Considering the Future
Today for Better Decisions
Tomorrow

Building a Future For Families
CDSA Policy 2019

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The future is already here,
It’s just not evenly distributed.
The Future Won’t Resemble the Past!
Age of Acceleration

Technology Innovations Out Pace Humans’ Adaptability

Learning Faster and Governing Smarter

Source: “Thank You For Being Late – An Optimist’s Guide to Thriving in the Age of Acceleration” by Thomas L. Friedman (2016)
Digital Economy Meets the Age of Acceleration
The Badlands: Transition Zone Between Eras

Historical cycle of disruptive innovation – 90 years long

Great Industrial Plains

1950

BADLANDS

2000

Foothills of the Future

2040

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Social Systems Fragment & Fail

- Health Care
- Education
- Criminal Justice
- Government At all Levels
- Government Contract w/Citizens
- Trust in Business
- Social Bargain for Work
Ethics Wasteland
“...the major advances in civilization are processes which all but wreck the societies in which they occur.”

Alfred North Whitehead
1861-1947
Institutions and leaders are mismatched to the issues and needs of the time.
Strategic Imperative
Innovation Is Creating Relevancy for the Future
How Relevant is Your Leadership to the Future?
Remember…

“The position we occupy is not as important as the direction we are moving in.”

Leo Tolstoy
1828-1910
Red Queen Effect

Alice: "in my country you generally get somewhere else-if you run fast for a long time as we’ve been doing".

The Queen: "This is a sort of slow country…it takes all the running you can do just to keep in the same place".

Source: https://www.queeky.com/gallery/image/the-red-queen-0
United States Slowing Economy
What’s the Headline?

2019 is 2018 with Lower Growth.
Road to Recession

Source: Moody's Analytics: Road to Recession, Jan 31, 2019
The U.S. Forecast - Two Scenarios

8-14 months of a “good economy” with growth slowing through 2019+

- Scenario 1 – Recession most likely late 2019 early 2020 – 70%
- Scenario 2 – Secular stagnation in late 2019 for 1-3 years – 30%
The U.S. Forecast- Two Scenarios

Uncertainties
- **Geopolitical events- trade threats to trade war

Polarized & Dysfunctional politics
- Effectiveness of New Democratic Congress
  - U.S. national election
  - Mueller investigation findings
  - Immigration practices & policies
  - Stock market bubble? Will it crash?

How many severe weather events in U.S.

Wild Cards –
- Nuclear War
- Global Epidemic
- Severe simultaneous climate events in U.S.
Secular Stagnation

Real Issues

- Aging workforce
- Slowing human capital growth
- Impact of Great Recession
- Consumer Credit Markets and other bad policy
- Transition to the digital economy / Stranded assets-automation. Etc.
- Mismatch between skills & jobs

Source: Beacon Economics — The Economic Outlook, Jan 2017, Global Foresight
California Still Good but Slowing
California 5th Leading Economy in 2017 GDP Rankings – Top 10

Gross Domestic Product Comparisons 2017 (real)

- USA: $19.39 trillion
- China: $12.01 trillion
- Japan: $4.87 trillion
- Germany: $3.68 trillion
- California: $2.75 trillion
- UK: $2.63 trillion
- India: $2.61 trillion
- France: $2.58 trillion
- Brazil: $2.06 trillion
- Italy: $1.94 trillion
- Canada: $1.65 trillion

Source: International Monetary Fund, 2017
California Today

What Not To Worry About

- California remains the top performer
- Economy-2.6% nationally-CA 3.1%
- Wages increasing-
- Inflation constrained
- Interests low
- Number of Jobs
- Economic resiliency
- Somewhat reasonable politics
- Lending slow but possible

What to Worry About

- Shortage of housing & affordable housing-supply
- Income inequality
- Median income vs cost of living
- Homelessness
- Aging population
- Infrastructure
- Immigration- high end
- Trade wars
- Skilled worker gap-number of workers
- K12 education
- Tax Structure-
- Wildfires and climate change
- Maintaining a broad based industry output mix
- New industries to fuel growth
The Future of the Family
By the Numbers
Growing Diversity in Family Living Arrangements

% of children living with ...

1960: 73% Two parents in first marriage
    14% Two parents in remarriage
    9% Cohabiting parents
    4% Single parent
    5% No parent

1980: 61%

2014: 46%

Source: Pew Research Center (http://www.pewsocialtrends.org/2015/12/17/1-the-american-family-today/)
Pew Research Center analysis of 1960 and 1980 decennial census and 2014 American Community Survey (IPUMS)
Two-Parent Households in Decline

% of children living with ...

Note: Based on children under 18. From 1990-2014, a child living with cohabiting parents is counted as living with two parents. Prior to 1990, cohabiting parents are included in ‘one parent.’


Source: Pew Research Center (http://www.pewsocialtrends.org/2015/12/17/1-the-american-family-today/)
Black Children and Those with Less Educated Parents Less Likely to be Living in Two-Parent Households

% of children living with...

<table>
<thead>
<tr>
<th></th>
<th>Parents in first marriage</th>
<th>Parents in remarriage</th>
<th>Cohabiting parents</th>
<th>Single parent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>71</td>
<td>11</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>White</td>
<td>52</td>
<td>19</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>Hispanic</td>
<td>43</td>
<td>12</td>
<td>11</td>
<td>29</td>
</tr>
<tr>
<td>Black</td>
<td>22</td>
<td>9</td>
<td>7</td>
<td>54</td>
</tr>
<tr>
<td>College grad+</td>
<td>67</td>
<td>18</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Some college</td>
<td>40</td>
<td>19</td>
<td>9</td>
<td>32</td>
</tr>
<tr>
<td>High school</td>
<td>33</td>
<td>12</td>
<td>13</td>
<td>41</td>
</tr>
<tr>
<td>Less than high school</td>
<td>33</td>
<td>7</td>
<td>15</td>
<td>46</td>
</tr>
</tbody>
</table>

Note: Based on children under 18. Race and ethnicity are based upon the child’s characteristics. Whites, black and Asians include only sing-race non-Hispanics. Hispanics are of any race. Educational attainment is based upon the characteristics of coresident parents. For analysis by race and ethnicity, children living apart from both parents are not shown. For educational analysis, children living apart from both parents are excluded from analysis. Figures may not add to 100% due to rounding.

Source: Pew Research Center analysis of 2014 American Community Survey (IPUMS)

Source: Pew Research Center (http://www.pewsocialtrends.org/2015/12/17/1-the-american-family-today/)
Fertility is Declining

% of women ages 40-44 who have given birth to...

Note: Figures may not add to 100% due to rounding.


Source: Pew Research Center (http://www.pewsocialtrends.org/2015/12/17/1-the-american-family-today/)
The Decoupling of Marriage and Childbearing

% of births to unmarried women...

Note: Whites and blacks include only single-race non-Hispanics. Hispanics are of any race. 2014 data are preliminary. Data for Asians only not available.

Source: National Center for Health Statistics natality data.

Source: Pew Research Center (http://www.pewsocialtrends.org/2015/12/17/1-the-american-family-today/)
Among Mothers, Rising Labor Force Participation

- Note: Mothers working full-time or part-time are included as being in the labor force.


Source: Pew Research Center (http://www.pewsocialtrends.org/2015/12/17/1-the-american-family-today/)
U.S. Urban Counties Have No Racial or Ethnic Majority

% of population in each county type who are...

Note: Racial groups include only non-Hispanics. Hispanics are of any race. Asians include Pacific Islanders. County categories based on the National Center for Health Statistics Urban-Rural Classification Scheme for Counties.

Source: Pew Research Center analysis of 2012-2016 American Community Survey data “What Unites and Divides Urban, Suburban and Rural Communities”

Source: Pew Research Center (http://www.pewsocialtrends.org/2015/12/17/1-the-american-family-today/)
Poverty Growing

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2012-2016</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>12</td>
<td>16</td>
<td>31%</td>
</tr>
<tr>
<td>Suburban</td>
<td>15</td>
<td>23</td>
<td>51%</td>
</tr>
<tr>
<td>Rural</td>
<td>6</td>
<td>8</td>
<td>23%</td>
</tr>
</tbody>
</table>

Note: County categories based on the National Center for Health Statistics Urban-Rural Classification Scheme for Counties.

Source: Pew Research Center analysis of 2000 decennial census SF3 data and 2012-2016 American Community Survey data
“What Unites and Divides Urban, Suburban and Rural Communities”
Earnings Have Declined Since 2000 in All Types of Communities

Earnings per worker in 2016 dollars among those ages 16 and older who worked in the prior year

Note: County categories based on the National Center for Health Statistics Urban-Rural Classification Scheme for Counties.
Source: Pew Research Center analysis of 2000 decennial census SF3 data and 2012-2016 American Community Survey data
“What Unites and Divides Urban, Suburban and Rural Communities”

Source: Pew Research Center (http://www.pewsocialtrends.org/2015/12/17/1-the-american-family-today/)
Is the Family The Right Word?
The Future of WORK
BIG CHANGES- Last 20 years

- 2/3’s of households incomes have stagnated in all advanced economies
- First decline since 1970’s
- Decline in wage share of workers
- Decline in wage workers share of national income

- Big increase in digitally enabled independent workers-30%
- De-coupling of wages and productivity
- Rising capital returns to technology investments.
- Lower returns to labor from increased trade

Source- McKinsey 2017
Income Inequality—A 47 Year Perspective

Real (Inflation-Adjusted) Mean Household Income
By Quintile and Top 5 Percent

With Recessions Highlighted


Source: U.S. Census Bureau, data 1967 to 2014; Advisor Perspectives (http://www.advisorperspectives.com/dshort/)
Earnings Have Fallen for Workers with Little Education

In the last generation, the earning power of less-educated American men in their prime working years has fallen.

Percent change in median real earnings of working age men, 1990 to 2013

- No high school diploma
- High school diploma or some college
- Bachelor's degree
- Advanced degree

Men age 30 to 45 who are employed at the time of census survey and worked 750 or more hours over the previous year.

Source: Hamilton Project analysis of Census data, 2014
High school graduates and dropouts had the rug pulled out from under them in the job market, losing about 1.4 million total good jobs since 1991.

Source: Georgetown University Center on Education and the Workforce, Good Jobs That Pay without a BA, 2017.
Good Jobs Without a BA Have Declined from 60% to 45% since 1991

The most populous states — California, Texas, Florida, New York, and Illinois — offer the largest number of good jobs for those without a BA.

Source: Georgetown University Center on Education and the Workforce, Good Jobs That Pay without a BA, 2017.
The increase in good jobs for Associate’s Degree holders offset the job losses suffered by high school graduates.

Source: Georgetown University Center on Education and the Workforce, Good Jobs That Pay without a BA, 2017. Carnevale and Rose, The Economy Goes to College, 2015
Our Children Lose Out to Mediocre K-12 Education
National Math & Reading Grade 12
Levels Too Low

The scores of students performing at the 10th and 25th percentiles were lower in 2015 compared to 2013.

The percentage of twelfth-grade students performing at or above Proficient was not significantly different in 2015 compared to 2013.

The percentage of twelfth-grade students performing below Basic was higher in 2015 compared to 2013.

Almost all states have average attainment levels below those required jobs of the future

Source: Georgetown University - Recovery: Job Growth and Education Requirements Through 2020
Job and Education mismatch

- 55 million new jobs by 2022
- 31 million due to Baby Boomer retirement
- 65% require some college-37 million
- Need to increase Baccalaureate degree from 32% to 46%
- Degree often —but knowledge and skills STEM.
- As important, “Certificates” for skilled job readiness

WE ARE UNDERPRODUCING USEFUL (employable) EDUCATED PEOPLE! 5 Million Deficit

Source: OECD, BEA-2016
Educational Relevancy is a Global Issue

- 50% YOUTH AROUND THE WORLD DON’T BELIEVE THAT THEIR POST SECONDARY EDUCATION HELP THEM GET JOBS.
- 40% OF EMPLOYERS SAY LACK OF SKILLS MISSING FOR EVEN ENTRY LEVEL POSITIONS.
- 72% OF PROVIDERS SAY THEY HAVE THE SKILLS.

McKinsey 2017
Employment Educational Demands Trends

Source: Georgetown University - Recovery: Job Growth and Education Requirements Through 2020
The Fastest Growing Fields Will Require High Postsecondary Education

- STEM required jobs—Information economy
- Healthcare professions,
- Community services will all require high levels of education in order to compete for a position.

Source: Georgetown University - Recovery: Job Growth and Education Requirements Through 2020
California Will Still Have a Shortage of Highly Educated Workers by 2030

Source: PPIC: Higher Education; PPIC projections
The GIG Economy Needs More Immigrants... Not Fewer

![Chart showing contribution to working-age population growth](chart.png)

Sources: Census Bureau, Moody's Analytics
MEGA DISRUPTION!
Law of the Future

If something big is going to happen in the future, it has to start sometime.
The Internet of Things — IoT

Integrated Operations Center
Smart Grid
Cloud and Services + Platform
Factory Optimization
Home Energy Management
Traffic Flow Optimization
Comms Network Optimization
Hospital Optimization
SMART CITY
SMART HOSPITAL
SMART FACTORY
SMART HIGHWAY

People
SHIFT
Technology

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Profound, Provocative, Pragmatic
Everyday objects have network connectivity, allowing them to send and receive data Without human involvement.
Artificial Intelligence
Human-Machine Collaboration
Artificial Intelligence

- Mimics operations of the human mind
- Machine learning – computers use rules (algorithms)
- To analyze data, learn patterns & glean insights
Robots Complete Complex Tasks

Brain Surgery
The Big AI Question?

Will we as humans advance to a new level of learning whereby the only interesting questions to ask are those that no human has been able to answer yet?
AI Will Make Us More Enlightened or more Stupid...
What is human?

What is our comparative advantage?
WHO will have comparative advantage?
Job Automation 2017

- **TODAY** 60% of jobs have 30% of activities that could be automated with today’s technologies.

- Automation today affects
  - 50% of the world economy
  - 1.2 Billion workers
  - 14.6 Trillion in wages

Source: Economist, MCKinsey 2016
Automation of Work — 2030

- By 2030 new technologies automate 60%
- Yes this destroys many jobs but enables the creation of 2.4 for every job destroyed.
- The new jobs created require higher skills
  - Automation will impact every job category from scientist, physician, lawyer to lower skilled jobs.
  - Robots will do surgeries, agents will prepare legal briefs,

The combination of big data and artificial intelligence allows much to done better and faster that a human.

Source: Economist, MCKinsey 2016
On the way to 2030

- Robotic pharmacists 2021
- Robots and tech replace high end jobs- 2022
- Driverless cars—10% in U.S. 2020 (100% 2055)
- Implantable phones to monitor health-2023
- Big data census in some countries 2023-Canada
- First 3D printed car-2023
- First 3D printed transplant liver 2024
- 30% corporate audit by AI-2025
Second Law of the Future…

If something is unsustainable it will end.
End of Work
As We Know It!
Skills for the Future-HIGH END JOBS

- Social Intelligence
- Create Unique Critical Insights
- Cognitive Load Management
- Trans-Disciplinary
- Design Architect
- Engage Networks
- Cross-cultural Cross-Generational Empathy
- New Media Literacy

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What’s the Future of the American Dream?
How will we close this gap?
Are we Prepared for a life Where work is much less important?
Parting Thoughts
The Future Won’t Resemble the Past!
Don’t Get Lost in Familiar Territory!
Confront Your Competency Addiction

- Humans let memory substitute for thinking
- The mindless, automatic repetition of legacy mindsets and behaviors that no longer produce the desired results
- An intrinsic survival characteristic of humans
- Can only change with conscious effort to change thoughts and behaviors devilish hard to extinguish
Innovation Is Creating Relevancy for the Future
How Relevant is Your Organization and Your Leadership to the Future?
“We may not be able to prepare the future for our children, but we can at least prepare our children for the future.”

Franklin D. Roosevelt
1882-1945
32nd President of the United States of America
Beware of Insight Deficit
Black Hole of the Superficial Insight
Will we become a SLOW country?
Will you become a SLOW organization?
Failure of Imagination

Is Our Biggest Risk!
AND…Take Big Risks

“You can’t connect the dots looking forward; you can only connect them looking backwards. So you have to trust that the dots will somehow connect in your future.

You have to trust in something – your gut, destiny, life, karma, whatever. This approach has never let me down, and it has made all the difference in my life.”

Steve Jobs
1955-2011
Get to the Future Fast and First

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Finding Targets No One Else Can See

A trusted and respected advisor to Chief Executives, Mary O’Hara-Devereaux has more than 25 years of global experience in 65 countries providing senior executives with long-term business forecasts, trend analysis, strategy, and innovation support.

Known for her steady-eyed forecasting, Mary’s ability to analyze emerging trends and translate them into profitable business opportunities is legendary. She is known for finding targets no one else can see.

Global Foresight offers a rich suite of services designed to guide organizations through tumultuous business conditions and a chaotic world stage. Leaders cannot only survive uncertainty; they can discover the incredibly rich opportunities that are open to those with foresight and the ability to innovate strategically and aggressively. Global Foresight’s team of experts, led by founder and CEO Mary O’Hara-Devereaux, provides the research, analysis, insight, and advice organizations need to meet the future with confidence and optimism.