1/3, while employment contracts & stagnates.

[http://www.mckinsey.com/mgi/publications/debt\\_and\\_deleveraging](http://www.mckinsey.com/mgi/publications/debt_and_deleveraging)

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## PUBLIC SECTOR DELEVERAGING AHEAD!

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?

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## OTHER DEBT TO DEAL WITH !

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- ☛ Down-grading \$ trillions in mortgage-backed securities
- ☛ Over 400 banks fail (2009-2012) **M&As eliminate over 1,000 banks between 2009 and 2013)**
- Plus, more potential big defaults ahead:
  - ☛ Under-funded pensions (2/3 public) \$ 4.1 trillion +
  - ☛ Commercial real estate loans 1.4 trillion +
  - ☛ Consumer debt 1.0 trillion +
  - ☛ SallieMae (School loan "Bubble"?) 1.0 trillion +
  - ☛ Corporate debt .7 trillion +

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TOTAL \$ 8.2 trillion +

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## U.S. HOUSEHOLDS ARE “DELEVERAGING” THEMSELVES

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- Americans are shedding consumer debt at over 10% per year. (75% by default!) Strategic mortgage defaults on rise!
- Average household savings rate rose from 0.3% to 6.4% (2008-10), and are expected to return to 10+% within 5 years!
- Average square footage of new homes sold fell 12% from 2006 to 2009, reversing a 60-year trend.
- New car sales are 25% below their 2006 peak.
- New home sales are 65% below their 2006 peak.

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## OUR ECONOMY HAS SHIFTED GEARS

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- The ongoing “jobs recession” reflects a long-term “down-shifting” of the consumer engine that has driven U.S. economic growth since 2000.
- Increased saving, tightened credit and higher taxes will reduce the discretionary expenditures of most U.S. households, keeping consumer spending 5% to 10% below pre-Recession levels for at least five years, as Americans are forced to “live within their means.”
- Until the U.S. and European debt overhang is reduced by 1/3 from their 2008 highs, DELEVERAGING WILL DRAG ON ECONOMIC GROWTH.

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# LUCKILY . . .

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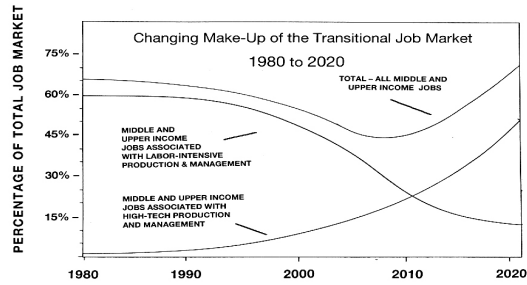
**WE'RE IN A REVOLUTION,  
NOT A BUSINESS CYCLE,  
AND THINGS WILL NEVER  
GET BACK TO [OLD] NORMAL!**

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**"a wave of creative destruction. . ."**

Joseph Schumpeter  
*Business Cycles* - 1939



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Our high-tech future is right around the corner . . . just out of sight.

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Now entering a

**"NEW NORMAL"**

**BE PREPARED FOR:**

- an older society
- an austere economy
- PERVASIVE technology

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## U.S. JOB CREATION RATE IS NOW RISING !

### COMPARATIVE 10-YEAR PROJECTIONS FOR U.S. POPULATION AND JOB GROWTH

2002 to 2012 — 2004 to 2014 — 2006 to 2016 — 2008 to 2018 — 2010 to 2020

Years	Projected Population Growth		Projected Job Growth		Job Creation Rate
	Numbers	%	Numbers	%	
2002 to 2012	28.8 million	10%	21.3 million	14.8%	100:74
2004 to 2014	29.4 million	10%	18.9 million	13.0%	100:64
2006 to 2016	30.2 million	10%	15.6 million	10.4%	100:52
2008 to 2018	30.8 million	10%	15.3 million	10.1%	100:49
2010 to 2020	34.2 million	10%	20.5 million	14.3%	100:60

SOURCE: U.S. Bureau of Labor Statistics (BLS)

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## SOME COMMON VISIONS OF THE U.S. ECONOMY AT THE END OF THE INFORMATION REVOLUTION (2020)

- High Tech Manufacturing (bio-tech, robotics, nano-tech, etc.)
- Green Industrial Economy (wind turbine, electric cars, fuel cells)
- Professional, Scientific & Technical Services Economy
- Info-preneurship (micro-businesses, mini-manufacturing, etc.)

*Our current “rendezvous with austerity”  
is about to be followed by . . . .*

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## A “MASH-UP” with TECHNOLOGY

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### By 2020 . . . .

- the U.S. stream of commerce will be cashless and paperless
- smartphones will be our eWallets / ID / Drivers Lic / Med-Info
- Electronic Medical Record Systems (EMRS) will reduce costs and improve the quality of U.S. healthcare
- Personal Mobile Technologies will replace school textbooks
- We'll all be “chatting” with our technology! (Avatar Assistants)
- eEntertainment users/revenues – including games and user-generated content – surpass those for all live sports, concerts, movies, plays, etc.
- 3D printing fosters "mom & pop" manufacturing!

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## THE "NEXT BIG THINGS" IN WORKPLACE TECHNOLOGY

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- Mobile connectivity – Consumerization of business / professional IT (Primary WEB access by 2013!)
- "Cloud computing – Information services as a utility • 40% to 70% cost savings • security issues • Blended systems, "private clouds" & "vertical clouds" (AICPA SAS70-II)
- BIG DATA – Data-intensive research • Patter recognition & Granger analysis, Hadoop (McKinsey, May, 2011))
- Social Networking – fosters teamwork, customer/supplier collaboration, career development + marketing/CRM

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## AND THE CROWDS GO WILD!!

- [Crowd Sourcing](#) – Major firms increasingly solicit ideas for new products and solutions to problems from the general public. (P&G has announced that 1/2 of their new products will be generated by crowd sourcing.)
- [Crowd Funding](#) – Rapidly growing numbers of inventors and entrepreneurs solicit direct investments on-line, and, after January 2013, the 2012 Jobs Act authorizes start-ups to sell stock directly to the public.

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At last: a low-cost, professional-grade light-based 3D printer | KurzweilAI

10/13/12 1:14 PM

### KurzweilAI | Accelerating Intelligence. News

#### At last: a low-cost, professional-grade light-based 3D printer

September 27, 2012

Formlabs' new Form 1 3D printer could bring professional-grade 3-D prints to the home workshop.

Desktop 3-D printing has largely been the domain of extrusion-based machines like MakerBot's Replicator and homebrew RepRap designs.

These lag behind the capabilities of pricier, professional stereolithography devices, where UV light cures incredibly thin layers of resin to create objects on par with manufactured goods.

Developing this type of printer at a consumer price point has been an elusive goal until now.

The Form 1 is a desktop-sized machine that creates professional-grade, light-cured 3-D prints, *Wired* reports.

Their prototype units are fully functional and Formlabs will finance manufacturing via a Kickstarter campaign that broke their \$100,000 target in 2.5 hours.

Initial backers will be able to pre-order the Form 1 for \$2,299 (only 25 will be available at this price); additional units are priced at \$2499 and \$2699, based on order of contribution. Actual market pricing has not yet been released.

#### How it works



Form 1 (credit: Formlabs)

<http://www.kurzweilai.net/at-last-a-low-cost-professional-grade-light-based-3d-printer> david\_snyder@verizon.net

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## CAUTION !

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In a world of rapidly-expanding knowledge, ongoing innovation and globalization, EVERYONE must be attuned to anticipating, detecting and responding to the unintended consequences of change, since . . .

**"Innovation and change occur in a world so complex that the unexpected must always be expected."** ("Tenner's Law")

Edward Tenner ~ *Why Things Bite Back: Technology and the Revenge of Unintended Consequences* - 1996

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So, Welcome to **THE NEW NORMAL**, where

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- Society will be older (with fewer young adults):
- most individuals and institutions will have to live/operate within more limited means;
- technology will pervade every aspect of daily life and change how we all work and play;
- and where accelerating innovation and change will produce growing numbers of unintended consequences.

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## MACROTRENDS + MINITRENDS = REVOLUTIONARY CHANGE

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The New Normal will be a 10-year period of rapid techno-economic innovation and socio-economic adaptation during which a multitude of Minitrends will emerge and mature into major features of our long-term future.

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*Consulting Futurist*

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*"The future evolves in an orderly fashion  
out of the realities of the past, filtered and  
shaped by the decisions of the present."*

David Pearce Snyder, 1969 ❖

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❖ *After 43 years, it's still true!*

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