The G21 Labour Market
Where the Jobs Are

Dr. Jude Walker
The global picture
What’s happening in the world?

5 billion of the Earth’s 7 billion people are adults aged 15 and older

Of these, 3 billion tell Gallup that they work or want to do so. Most need full-time, formal jobs (those that involve receiving a paycheck for steady work averaging more than 30 hours a week)
What’s happening in the world?

“The problem is that there are currently only 1.2 billion full-time, formal jobs in the world. This is a potentially devastating global shortfall of about 1.8 billion good jobs. It means that global unemployment ... approaches a staggering 50 per cent, with another 10 per cent wanting part-time work.” Jim Clifton, Gallup.

http://www.shapingtomorrow.com/trends.cfm?output=1&id=21579
What’s happening in the world of work?

• Current shortfall of 1.8 billion jobs

  Trapp, 2012

• 2 billion jobs to disappear by 2030

  US futurist Thomas Frey, 2012

  http://www.futuristspeaker.com/2012/02/2-billion-jobs-to-disappear-by-2030/
Why is education so important?

Based on current graduation trends, 82% of young people today will complete upper secondary education, but those who do not will face ever greater challenges in entering and staying in the job market. Indeed, over fifty per cent of 15 to 19 year-olds who are not in school are unemployed or out of the labour force.

http://www.oecd.org/document/62/0,3746,en_2649_201185_46605950_1_1_1_1,00.html
Global growth industries

• Green and sustainable energy (projected growth of 20%)
• Personal care – strategies to address health problems (projected growth of 15%)
• On-line and for-profit education services (projected growth of 10.7%)
• Social network games (projected growth of 2.2%)
• Mobile app’s (projected annual growth of 128%)
• 3D printing (projected growth of 14%)

• ‘everything from augmented reality glasses to smartwatches- is on the fast track with growth and will likely see shipments surge by more than 550% from 2011 to 2016. Overall, the research group estimates that **171 million wearable tech devices will ship in 2016**. That echoes other analysts’ projections with **wearable tech becoming a $1.5 billion market in 2014**.

Get Ready For The Wearable Technology Revolution, Aaron Levitt, April 30, 2013
The national picture
Return on investment

• ‘Full-time employed graduates receive a substantial wage premium over non-graduates, on average of the order of 65%”

• “Tertiary education graduates across the OECD earn on average 70% more than the non-tertiary educated, meaning despite rising costs of higher education in Australia the investment is still worthwhile”

• “80% of tertiary education graduates were employed, compared to 60% with below upper secondary education on average across the OECD”

Sydney Morning Herald, ‘OECD figures show public benefits more than individuals from tertiary education’, September 2014,
Sydney Morning Herald, ‘OECD figures show public benefits more than individuals from tertiary education’, September 2014,
Business/Industry - National

Change in employment by industry, 2006 to 2011

Australia

Agriculture, Forestry and Fishing
Mining
Manufacturing
Electricity, Gas, Water and Waste Services
Construction
Retail Trade
Wholesale trade
Accommodation and Food Services
Transport, Postal and Warehousing
Information Media and Telecommunications
Financial and Insurance Services
Rental, Hiring and Real Estate Services
Professional, Scientific and Technical Services
Administrative and Support Services
Public Administration and Safety
Education and Training
Health Care and Social Assistance
Arts and Recreation Services
Other Services
Inadequately described or not stated

National growth industries

- **Gas**: off-shore oil and gas development. In addition, coal seam and shale gas industries are just starting in Australia.
- **Tourism**
- **Agribusiness**
- **Health**: including biopharmaceutical research and biotechnology. The biotechnology industry includes national revenue of $6B, annual growth of 1.7% and employs 17,519 people.
- **International education**
- **Wealth management**

What’s happening with youth?

Figure 2: Job-finding probabilities (%) in Australia 1992 to 2015

Source: Author calculations based on data from ABS datacube GM1

Brotherhood of St. Laurence, The Teenage Dream Unravels: Trends in Youth Unemployment, March 201
What’s happening with youth?

Figure 3: Job-exit probabilities (%) in Australia 1992 to 2015

Source: Author calculations based on data from ABS datacube GM1

Brotherhood of St. Laurence, The Teenage Dream Unravels: Trends in Youth Unemployment, March 2015
What’s happening with youth?

Table 1: Composition of the unemployment pool (%), all age groups, 2005 to 2012

<table>
<thead>
<tr>
<th>Age</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tbody>
<tr>
<td>15–24</td>
<td>41.0</td>
<td>46.6</td>
<td>43.1</td>
<td>43.5</td>
<td>43.8</td>
<td>40.8</td>
<td>42.8</td>
<td>43.8</td>
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<tr>
<td>25–39</td>
<td>28.7</td>
<td>27.5</td>
<td>28.4</td>
<td>27.4</td>
<td>28.4</td>
<td>31.2</td>
<td>31.1</td>
<td>31.3</td>
</tr>
<tr>
<td>40–54</td>
<td>24.0</td>
<td>17.0</td>
<td>18.6</td>
<td>20.1</td>
<td>19.0</td>
<td>20.0</td>
<td>18.4</td>
<td>16.6</td>
</tr>
<tr>
<td>55 and over</td>
<td>6.3</td>
<td>9.0</td>
<td>9.9</td>
<td>9.0</td>
<td>8.8</td>
<td>8.0</td>
<td>7.7</td>
<td>8.4</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
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</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than Year 12</td>
<td>49.6</td>
<td>46.2</td>
<td>53.3</td>
<td>44.9</td>
<td>45.9</td>
<td>45.0</td>
<td>32.1</td>
<td>36.1</td>
</tr>
<tr>
<td>Year 12</td>
<td>18.4</td>
<td>21.3</td>
<td>18.1</td>
<td>19.7</td>
<td>22.5</td>
<td>23.8</td>
<td>20.0</td>
<td>20.2</td>
</tr>
<tr>
<td>Certificate III or IV</td>
<td>16.1</td>
<td>16.7</td>
<td>14.6</td>
<td>15.9</td>
<td>16.1</td>
<td>14.5</td>
<td>20.8</td>
<td>18.4</td>
</tr>
<tr>
<td>Other tertiary*</td>
<td>15.9</td>
<td>15.9</td>
<td>14.0</td>
<td>19.4</td>
<td>15.6</td>
<td>16.7</td>
<td>27.1</td>
<td>25.3</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* This category includes individuals with diplomas and advanced diplomas, bachelors degrees and postgraduate qualifications. Source: Author calculations based on HILDA data, wave 12.
The regional picture
What might the future hold?
Stable labour market

Stable environment
The Long Descent

Figure 1.1. The Hubbert Curve

One of the basic tools of petroleum geology, the Hubbert curve predicts the total production of petroleum from an oil well. Peak production comes when about half of total production has already taken place.

--> 2 possible futures
Greer, John Michael
*The Long Descent*
Chaotic environments

Disruptive technologies
Transport
What’s happening in the world of work?

Automobile Transportation – Going Driverless

Jobs Going Away

– Taxi and limo drivers, gone.
– Bus drivers, gone.
– Truck drivers, gone.
– Gas stations, parking lots, traffic cops, traffic courts, gone.
– Fewer doctors and nurses will be needed to treat injuries.
– Pizza (and other food) delivery drivers, gone.
– Mail delivery drivers, gone.
– FedEx and UPS delivery jobs, gone.
– As people shift from owning their own vehicles to a transportation-on-demand system, the total number of vehicles manufactured will also begin to decline.
What’s happening in the world of work?
Automobile Transportation – Going Driverless

New Jobs Created
• Delivery dispatchers
• Traffic monitoring systems, although automated, will require a management team.
• Automated traffic designers, architects, and engineers
• Driverless “ride experience” people.
• Driverless operating system engineers.
• Emergency crews for when things go wrong.
Construction
Health
What does this mean?
The top 10 in-demand jobs in 2010
… did not exist in 2004
Job losses due to computerisation

Frey, CB & Osborne, MA, ‘The Future of employment: How Susceptible are jobs to Computerisation?’
Jobs which are forecast to disappear over the next two decades

<table>
<thead>
<tr>
<th>Library technicians</th>
<th>Agricultural technicians</th>
</tr>
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<tbody>
<tr>
<td>Clerks</td>
<td>Bookkeepers</td>
</tr>
<tr>
<td>Telemarketers</td>
<td>Legal secretaries</td>
</tr>
<tr>
<td>Restaurant cooks</td>
<td>Drivers</td>
</tr>
<tr>
<td>Farm labourers</td>
<td>Sales workers</td>
</tr>
<tr>
<td>Dental technicians</td>
<td>Credit analysts</td>
</tr>
<tr>
<td>Machine setters</td>
<td>Umpires/referees</td>
</tr>
<tr>
<td>Cashiers</td>
<td>Insurance appraisers</td>
</tr>
<tr>
<td>Real estate brokers</td>
<td>Loan officers</td>
</tr>
<tr>
<td>Couriers</td>
<td>Welders</td>
</tr>
</tbody>
</table>
Areas which are forecast to remain ‘safe’ from automation in the medium term

- Fine motor skills and manipulation
- Creative intelligence
- Social intelligence
Work skills for the future

• Sense making - ability to determine deeper meanings
• Social intelligence - ability to connect with others
• Novel and adaptive thinking
• Cross-cultural competency
• Computational thinking — ability to translate data into abstract concepts and understand data-based reasoning
• New-media literacy - ability to assess & develop content for new media forms and to use these for persuasive communication

Institute for the Future, Phoenix University, *Future Work Skills for 2020*
Questions/comments?