Bracing for the Silver Tsunami: Golden Dividends and Strategic Business Opportunities

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OVERVIEW

• Global Aging & The Greying of America
• Key Drivers
• BIG Opportunities
• The Carolinas: An Ideal Innovations Lab
• Discussion

Signs of Global Aging

• In 2005, the ratio of children to seniors was 3:1; by 2050, the ratio will be 1:1.
• In 2000, close to one quarter of the population in Japan, Spain, and Italy was elderly.
• Close to one-half of their populations will be 65 or older in 2040.
Signs of Global Aging Cont’d

• Japan sells more adult diapers than baby diapers
• China has the 4:2:1 problem
• Today, 9% of the Chinese population is elderly (129 million)
• By 2050, the Chinese elderly population will total 330 million (25% of the total)—larger than the entire U.S. population today

Signs of Global Aging, Cont’d

• For the first time in 100 years, deaths exceeded births among U.S. non-Hispanic whites in 2011
• Today, 16% of the U.S. population is 65+; 26% will be elderly by 2040.
• Close to 40 million people in the U.S. provided unpaid eldercare in 2011 and 2012— at an estimated cost of $30 billion in lost work productivity.

Signs of Global Aging Cont’d

• 10 million millennials are caring for adult family members.
• 25 percent of U.S. caregivers are between 18 and 34 years of age.
• Google launches a medical company—Calico—to defeat death by prolonging life.
Key Drivers

- Changes in Longevity
- Declining Fertility
- Population control policy
- Aging of Boomer Cohort

Average Life Expectancy through History

<table>
<thead>
<tr>
<th>Period</th>
<th>Life Expectancy</th>
</tr>
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<tbody>
<tr>
<td>Cro-Magnon Era</td>
<td>18</td>
</tr>
<tr>
<td>The Renaissance</td>
<td>30</td>
</tr>
<tr>
<td>America in 1850</td>
<td>43</td>
</tr>
<tr>
<td>America Today</td>
<td>78</td>
</tr>
<tr>
<td>Developed World in 2030</td>
<td>101</td>
</tr>
</tbody>
</table>

Source: Arrison (2011)

Longevity Hot Spots

- Ikaria, Greece
- Okinawa, Japan
- Loma Linda, CA
- Nicoya, Costa Rica
- Sardinia, Italy
China’s Total Fertility Rate

<table>
<thead>
<tr>
<th></th>
<th>1975-80</th>
<th>2005-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.0</td>
<td>1.6</td>
</tr>
</tbody>
</table>

TOTAL FERTILITY RATES FOR U.S. WOMEN BY RACE/ETHNICITY, 2012

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Total Fertility Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Races</td>
<td>1.88</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2.18</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>1.76</td>
</tr>
<tr>
<td>Blacks</td>
<td>1.90</td>
</tr>
<tr>
<td>Asian</td>
<td>1.77</td>
</tr>
<tr>
<td>Native American</td>
<td>1.35</td>
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</table>

Snapshot of Global Aging for Industrialized Regions, 2050

<table>
<thead>
<tr>
<th>Region</th>
<th>Median Age</th>
<th>Total Fertility Rate</th>
<th>Population &gt; 60 (%)</th>
<th>Population &gt; 80 (%)</th>
<th>Old Age Dependency Ratio</th>
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<tbody>
<tr>
<td>World</td>
<td>38.8</td>
<td>2.0</td>
<td>22.0</td>
<td>4.0</td>
<td>42.0</td>
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<tr>
<td>North America</td>
<td>43.6</td>
<td>1.9</td>
<td>30.0</td>
<td>9.0</td>
<td>61.0</td>
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<tr>
<td>Western Europe</td>
<td>48.4</td>
<td>1.6</td>
<td>32.0</td>
<td>11.0</td>
<td>82.0</td>
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<tr>
<td>Eastern Europe</td>
<td>50.3</td>
<td>1.6</td>
<td>42.0</td>
<td>9.0</td>
<td>95.0</td>
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<tr>
<td>European FSU</td>
<td>49.1</td>
<td>1.6</td>
<td>40.0</td>
<td>8.0</td>
<td>90.0</td>
</tr>
<tr>
<td>Pacific OECD</td>
<td>51.3</td>
<td>1.5</td>
<td>42.0</td>
<td>14.0</td>
<td>100.0</td>
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</table>
### Snapshot of Global Aging for Developing Regions, 2050

<table>
<thead>
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<th>Region</th>
<th>Median Age</th>
<th>Total Fertility Rate</th>
<th>Population &gt; 60 (%)</th>
<th>Population &gt; 80 (%)</th>
<th>Old Age Dependency Ratio</th>
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</thead>
<tbody>
<tr>
<td>World</td>
<td>38.8</td>
<td>2.0</td>
<td>22.0</td>
<td>4.0</td>
<td>42.0</td>
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<tr>
<td>Developing Regions</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latin America</td>
<td>38.9</td>
<td>2.1</td>
<td>22.0</td>
<td>4.0</td>
<td>43.0</td>
</tr>
<tr>
<td>Central Asia</td>
<td>37.9</td>
<td>2.0</td>
<td>20.0</td>
<td>3.0</td>
<td>38.0</td>
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<tr>
<td>Middle East</td>
<td>37.2</td>
<td>2.0</td>
<td>19.0</td>
<td>2.0</td>
<td>34.0</td>
</tr>
<tr>
<td>North Africa</td>
<td>37.9</td>
<td>2.0</td>
<td>19.0</td>
<td>2.0</td>
<td>36.0</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>27.3</td>
<td>2.6</td>
<td>7.0</td>
<td>0.0</td>
<td>13.0</td>
</tr>
<tr>
<td>China &amp; CPA</td>
<td>47.7</td>
<td>1.5</td>
<td>35.0</td>
<td>7.0</td>
<td>73.0</td>
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<tr>
<td>South Asia</td>
<td>37.0</td>
<td>1.9</td>
<td>17.0</td>
<td>2.0</td>
<td>33.0</td>
</tr>
<tr>
<td>Pacific Asia</td>
<td>39.5</td>
<td>1.9</td>
<td>23.0</td>
<td>4.0</td>
<td>44.0</td>
</tr>
</tbody>
</table>

### Responses to Declining Demographics of Rich Counties
- “How to get people to have more unprotected sex,” that is, “how to get them to have more babies”

- Fareed Zakaria GPS, June 14, 2015

### Responses to Declining Demographics Cont’d
- France—paid family leave for parents & preschool for three years
- Denmark --“Do it for Denmark”—10% of Danish children are conceived on vacations
- Japan—funding matchmaking events
- South Korea—trying to reduce price of weddings to encourage marriage
Responses to Declining Demographics, Cont’d

- A region in Russia encouraged citizens to “bear a patriot” in June 2012, on Russia Day, offering money, refrigerators, and even cars.
- Singapore encouraged baby making on its national holiday.
- China abandons its one child policy.

U.S. POPULATION CHANGE BY AGE, 2000-2010

<table>
<thead>
<tr>
<th>Age</th>
<th>2010</th>
<th>Absolute Change 2000 - 2010</th>
<th>Percentage Change 2000 - 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;25</td>
<td>104,853,555</td>
<td>5,416,289</td>
<td>5.4%</td>
</tr>
<tr>
<td>25-44</td>
<td>82,134,554</td>
<td>-2,905,697</td>
<td>-3.4%</td>
</tr>
<tr>
<td>45-64</td>
<td>81,489,445</td>
<td>19,536,809</td>
<td>31.5%</td>
</tr>
<tr>
<td>65+</td>
<td>40,267,984</td>
<td>5,276,231</td>
<td>15.1%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>308,745,538</td>
<td>27,323,632</td>
<td>9.7%</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Age</th>
<th>Age 50</th>
<th>Age 55</th>
<th>Age 62</th>
<th>Age 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Number/Day</td>
<td>12,344</td>
<td>11,541</td>
<td>9,221</td>
<td>8,032</td>
</tr>
<tr>
<td>Average Number/Minute</td>
<td>8.6</td>
<td>8.0</td>
<td>6.4</td>
<td>5.6</td>
</tr>
</tbody>
</table>
Metropolitan and Micropolitan Destinations of Elderly Migrants, 2006-2010

Old Age Dependency Ratios for U.S. Counties, 2014

The Multigenerational Workforce
Multi-Generational Diversity

<table>
<thead>
<tr>
<th>Generation</th>
<th>Birth Years</th>
<th>Current Ages</th>
<th>Est. Workforce Participation in 2013*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterans</td>
<td>1922-1945</td>
<td>70-93</td>
<td>9% (7M)</td>
</tr>
<tr>
<td>Traditionalists</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WWII Generation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silent Generation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby Boomers</td>
<td>1946-1964</td>
<td>51-69</td>
<td>38% (60M)</td>
</tr>
<tr>
<td>&quot;Boomers&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generation X</td>
<td>1965-1980</td>
<td>35-50</td>
<td>32% (51M)</td>
</tr>
<tr>
<td>Baby Busters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generation Y</td>
<td>1981-2000</td>
<td>15-34</td>
<td>25% (40M)</td>
</tr>
<tr>
<td>Millennials</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: AARP – Leading a Multi-Generational Workforce, 2007

Succession Planning & Accommodations for Elder Care

Organizational Game Changers!

The BIG Opportunity I
The Aging Boomer Market
A $15 Trillion Prize
Globally
Bloomberg BusinessWeek

The Silver Shopper

“You’d have to be an idiot to turn your back on this humongous growth market”

Jody Holtzman
AARP

Boomers will redefine what it means to be old
Remember
• “The majority of Baby Boomers work and play little different from those in their 40s. They’re not obsessing over arthritis, incontinence, and dementia.”

Boomers Defined
• More are working past 65
• More likely to purchase a car today than other generations.
• Watch significantly more TV than Millennials.
• More than half are on Facebook
• Major consumers of Apple’s products

Boomers Defined Cont’d.
• AARP has started an over 50 model search.
• Amazon.com has launched a website dedicated to customers over 50.
• 63% of Americans plan to work during retirement.
The Aging Consumer Paradox

• Seniors don’t like to be singled out and reminded that they are old.
• The company that does a great job of making products for seniors takes great pains not to make products for seniors.

The Big Opportunity II

Encore Entrepreneurship

Fifty is the New 20

• One quarter of 44-70+ population interested in becoming entrepreneurs.
• Americans 55-64 start new business ventures at a higher rate than any other group, including 20 somethings.
• 23% of new entrepreneurs were age 55-64 in 2010, up from 14% in 1996.
Fifty is the New 20 Cont’d

• 50% of businesses started by 50+ entrepreneurs still operating 5 years later.

• Encore Entrepreneurs alleged to have: Double E-SP: Experience, Expertise, Seasoned Judgement & Proven Performance.

Pathways to Encore Entrepreneurship

• Great Recession
• Economic Globalization & Emergence of “GIG” Economy
• Unfulfilled Dreams
• Unanticipated Crises
• Caregiver & Childcare Responsibilities
• Affordable Care Act
• Boredom

Desire to Have Social Impact

• Social Services 37%
• Poverty Alleviation 28%
• At Risk Youth 24%
• Economic Development 24%
• Health Care 24%
• The Environment 19%
• Human Rights/Social Justice 18%
### The BIG Opportunity III

- How do we help seniors age gracefully in their homes and their communities?
- That is, how to help them age in place and keep them out of hospital emergency rooms, expensive nursing homes, and long term care facilities?
- What role can digital technologies play in healthy aging?

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### Age-Related Challenges

- Mobility Limitations
- Hearing Loss
- Vision Impairments
- Mental Disorders
- Substance Abuse Issues
- Chronic Disabilities
- Economic Constraints

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### The Triple Whammy

- Aging Boomers Face Mortality
- Elder Care Responsibilities
- Raising Grandchildren
AGING IN PLACE
RESEARCH FRAMEWORK

Senior Population
Person-Centered Activities
Assistive Technologies
Digital Literarcy
Successful Aging in Place

Sensory
Caregivers
Service Providers

Built Environment
Centered Activities
Dwellings
Neighborhoods
Communities
Cities/Regions
Nation-state

The Carolinas
An Ideal Elder Care Innovations Lab

Elderly Share of Net Population Change, 2000-2010

<table>
<thead>
<tr>
<th>Area</th>
<th>Total Population Change</th>
<th>Elderly Population Change</th>
<th>Elderly Share of Net Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>26,884,972</td>
<td>3,737,660</td>
<td>13.9%</td>
</tr>
<tr>
<td>South Region</td>
<td>14,318,924</td>
<td>2,455,718</td>
<td>17.2%</td>
</tr>
<tr>
<td>The Carolinas</td>
<td>2,099,702</td>
<td>411,572</td>
<td>19.6%</td>
</tr>
<tr>
<td>North Carolina</td>
<td>1,486,170</td>
<td>265,031</td>
<td>17.8%</td>
</tr>
<tr>
<td>South Carolina</td>
<td>613,532</td>
<td>146,541</td>
<td>23.9%</td>
</tr>
</tbody>
</table>
County Typologies, 2010 - 2014

Distribution of Widowed Elderly Women by County, The Carolinas, 2010

Legend
- 51% or more
- 41% - 50%
- 36% - 40%
- 25% - 35%
- 15% - 25%
- 10% - 15%
- 5% - 10%
- 0% - 5%

The KFBS/Gillings Elder Care Economy Innovations Hub

The Carolinas, 2010
SMART TECHNOLOGY + BIG DATA + ANALYTICS

“SMART” TECHNOLOGIES REDUCE THE RISK OF FALLS AND ENABLE SENIORS TO SAFELY AGE IN PLACE

Dr. Noel P. Greis, Director, Digital Enterprise and Innovation, Kenan Institute and Adjunct Professor of Operations Management, Kenan-Flagler Business School

FINDING OUT WHAT WORKS?
AN EVIDENCED-BASED FRAMEWORK TO DETERMINE THE MOST EFFICIENT ALLOCATION OF RESOURCES TO ACHIEVE THE HIGHEST REDUCTION IN FALLS

CREATE WELL-BEING BY ALIGNING INTERVENTIONS WITH RISK

Type of Flooring?
Static in Home?
Medication?
Age?
Vision?
Recent Falls?
Eyesight?
Ethnicity?
Medical Conditions?

MAXIMIZE THE COST EFFECTIVENESS OF INTERVENTIONS AND PREVENT FALLS

Dr. Noel P. Greis, Director, Digital Enterprise and Innovation, Kenan Institute and Adjunct Professor of Operations Management, Kenan-Flagler Business School

Think about Urban Design for Our Aging Population
Urban Design Principles

- Visitability of institutional settings
- Senior playgrounds & fitness parks
- Universally accessible transport systems
- Complete street ordinances
- Extended walk times at pedestrian cross-walks
- Senior friendly street signage

OPPORTUNITIES

- Cater products & labeling to emerging groups
- Design & package products with equality in mind

LABELING & PACKAGING

- Easy to Read
- Easy to Understand
- Easy to Carry
- Easy to Enjoy
- Safer to Use
### Definition of Easy to Carry: Current vs. Future

<table>
<thead>
<tr>
<th>Current Population</th>
<th>Future Grey Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulky and Heavy</td>
<td>Minimal Unit Size and Weight</td>
</tr>
<tr>
<td>Big-sized cart, shopping cart, car trunk</td>
<td>Compact car, Rolling carriage</td>
</tr>
<tr>
<td>Price Sensitive</td>
<td>Weight Sensitive</td>
</tr>
<tr>
<td>Aesthetics is More Important</td>
<td>Function is More Important</td>
</tr>
<tr>
<td>Mostly carry with one hand</td>
<td>Handle with both hands</td>
</tr>
</tbody>
</table>

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**The End**