A Living Wage in Australia’s Clothing Supply Chain
Estimating factory wages as a share of Australia’s retail price

Produced by Deloitte Access Economics for Oxfam Australia
20 September 2017
About the project

**Deloitte Access Economics’ capabilities**

With around 160 professional economists, Deloitte Access Economics is Australia’s largest private sector economics practice. Our team is united by a passion for economics and a belief that it can create a better future for all. Our deep economic rigour comes with practical commercial advice to help shape public policy, deliver business insights and inform investment strategies.

Economic forecasting and modelling is integral to our work, whether it is policy advice, maintaining and publishing in-house forecasts for the Australian economy, or generating bespoke forecasts for clients. Our clients value the rigorous quantitative analysis that supports the advice we provide.

**The project**

Deloitte Access Economics has been engaged by Oxfam Australia to provide analysis of Australia’s garment industry. Specifically, Oxfam has requested Deloitte Access Economics answer two specific questions:

- **Current Factory Wages:** What is the typical share of the overall price to Australian consumers of garments produced in global supply chains which is spent on factory worker wages?

- **Living Wages:** How much would the overall cost of bringing a garment to Australian consumers increase if a living wage were instead paid to factory workers?

**Our approach**

Using previous research, publicly available data, and data from a number of Australian businesses, Deloitte Access Economics has put together a cost structure framework of Australia’s garment supply industry. This framework represents the whole industry as an average and is not representative of a specific business or garment.

Deloitte Access Economics has also estimated the impact on retail prices of moving towards a living wage. This analysis assumes that all players within the supply chain pass on the full cost of the wage increase. This does not answer how businesses could adjust their operations or how a living wage could practically be implemented.
Deloitte Access Economics has been engaged by Oxfam to analyse Australia’s garment supply chain and estimate the impact of moving towards paying a “living wage” to factory workers within the supply chain.

**Executive summary**

**Background**

Deloitte Access Economics has been engaged by Oxfam to analyse Australia’s garment supply chain and estimate the impact of moving towards paying a “living wage” to factory workers within the supply chain.

**Two Key Questions**

- What share of a garment price is spent on a factory worker’s wage?
- How does the overall cost of bringing the garment to Australia change if factory workers are paid living wages?

**Research Areas**

- Breakdown of Retail Margins
- Breakdown of Costs of Goods Sold and Wholesale Margins
- What is a living wage, and what are current factory wages?
- Impact of a living wage on retail prices

**Key Findings**

- **4%** of retail prices
- Estimated Current Factory Wages

- **5%** of retail prices
- Living Wages

Paying a living wage increases the final garment price by 1%
The cost structure of Australian clothing prices

Factory wages ~4% of the final garment price

- Final retail price including GST
- Retail and wholesale costs estimated using ABS data
- Import costs estimated using various data sources
- Factory cost breakdowns estimated using various data sources

This represents the average shares across Australia’s supply chain, and may differ between products. Inputs may not add to total due to rounding.
Costing the impact of a living wage in Australia’s supply chain
Paying a living wage increases the final garment price by 1%

- The average living wage across Australia’s supply chain is 13% higher than the estimated current average factory wage.

- Moving to paying a living wage is estimated to boost factory wages across Bangladesh (76%), India (41%), Indonesia (29%) and Vietnam (8%) but remain unchanged in China.

- Companies are assumed to maintain their profit margins, multiplying the impact of high factory labour costs.

- Tariffs are applied to the factory price of garments, further multiplying the increase in factory wages.

- GST is applied to the final retail price adding another 10% to the increased cost.

- Overall, a 13% increase in factory wages increases the final retail price by 1% if the cost is passed on to consumers through the supply chain.

- As an example, if a shirt currently costs $25 in an Australian retail outlet, moving towards a living wage would on average add $0.21 to the final retail price.

<table>
<thead>
<tr>
<th>Contribution to change in the retail price of a $25 shirt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory labour</td>
</tr>
<tr>
<td>$0.15</td>
</tr>
</tbody>
</table>
Breaking down retail costs
Breaking down retail costs in Australia

Distributors average profit margin ~5% of final garment price

36%

The **cost of goods** encompasses the cost of manufacturing the clothing, plus freight and tariff costs.

Around 96% of garments sold in Australia are imported from overseas.

Clothing manufacturers in Australia tend to produce high-end products with tight profit margins and higher prices.

10%

**Wholesaler’s gross margin** includes the cost of doing business (8%) plus their net profit margin (2%).

A vertically integrated business model allows some retailers to source directly from manufacturers, eliminating the need for wholesalers.

Our estimates are across Australia’s whole supply chain, incorporating both vertically integrated and traditional business models.

45%

**Retailer’s gross margin** includes the cost of doing business (41%) plus their net profit margin (3%).

Wages and occupancy costs are the main costs of doing business in the retail sector, accounting for around 41% of the final retail price.

Retailer’s profit margins vary considerably depending on the level of competition and outlet turnover.

9%

**Goods and services tax (GST)** is applied to the cost of the goods before sale.

In Australia, GST is a flat rate of 10% across most products and services, including garments.
Breaking down retail costs in Australia
Profits vary widely in the garment industry

• The retail industry includes various subindustries that have many different cost structures and face varied profit margins.

• Garments are primarily sold in clothing stores and department stores. These subsectors have a higher share of operating costs compared to the general retail industry.

• Clothing stores have higher operating costs and lower profit margins compared with department stores. This is due to the lower turnover rates for clothing retailers.

• The cost of goods sold, wholesale gross margins, and retail gross margins for the garment industry have been estimated using detailed information on the cost structure of clothing and department stores.

• In general, retail profits have come under pressure in recent years due to high competition and price sensitive consumers.

• For example, the largest department stores in Australia reported profits ranging between 5% and losses of 2% in 2016-17\(^1\).

\(^1\)IBISWorld Industry Report G4260, *Department Stores in Australia*, January 2017

Source: ABS 8622.0 (2012-13), Deloitte Access Economics
Estimating the cost of bringing garments to Australia’s shores
Estimating the average tariff on clothing items
Tariffs are falling across Australia’s garment supply chain

• The average tariff rate on garments has been declining over the past decade, driven in part by new trade agreements.

• Tariffs on Chinese goods are the largest amongst Australia’s major trading partners in the garment industry. However, these rates are being reduced as part of the Australia-China free trade agreement that came into effect in 2015. By 2019 there will be no tariff on garment imports from China.

• Products exported from Bangladesh, a country classified as a ‘least developed country’, can claim duty free entry into Australia. With a growing share of clothing coming from Bangladesh, the average tariff rate will continue to decline.

• The average tariff rate is calculated using trade data from the World Integrated Trade Solution. Each rate is weighted by the share of total garment inputs.

Most garments are shipped to Australian shores
Global shipping rates are rising from historic lows

- Australia imports 96% of garments sold in stores\(^2\), with the majority of products sourced from Asia.

- Garments are shipped in containers, docking at major ports in Australia. A 20ft container can hold anywhere from 10,000 to 40,000 articles of clothing depending on their size.

- The global container shipping industry experienced a significant decline in prices in 2016 due to overcapacity and subdued global demand. Global demand is lifting, and this is putting some upward pressure on prices in 2017. However, **global freight prices remain below historic levels**\(^3\).

- The average freight cost is estimated as a share of the factory price using data from a number of Australian businesses.

- On average, freight amounts to **10% of the factory price**. This doesn’t include road or rail transport costs from the port to a distribution centre or the retail store front.

\(^2\)ABS 5209.0.55.001 Australian National Accounts: Input-Output Tables 5 & 8
\(^3\)Shanghai Shipping Exchange (2017). *Shanghai Containerized Freight Index*. Available at: [http://en.sse.net.cn/indices/scfinew.jsp](http://en.sse.net.cn/indices/scfinew.jsp)
Calculating factory costs
Major source countries for Australian clothing goods

Asia provides around 91% of garments sold in Australia

Shares have been calculated using merchandise import data on clothing and textiles from 2016

Source: DFAT, Deloitte Access Economics
Calculating factory costs

Factory cost structures differ across geographies

- Labour costs vary significantly between countries and have seen an increasing trend over the past 10 years due to advocacy on minimum wages.

- China’s labour costs are relatively low despite having significantly higher wage levels. Automation is making the cost of labour less relevant because plants can produce more with fewer workers.

- Chinese automation also reduces overheads. China became the world’s biggest robot market in 2013, accounting for around 20% of world sales⁴.


Calculating Factory Costs
Raw materials account for the largest share of the factory price

- The average factory cost structure in Australia’s garment supply chain takes into account the different operating conditions in the major source countries.

- Raw materials account for over half of the final factory price, with a relatively constant share across countries.

- Overheads include factory running costs such as rent, electricity, and non-factory worker wages. Some sources also included shipping costs for raw materials.

- Profit margins account for the smallest share of the final factory price. Profits are being squeezed across the supply chain due to increased competition and rising labour costs.

Factory wages and a living wage
Estimating factory wages in Australia’s supply chain
Chinese wages soar above its peers, at over A$800 per month

- Chinese factory wages are on average over double that of wages in the other major source countries, while Bangladesh and India factory wages are the lowest.

- Average factory wages were estimated for each of the 5 source countries using factory wage data supplied by the *H&M Sustainability Report (2016)* and a number of Australian businesses.

- The wage level varies across the major source countries, and does not necessarily correlate with differing factory shares across countries. This is unsurprising, as each factory faces cost structures specific to its geography.

- There is a wide distribution in factory wages within the 5 source countries. In China, for instance, per capita disposable wages were nearly four times higher for urban workers compared with rural workers on average in 2016\(^5\).

- There are limitations to the data that impact the modelling and the estimates can be improved and refined over time with better data. For example, it is unclear how Australian suppliers rank within the distribution of factories across the major source countries. Furthermore, we have based our estimates of data reported to retailers which can be different to what factory workers actually receive.

- However, the current estimates do provide a good representation of average factory wages across Australia’s supply chain at this point in time.

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>Bangladesh</th>
<th>India</th>
<th>Indonesia</th>
<th>Vietnam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated factory average monthly gross wages (A$)</td>
<td>$828</td>
<td>$141</td>
<td>$174</td>
<td>$214</td>
<td>$287</td>
</tr>
</tbody>
</table>

*Source: H&M Sustainability Report 2016, Australian retailer data*

Note: all figures are in $A and converted using average exchange rates for 2015.

## Comparison of living wage methods

<table>
<thead>
<tr>
<th>Asia Floor Wage</th>
<th>Anker Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application and output</strong></td>
<td><strong>Methodology applicable for any country or region.</strong></td>
</tr>
<tr>
<td>Methodology only applies to Asia given the underlying assumptions made.</td>
<td>Living wage figures for each country calculated in local currency (can be converted to another currency using current exchange rate).</td>
</tr>
<tr>
<td>Living wage figures for each country converted into a PPP dollar figure using the World Bank’s PPP conversion factor.</td>
<td></td>
</tr>
<tr>
<td>The PPP dollar figures for each country are then averaged to generate the Asian Floor Wage.</td>
<td></td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td></td>
</tr>
<tr>
<td>Food costs based off a living wage model diet, calculated based off food prices from places where workers typically shop.</td>
<td>Food costs based off a living wage model diet, calculated based off food prices from places where workers typically shop.</td>
</tr>
<tr>
<td>A living wage model diet for each region is provided by the World Health Organisation (WHO) modelling.</td>
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</tr>
<tr>
<td>Food prices are based on low-cost items and adjusted for seasonality.</td>
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</tr>
<tr>
<td>Assumes that the weighting between food and non-food items in Asia is 50-50.</td>
<td>Estimated by determining rent for an acceptable dwelling plus utility costs when they are not included in rent.</td>
</tr>
<tr>
<td>Separately calculates the cost of housing between urban and rural localities in a region.</td>
<td></td>
</tr>
<tr>
<td><strong>Other essential needs</strong></td>
<td></td>
</tr>
<tr>
<td>Assumes 40% of monthly income devoted to non-food expenses, including housing, travel, education and health costs.</td>
<td>Based on secondary data and current household expenditures in the region according to recent household expenditure surveys.</td>
</tr>
<tr>
<td>Data is screened for costings that should be excluded on the grounds that they are unnecessary for a decent living standard (e.g. tobacco).</td>
<td></td>
</tr>
<tr>
<td><strong>Discretionary spending</strong></td>
<td></td>
</tr>
<tr>
<td>Assumes that 10% of monthly earnings goes towards discretionary spending (for entertainment, savings or if main earner loses their job).</td>
<td>Assumes a 5% margin for unexpected events, like illnesses, accidents and funerals.</td>
</tr>
<tr>
<td><strong>Family size and wage earners</strong></td>
<td></td>
</tr>
<tr>
<td>Typically assumes fixed family size (two adults and two children) and one worker per household.</td>
<td>Multiplies the cost of decent living by average family size in the region with the result then divided by the regional average of full-time employees per household.</td>
</tr>
</tbody>
</table>

**Source:** Asia Floor Wage Alliance, Global Living Wage Coalition
Factory wages fall short of a living wage
China is the only major source country to pay a living wage

- Estimated factory wages also include overtime, which may overstate average levels in some cases. Some factory workers may receive actual wages below our estimates.

- Living wages are higher than estimated factory wages in Bangladesh (76%), India (41%), Indonesia (29%), and Vietnam (8%).

- Chinese factory wages are estimated to be 79% higher than the living wage.

- Where the Anker methodology is unavailable the AFW was used in conjunction with various labour market information to estimate living wages.
Note: all figures are in $A and converted using average exchange rates for 2015.
Calculating a living wage in Australia’s supply chain
Moving to a living wage raises labour costs by 13%

• A key question of this research is what would it look like if all factories in Australia’s supply chain were to move to a living wage.

• The estimated current factory wage is approximately A$587 per month, and a living wage is 13% higher at approximately A$664 per month. Both wages are a weighted average across the major source countries in Australia’s garment supply chain.

• Bangladesh wages receive the biggest boost, nearly doubling from A$141 to A$248. Vietnam receives the smallest boost on average, at just A$21.

• Chinese factory wages are receiving a boost due to a number of economic forces at play in the country, including labour market shortages, a growing cost of living, and improvements in automation technologies. The estimated current factory wage is already higher than the living wage, and for this reason Chinese wages are held constant at A$828 for the living wage calculation.

<table>
<thead>
<tr>
<th></th>
<th>Monthly wages, A$</th>
<th>Living wage (Anker)</th>
<th>Estimated factory wage</th>
<th>Minimum wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bangladesh</td>
<td>248</td>
<td>141</td>
<td></td>
<td>87</td>
</tr>
<tr>
<td>India</td>
<td>246</td>
<td>174</td>
<td></td>
<td>126</td>
</tr>
<tr>
<td>Indonesia</td>
<td>277</td>
<td>214</td>
<td></td>
<td>112</td>
</tr>
<tr>
<td>Vietnam</td>
<td>308</td>
<td>287</td>
<td></td>
<td>127</td>
</tr>
</tbody>
</table>

Note: all figures are in $A and converted using average exchange rates for 2015; Bangladesh and Vietnam living wages are an average of urban and rural estimates.
Calculating a living wage in Australia’s supply chain
Moving to a living wage increases the final retail cost by 1%

• Assuming that the cost of living wage is fully passed on to final garment consumers, a 13% rise in the average factory wage across Australia’s supply chain results in a **1% increase in the final retail price** of a garment.

• The cost of a living wage is amplified through profit margins and taxes, which provide a **multiplier effect** to the higher factory wages.

• The garment sector is **competitive**, with both retailers and consumers highly price sensitive. This may limit the ability of factories and retailers to pass on the cost of a living wage.

• However, if only a small subset of the market were to move to a living wage, price sensitive consumers may opt for a cheaper alternative and put **downward pressure on retailer profit margins**. Similarly, if only one source country were to move to a living wage and pass this cost on, Australian retailers may choose to change to lower cost sources for their products from cheaper alternatives.

• Assuming the cost of a living wage is uniformly introduced across the supply chain, consumers would end up paying for the increase in wages through **higher retail prices**.
Methodology
Literature Review

Factory wage analysis has been conducted by a number of groups outside of Australia, with similar results.

- Deloitte Access Economics’ results are comparable to factory wage analysis completed by other organisations.

- **World Economic Forum (2015)** estimated that factory wages Bangladeshi factory wages contributed 0.6% to value of a T-shirt sold in Germany. The largest contributors to the final price were brand profit (12.5%) and tax (16%). In Bangladesh, the factory wage represents 14% of the living wage and 19% of the legal minimum wage.

- According to **O’Rourke Group Partners (2011)**, a generic $14 polo shirt sold in Canada and made in Bangladesh actually costs a retailer only $5.67, while workers only received 12 cents. Factory wage costs therefore represent 0.86% of total price, while retailers have a 60% mark-up.

- An analysis by **Bloomberg (2013)** reveals that factory wages make up 4% of the total price of a pair of jeans sold in Britain. In this situation, 37% of total costs can be attributed to the intermediary, for costs of shipping and distribution costs.

- A report by **Global Fashion Agenda** and **Boston Consulting Group (2017)** assesses that minimum wages in the fashion industry are half of what can be considered a living wage.

**Explanation of variation**

- Much analysis in this area erupted after the collapse of a eighty storey factory in Bangladesh, resulting in the death of hundreds of factory workers in 2013.

- Since then, there has been significant reform and push to improve the standards and rights of factory wages. Moreover,‘ Deloitte Access Economics’ results may vary, in so far as they reflect updated and Australia-specific data.

- The data sources are unclear, but tend to focus on Bangladesh. Deloitte Access Economics’, on the other hand, has focussed on Australia’s diverse import sources.
Estimation methods - summary

**Factory costs** were broken into labour, overheads, materials, and profit. In sources where indirect labour was included in the factory wage cost, other country specific sources were used to separate out direct labour. Average breakdowns across a number of sources for each country were used, and then weighted each country for a total figure. Data was obtained from various literature (World Economic Forum, O’Rourke Group Partners, Bloomberg, and Boston Consulting Group) and supported with open factory data.

**Tariff and freight costs** were estimated as a share of the factory price, taking into account country weightings. Tariff costs were calculated using weightings provided by the World Bank database in 2015. Freight costs were estimated using data provided by a number of Australian businesses.

**Distributor margins**, and **cost of goods sold** were estimated as a share of the final garment price pre-GST.

**Retail gross margins**, divided into profit and costs of doing business, were estimated as an average of clothing and department store margins, provided by garment specific data from Australian Bureau of Statistics (ABS 8622.0). The remaining share was then applied to the **wholesale retail margins** and **cost of goods sold**, which were split according to 2014-15 input-output data from ABS (5209.0). Wholesale gross margins were further broken into costs of doing business and profit provided by the ABS input output data, and costs of goods was then filtered down to the factory cost breakdown. Profit margins across Australian retailers and wholesalers refer to operating profit before tax. However, the calculation using input-output data tends to understate profit compared to real generic pre-tax profit receipts. Profit is different to gross retail margin, which includes both profit and the cost of doing business.

**GST** was applied as 10% of the cost of goods sold plus gross margins.

**Australia’s average factory wage and living wage** were estimated using a weighted average across the top five source countries. Estimated factory wages are an average, and do not reflect what the lowest paid worker is receiving. The change in wages was applied to the model and filtered up to the final garment price. Factory wage data was obtained from *H&M Sustainability Report (2016)* and a number of Australian businesses and verified using various sources, including the Fair Work Foundation, Wage Indicator and household income surveys. Living wage data was obtained from the Global Wage Coalition. The following 2015 annual average exchange rates from the Bank for International Settlements were used to convert wages from local currency to Australian dollars.

<table>
<thead>
<tr>
<th>Country</th>
<th>Bangladesh (Local currency per AUD)</th>
<th>China</th>
<th>India</th>
<th>Indonesia</th>
<th>Vietnam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange rate</td>
<td>60.73 BDT</td>
<td>4.90 CNY</td>
<td>50 INR</td>
<td>10,444.17 IDR</td>
<td>16,904.57 VDN</td>
</tr>
</tbody>
</table>

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Estimation methods – Anker living wage

• The Anker methodology was used to calculate living wage benchmarks for the 5 source countries because it provided a more detailed estimate of various components of a living wage, including non-food expenditure and average family size.

• Estimates from the Global Wage Coalition were used for Bangladesh and Vietnam. For both countries, an average of the estimated urban and rural living wages were used.

• Living wage estimates are calculated for China, India and Indonesia by adjusting the 2015 Asia Floor Wage figure for the estimated number of full-time workers per household in each country.

• To determine the number of full-time equivalent workers per household, age and gender specific data was gathered from the International Labour Organisation (ILO) for use in the following equation\(^6\)

\[
\text{\% of persons working fulltime} = \text{LFPR} \cdot (1 - \text{UE}/100) \cdot (1 - (\text{PTER}/100/2))
\]

where: \(\text{LFPR} = \text{labour force participation rate}\)
\(\text{UE} = \text{unemployment rate}\)
\(\text{PTER} = \text{part-time employment rate}\)

• Data on part time employment rates in China and India are limited due to the rather limited role of part-time work in the national labour market. For China, a 5.0% rate for the population of Shenzhen in 2014\(^7\) was assumed. For India, the same rates from a living wage report\(^8\) were assumed (40% for women and 5% for males).


Estimation methods – weightings

- Estimated factory and living wages were weighted using data on the value of Australian clothing imports by source country in 2016.
- Developing Asian countries accounted for 90.9% of total clothing imports into Australia.
- The 5 source countries focused on in the report represent 83.2% of imports.
- The remaining 16.8% of import share was weighted towards these 5 source countries in two steps.
  - First, Bangladesh, India, Indonesia and Vietnam were assumed to represent the remaining share from other countries in developing Asia and weighted accordingly.
  - Second, the 9.1% of imports coming from other countries outside of developing Asia were weighted across all 5 source countries.

Shares have been calculated using merchandise import data on clothing and textiles from 2016
Source: DFAT (2016)
References

1IBISWorld Industry Report G4260, Department Stores in Australia, January 2017


Sources


Fair Wear Foundation (2012) *Climbing the Ladder to Living Wages*. Amsterdam: FWF


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