



# final report

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## China Market Evaluation and Validation for Beef

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## Executive summary

With the rapid development of the Chinese economy, beef consumption in China has increased substantially. Simultaneously, the volume of domestic beef production in China has not kept pace with growth in consumption (Xiang, Z.L. et al., 2018). These two factors have led to a substantial increase in the quantity of beef imported by China in recent years (MLA, 2018), which has provided a significant opportunity for Australian beef exporters. Australian beef exports to China rose from 32,906t in 2012 to 110,059t in 2017 (MLA, 2018b).

MLA previously supported research conducted by Canadean to identify 15 attractive cities in China for red meat (beef, lamb, goat) export (Hendry, 2016), herein referred to as the 'MLA Attractive Cities' project. Cities were assessed using criteria in the areas of market demographics, consumer preferences and market accessibility, with data drawn from primary and secondary data sources. The MLA Attractive Cities project produced databases of information which could be further mined for insights specifically relevant for Australian beef producers.

A new project was initiated, which is the subject of this report, to review the MLA Attractive Cities project findings, extract data from these databases relevant to beef export (rather than red meat in general) and synthesise the information to address the question of where and how to expand sales of beef into China, for both retail and food service sectors.

The project focused on four regions containing seven cities, which were identified as the most promising growth markets for Australian beef exporters, based on the knowledge and expertise of project collaborators, Teys Australia. These regions analysed were:

1. Beijing
2. Shanghai
3. Chengdu and Chongqing, which were combined in to a single region for analysis referred to as the Western Region
4. Guangzhou, Shenzhen and Xiamen, which were combined in to a single region for analysis referred to as the Southern Region.

In response to the question of where Australian beef producers should expand beef sales in China, this project has concluded that Shanghai should be a priority location for further consideration. The reasons for this were:

- Shanghai is likely to have one of the largest total addressable markets of Australian beef consumers
- Shanghai has the strongest projected growth in beef sales to 2020
- Shanghai performs better than other locations on most supply chain indicators

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## 1 Background

With the rapid development of the Chinese economy, beef consumption in China has increased substantially. Simultaneously, the volume of domestic beef production in China has not only not kept pace with growth in consumption, it has increased little despite rising demand (Xiang, Z.L. et al., 2018). The quantity of beef imported by China has therefore grown substantially in recent years, from under 100,000 tonnes in 2012 to approximately 700,000 tonnes in 2017 (MLA, 2018). In this time, Australian beef exports rose from 32,906t in 2012 to 110,059t in 2017 (MLA, 2018b). China is a significant market for Australian beef exporters, with continued growth in consumer demand expected as disposable incomes rise and consumption preferences shift (MLA, 2018). China is a large country with regional differences (PWC, 2018), and a key question for beef exporters is where in China should Australian beef producers target beef sales.

MLA has previously supported research conducted by Canadean to identify attractive cities in China for red meat (beef, lamb, goat) export (Hendry, 2016), herein referred to as the 'MLA Attractive Cities' project. Cities were assessed using criteria in the areas of market demographics, consumer preferences and market accessibility, with data drawn from primary and secondary data sources. The purpose of the research was to 'drill down' from a list of hundreds of potential Tier 1 to Tier 3 Chinese cities to a more refined target list of 15, and then a short list of 5.

The MLA Attractive Cities project produced databases of information about the target list of 15 cities which could be further mined for insights specifically relevant for Australian beef producers. The purpose of this project was to review the MLA Attractive Cities project findings, extract data from the databases relevant to beef export (rather than red meat in general) and synthesise the information to address the question of where and how to expand sales of beef into China, for both retail and food service, incorporating insights from other sources where appropriate. The project was undertaken in collaboration with Teys Australia in order to ensure the project design collected data of relevance to Australian beef exporters. Teys Australia also provided feedback on an earlier draft of this report.

## 2 Project objectives

In order to address the overarching question: "in which location should Australian beef producers expand beef sales in China?" specific project objectives included:

- **Market Mapping:** assess MLA's identified long list of 15 Tier 1-3 Chinese cities to identify the most promising regions for Australian red meat suppliers to target, given overall economic, social and accessibility factors as well as and regional market attributes including: size, social and cultural factors, competitive landscape, availability of key partners.
- **Channel Evaluation:** identification of promising channel configurations in specific regions including specific target customers and channel partners. Channel evaluation will include work looking at the positioning of Australian red meat as a brand of choice for Chinese consumers and aid in building an industry profile of product format for the aspirational Chinese consumer.

### 3 Methodology

The key steps in this project involved:

#### 3.1.1 Identifying a subset of cities from the top 15 cities of the Attractive Cities project for further analysis

A subset of cities was selected from the top 15 cities of the Attractive Cities project for further analysis. This was conducted in collaboration with staff from the China export team at Teys Australia. Four regions (Figure 1) containing seven cities were identified as promising markets, based on the knowledge and expertise of the combined Teys Australia and Cargill Foreign Sales Office teams. The four potential growth regions for Australian beef exporters identified for analysis were:

5. Beijing
6. Shanghai
7. Chengdu and Chongqing, which were combined in to a single region for analysis referred to as the Western region
8. Guangzhou, Shenzhen and Xiamen, which were combined in to a single region for analysis referred to as the Southern region.

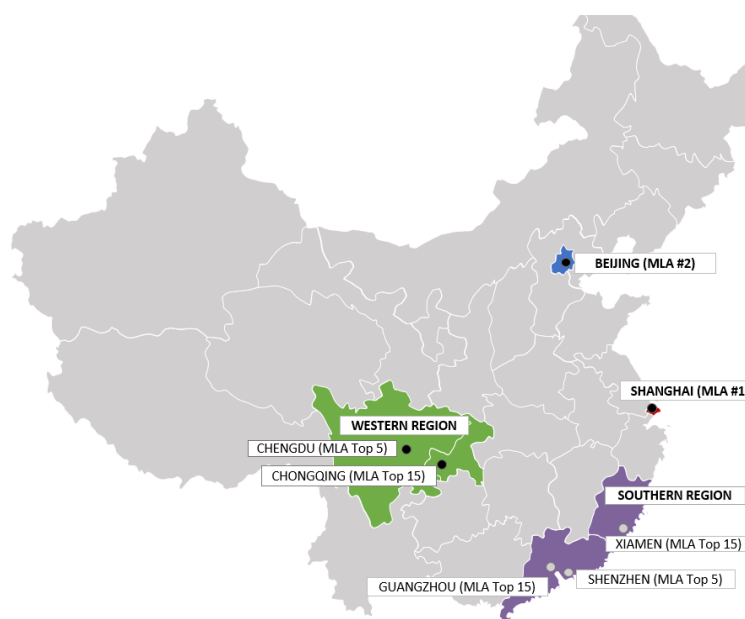


Figure 1. Four sales regions selected for analysis in this project

The logic combining of some cities into regions reflected that cities within regions were serviced by common distributors, or retailers or food service operators. McKinsey (Atsmon et al., 2012), and PWC (2018) have previously recommended such an approach in China to identify and target markets more effectively.

All of the top 5 cities identified in the MLA Attractive Cities project (except Hangzhou) were included in the analysis, and all cities selected were in the MLA top 15 cities shortlist.

### 3.1.2 Extracting data from the Attractive Cities databases

Databases from the MLA Attractive Cities project were made available for this project by MLA: i) the PESTE (Political, Economic, Social, Technological, Environmental) database and the ii) Market Sizing database.

In collaboration with Teys Australia, indicators from the PESTE database were identified that would be most informative to guiding geographical expansion decisions for beef export to China.

A subset of data - the value of beef sales – was extracted from the Market Sizing database for the locations selected for further analysis. Ambient, processed and cooked beef data were excluded from analysis because they are not relevant export products for Australia beef exporters due to market access. Data corresponding with 2015, as well as forecasts to 2020 were extracted. The database does not distinguish imported from domestically produced beef. In drawing conclusions, however, it is assumed that overall demand has a positive correlation with import demand, although the strength and consistency of correlation from location to location is not known from the information available.

Full details of the data sources and methodology used to populate the Attractive Cities databases are documented by the research providers, Canadean, within the databases and in the project final report to MLA (Hendry, 2016).

### 3.1.3 Other steps

Other steps in the project included:

1. Supplementary desktop research
2. Discussions with staff from Teys Australia for project design advice, feedback and to identify key information needs outstanding
3. Synthesis of data to produce recommendations

## 4 Results

In response to the question of where Australian beef producers should expand beef sales in China, the conclusion arising from this project is that Shanghai should be a priority location for further consideration. The reasons for this are outlined below.

### 4.1 Shanghai is likely to have the largest, or at least one of the largest, total addressable market of Australian beef consumers

A desirable region for Australian beef exporters selling into retail and food service sectors is one which has a large number of wealthy consumers. This is because the MLA Attractive Cities project's survey of consumers (Hendry, 2016b) revealed that beef consumption in China is associated with income levels. Higher income earners were more likely to have consumed beef in the last month than lower income groups. Higher income earners were also most likely to pay a significant amount on beef per month (over 500 CYN) (Figure 2). Of the top 15 cities examined in the MLA Attractive

Cities project, it was found that surveyed consumers based in the north and east of China spent the most on beef per month, primarily driven by higher incomes and spending power in cities such as Beijing and Shanghai (Figure 3).

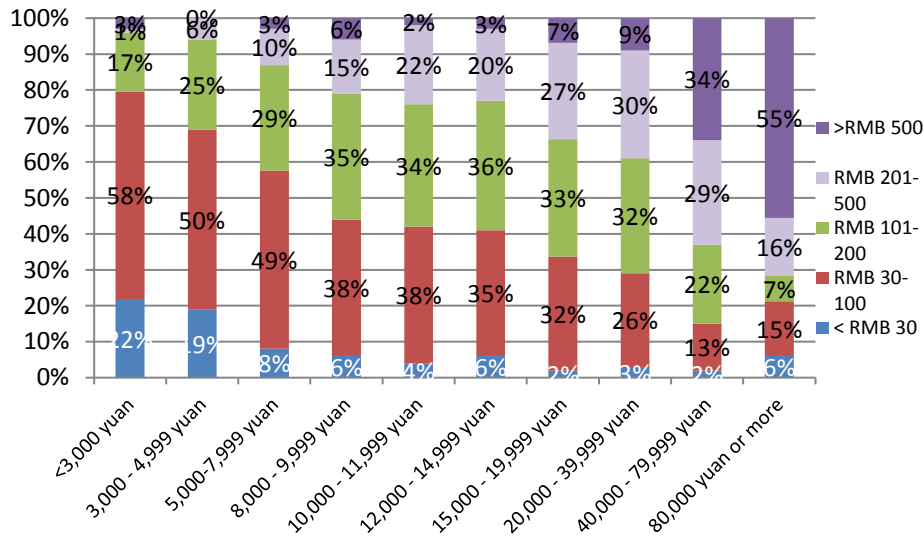


Figure 2. Consumers' average monthly spend on beef by monthly household income for the top 15 cities in the Attractive Cities project. Source: MLA-Canadean Phase 2 report (Hendry, 2016b) p.80.

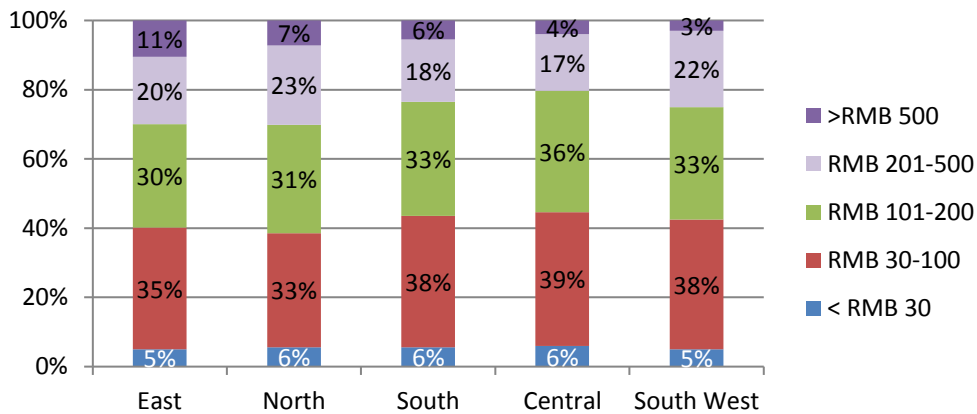


Figure 3. Consumers' average monthly spend on beef by region. Source: Canadean Phase 2 report p.81.

It was also found that affluent consumers appreciated the benefits of imported meats, and that imported meat eaters were more likely to have a high monthly spend on any type of red meat (Phase 2 report).



Figure 4 shows that the per capita expenditure on food, tobacco and liquor in Shanghai is twice the national average. Chongqing and Sichuan – the Western provinces (which includes the cities of Chongqing and Chengdu, respectively) have the lowest per capita expenditure, but it should be noted that the boundaries will include large numbers of rural residents and not be representative of the spending power of the cities.

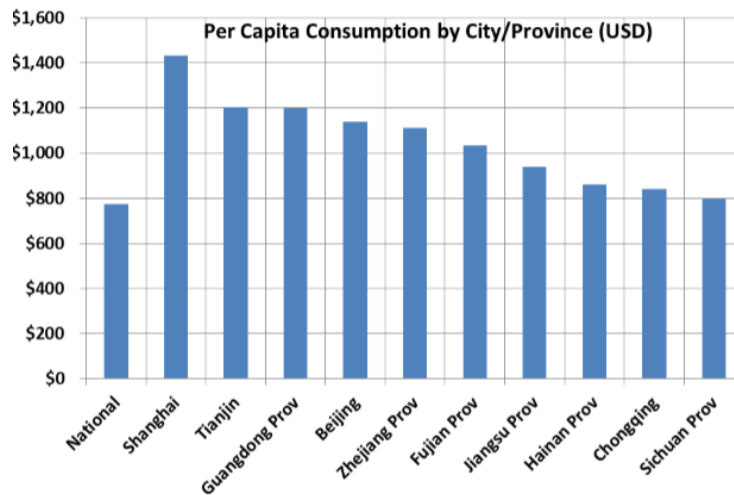


Figure 4. China top 10 cities/provinces consuming food, tobacco and liquor. Source USDA (2018, p.7) (citing China Yearbook, National Bureau of Statistics China).

#### 4.1.1 Shanghai has one of the largest populations of affluent consumers.

Shanghai has a very large population, however this alone does not distinguish the city as all four sales regions have large populations that will exceed 20 million in 2020 (Figure 5).

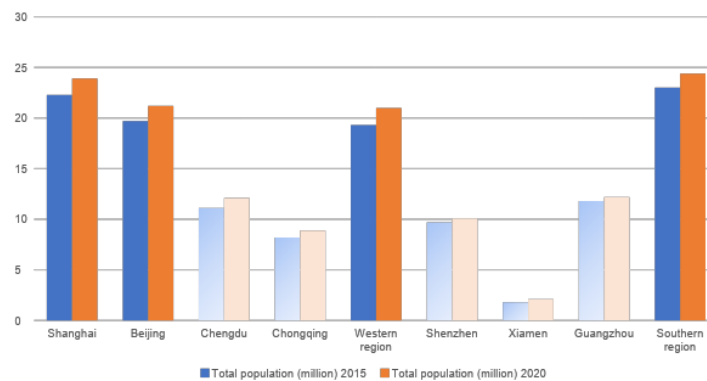


Figure 5. Population (2015 and 2020 projected) of the cities investigated in this project, including the populations of the aggregated city regions. Data extracted from the MLA-Canadean PESTE database, except the Chongqing population<sup>1</sup>.

<sup>1</sup> Canadean’s PESTE database lists the population of Chongqing at 27.1m in 2015 and 27.9 in 2020. This is unlikely to be the most realistic estimation of the urban city population, and it probably reflects a larger geographic area. The China Statistical Yearbook (National Bureau of Statistics of China, 2017) has the entire province of Chongqing at 30.2 million, with the proportion living in urban areas being 61%. This would mean the urban population of the entire province would be 18.4 million, which is smaller than the PESTE database indicates for the city of Chongqing. Urban population estimates in China are prone to variations from source to source, reflecting the choice of geographic boundaries used (Chan, 2010). An estimate of Chongqing that has been described as ‘more reasonable’ (Alexander, 2012) is the 2015 urban population of 8.2 million, reported in Wikipedia (2018).

Shanghai’s population has the highest mean disposable income, and this is set to increase by 20% over the five years from 2015-2020 (Figure 6). Although disposable income levels will fall behind Beijing in 2020, Shanghai will remain in a strong position in terms of spending power, especially given the vast population size (Hendry, 2016b).

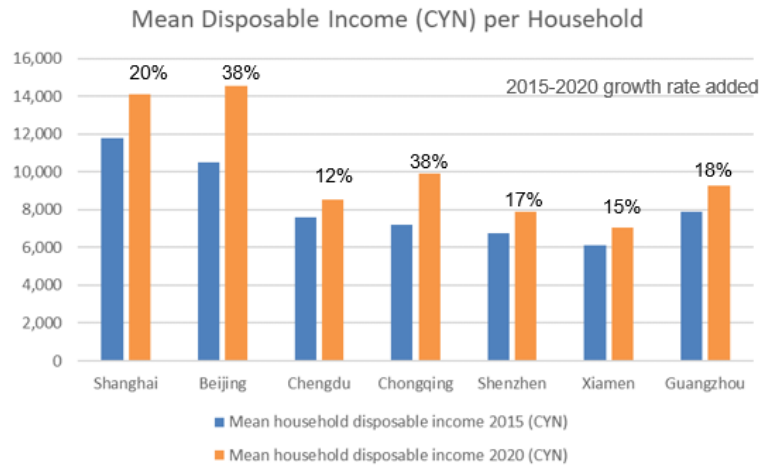
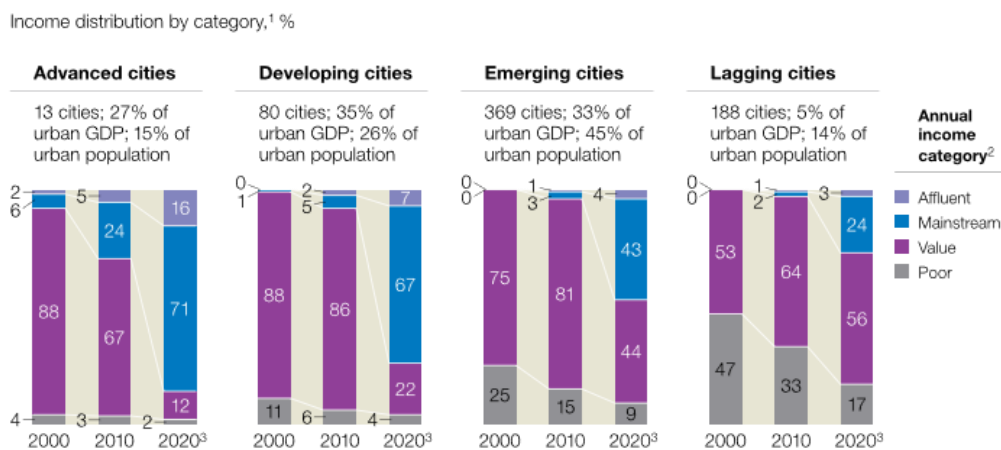


Figure 6. Mean disposable income (CYN) per person in 2015 and 2020 (projected), with the five-year income growth achieved by 2020 shown as a proportion of 2015 income. Source: data extracted from MLA-Canadian PESTE database.

The size of the affluent population in 2020 for each city was estimated using the income distribution categories for Chinese cities proposed by McKinsey (Astmon et al., 2012) (Figure 7) and applying these to the size of the population estimated in the PESTE database for each city/region in 2020 (with the Chongqing population adjusted). As the McKinsey report did not identify which cities fell into the categories of advanced, developing, emerging and lagging, it is assumed that the Tier 1 cities in the PESTE database correspond to advanced cities, with Tier 2 corresponding with developing cities.



<sup>1</sup>Figures may not sum to 100%, because of rounding.  
<sup>2</sup>Affluent = >\$34,000; mainstream = \$16,000–\$34,000; value = \$6,000–\$15,999; poor = <\$6,000.  
<sup>3</sup>Forecast.

Figure 7. Distribution of income in four different groups of cities in China. Source: Atsmon et al. (2012) p.45

Based on the assumptions made, the calculations show that Shanghai, Beijing and the Southern region will have comparable sizes of affluent consumers, with Shanghai slightly the largest of all

locations. However, these should be interpreted as indicative figures only given the assumptions made.

Table 1. Estimates of the size of the affluent population in each city.

	City status	% of households affluent in 2020	2020 size population in affluent households
<b>Shanghai</b>	Advanced	16	<b>3.8m</b>
<b>Beijing</b>	Advanced	16	<b>3.4m</b>
<b>Western</b>			<b>2.3m</b>
Chengdu	Developing	7	0.8m
Chongqing*	Advanced	16	1.4m
<b>Southern</b>			<b>3.7m</b>
Shenzhen	Advanced	16	1.6m
Xiamen	Developing	7	0.1m
Guangzhou	Advanced	16	2m

Calculations use the McKinsey (Atsmon et al., 2012) income distribution reported in Figure 7. 'City status' was assumed to correspond with the Canadian city Tier status (such that Tier 1 = advanced; Tier 2 = developing) \* Based on revised population estimate. Calculations also assume consistent number of people per household figures.

#### 4.1.2 The aging population favours Australian beef consumption

The CAGR of the population aged over 65 is shown in Figure 8 for the period 2015-2020. This indicates that Shanghai is undergoing rapid demographic change and has a population ageing at a rate substantially faster than other cities. The MLA Attractive Cities project consumer survey findings identified that older consumers spend the most on red meat (compared with younger consumers) which was linked at least in part to higher disposable incomes. It was also found that the older generations spend is particularly high on beef, with 45% of over 55 year olds spending over CYN 200 on beef; potentially making them a prime demographic to target (Hendry, 2016b). In addition, among the surveyed consumers, older consumers were the largest consumer groups of Australian beef.

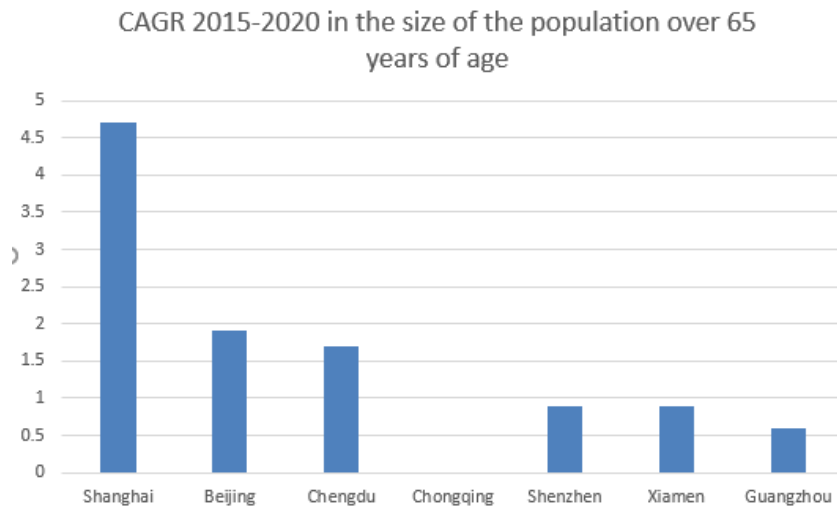


Figure 8. CAGR (%) from 2015-2020 in the population of people aged over 65 for each city.

Source: data extracted from the MLA-Canadian PESTE database.

#### 4.1.3 Vegetarianism potentially reduces the size of the total addressable market, but does not affect Shanghai as much as other locations

Vegetarianism potentially alters the size of the addressable market for Australian beef, given the high rates in some cities reported by consumers surveyed in the MLA Attractive Cities project (Figure 9). Vegetarianism in Beijing potentially makes this city less competitive with Shanghai as a contender for focusing beef exports. It is not known, however, if these are statistically representative results for the cities, nor are the key consumer characteristics of vegetarians known e.g. income levels.

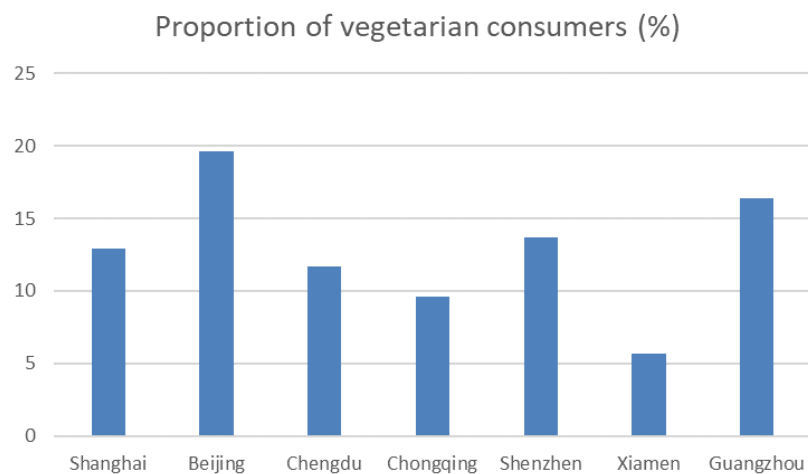


Figure 9. Proportion (%) of consumers surveyed who are vegetarian.

Source: data extracted from MLA-Canadian PESTE database.

## 4.2 Shanghai has the strongest projected growth in beef sales to 2020

### 4.2.1 Shanghai will dominate retail channels by value by 2020

Canadean’s market data projections show that Shanghai will continue to be the highest value beef retail market in 2020 both in total value (Figure 10) and per unit value Figure 11. This reflects the size of the current market (Figure 12) combined with strong annual growth rates (Figure 14).

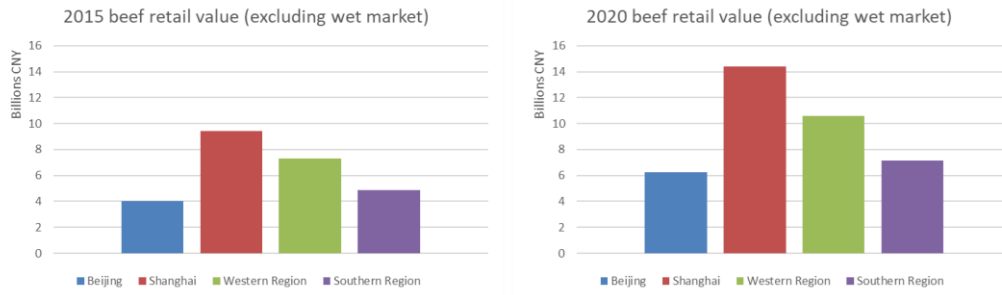


Figure 10. Beef retail value (billions CYN) for four sales regions in China, 2015 and 2020 (projected). Data sourced from MLA-Canadean Market Sizing Database.

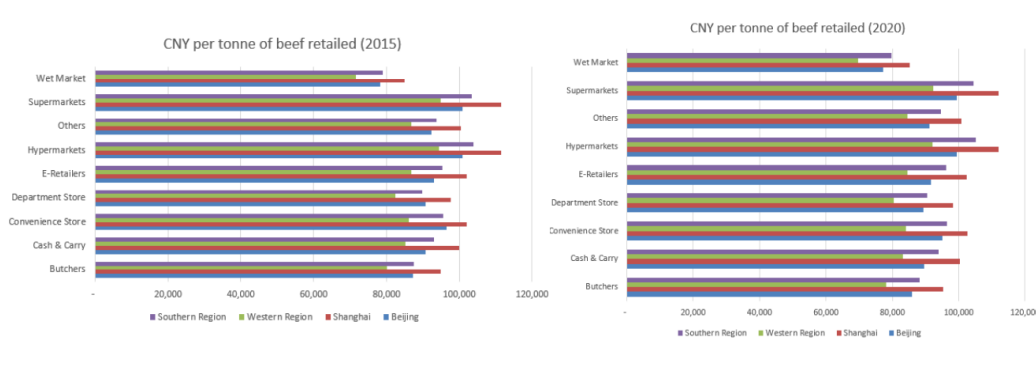


Figure 11. Beef retail value CNY per tonne of beef retailed in 2015 and 2020 (projected). Data sourced from MLA-Canadean Market Sizing Database.

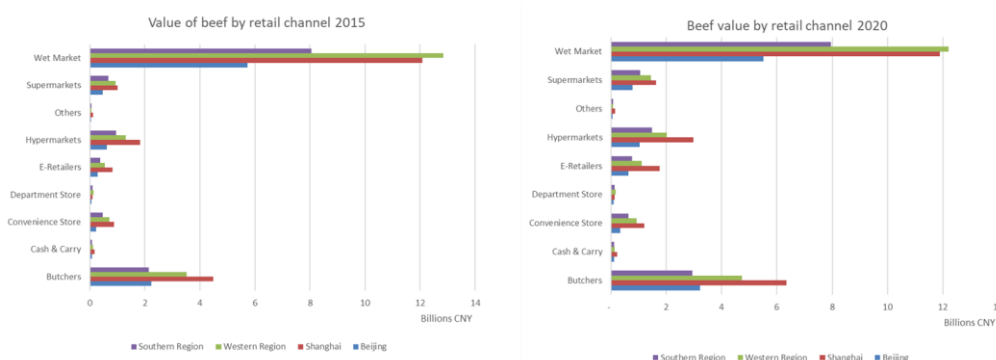


Figure 12. Value (billions of CNY) of beef by retail channel 2015 and 2020 (projected) in four sales regions. Data sourced from Canadean Market Sizing Database.

Compound annual growth rates (CAGR) projected for the period 2015 to 2020 are shown in Figure 13. E-retail is projected to have the highest growth rate (CAGR of 16%), adding 0.9b CNY in new value during this period. E-retail is valued at 1.8b CNY in 2020, which is roughly double the 2015 value. Hypermarkets and supermarkets have the next highest CAGR (both 10%) adding a combined

1.7b CNY to the combined value of these channels in the five-year period. In 2020, the combined value of hypermarkets and supermarkets is expected to be 4.6b CYN. Despite a lower projected growth rate than the channels discussed above, the current of value of beef retailed through the butcher shop channel will exceed all other channels in 2020 (except wet markets). The value between 2015 and 2020 will increase by 1.9b CNY, bringing the total value to 6.3b CNY in 2020.

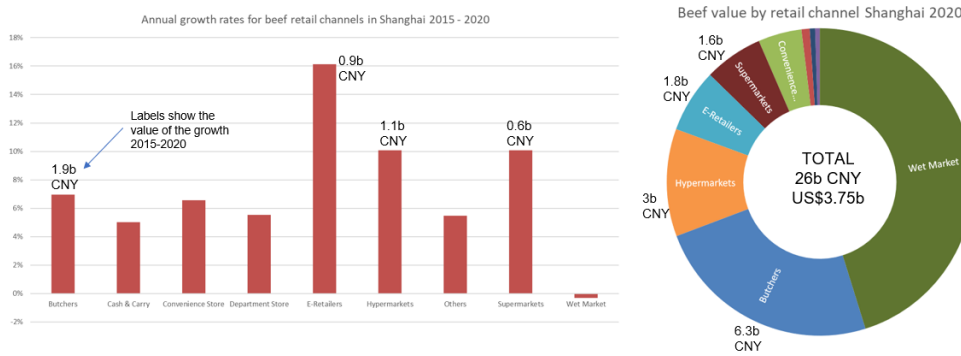


Figure 13. CAGR 2015-2020 for beef in Shanghai retail channels and the value of growth (CNY) (at left), and the projected value (CNY) of retail beef by channel in Shanghai in 2020 (right). Data sourced from Canadean Market Sizing Database.

#### 4.2.2 Retail growth rates are expected to be strong in the other regions

Retail growth is projected to be strong in other markets and channels, not just Shanghai (Figure 14). Beijing is expected to have the highest growth rates (CAGR) across every retail channel, except the wet market, which is expected to decrease in value in all regions. By region, the next highest growth rates are in Shanghai, then the southern region, with the lowest growth rates expected in the western region. This ranking of regions is consistent across all retail channels.

The retail channels with the highest projected growth are e-retail, for which growth rates equal or exceed 15% per annum over the period. The next strongest growth retail channels are hypermarkets and supermarkets. Figure 11 shows that supermarkets and hypermarkets are the highest value retail channels for beef on a unit value basis.

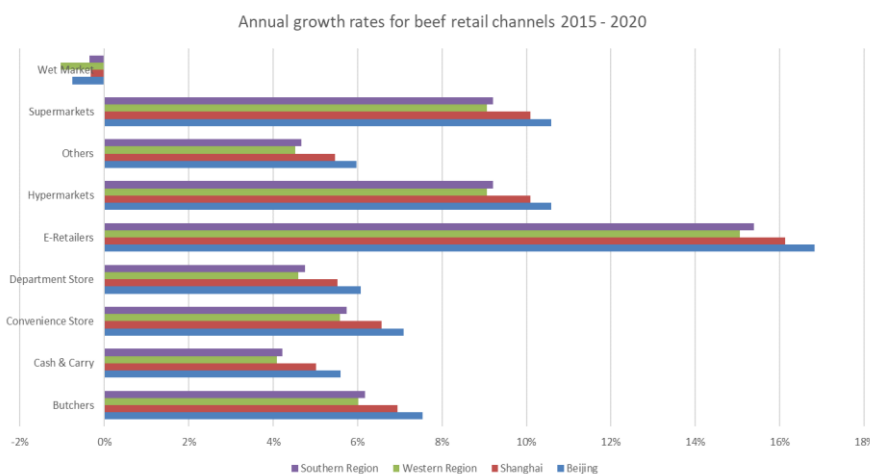


Figure 14. CAGR 2015-2020 for beef across retail channels. Data sourced from Canadean Market Sizing Database

### 4.2.3 Shanghai is an attractive food service market

The Western Region will maintain its position as the highest overall value food service market for beef (Figure 15). Although the largest market in total value, much of the Western Region’s food service sector is not a target market for all Australian beef producers as a large component of this region’s market is supplied with beef of a lower quality into low cost food service segments, due to cuisine preferences e.g. hot pot style cooking. Shanghai ranks third in food service value for beef in both 2015 and 2020, although is expected to substantially close the gap in value between it and the leading two regions by leading two regions by 2020 due to strong growth (Figure 16). Significantly, Shanghai has the highest projected unit value of beef in food service (

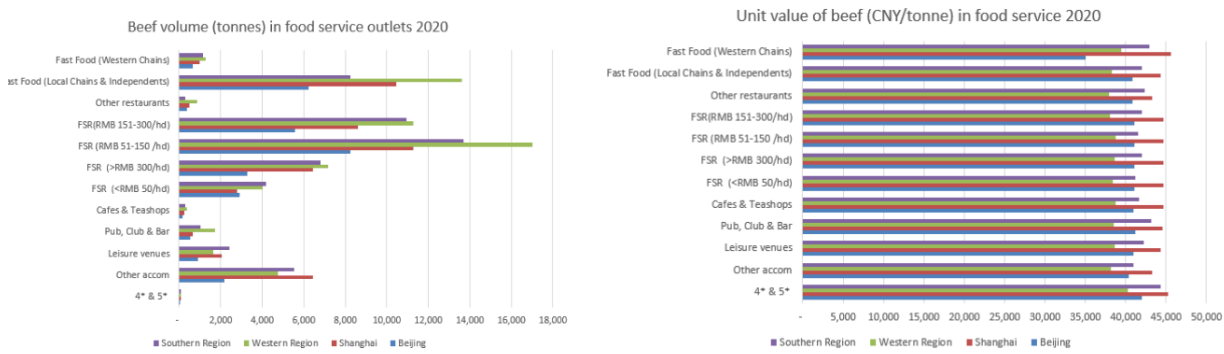


Figure 17).

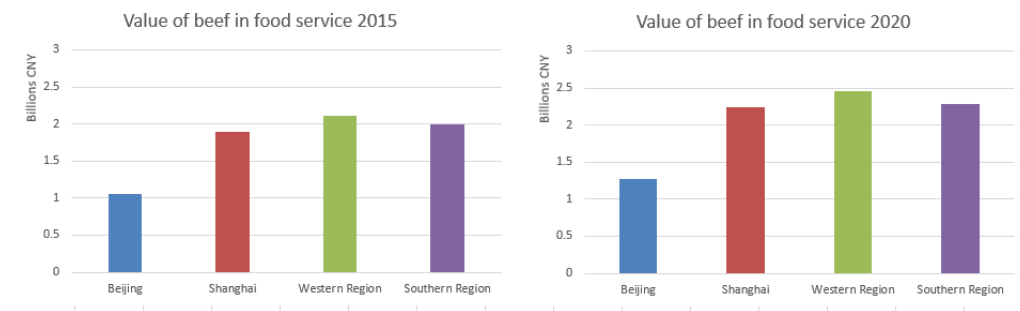


Figure 15. Value (billions CNY) of beef in food service 2015 and 2020 (projected) in four sales regions. Data sourced from Canadean Market Sizing Database.

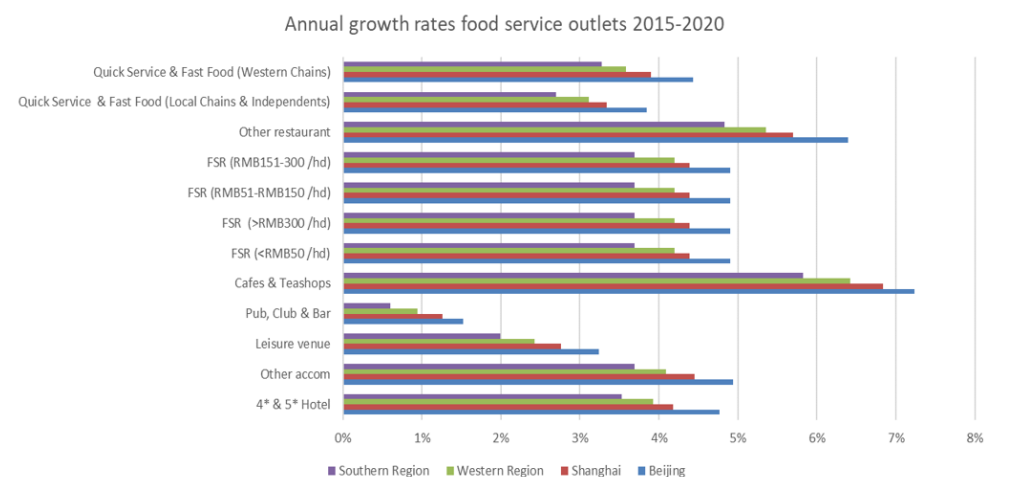


Figure 16. CAGR 2015-2020 for beef across food service channels in four sales regions. Note: FSR = full service restaurant. Data sourced from MLA-Canadean Market Sizing Database.

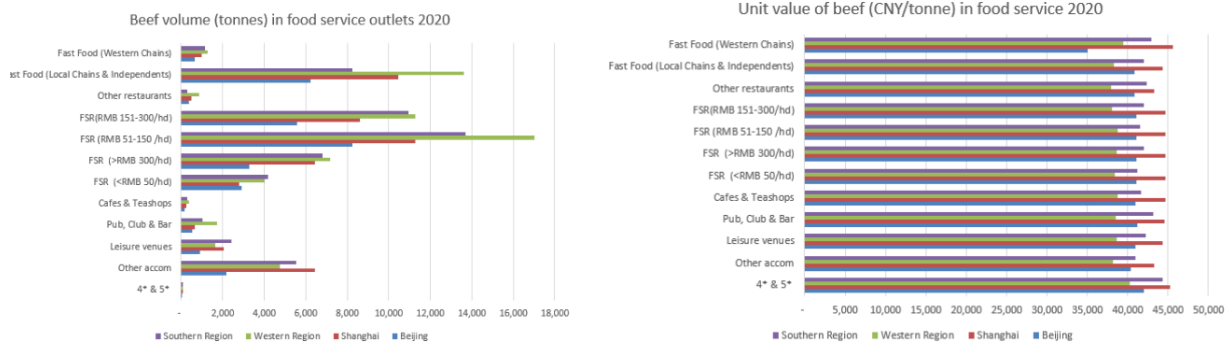


Figure 17. Beef volume (left) and unit value (CNY/tonne) (right) in food service projected for 2020. Data sourced from MLA-Canadian Market Sizing Database.

Unlike retail, where one region (Shanghai) consistently dominated all retail segments, the Western Region does not rank as the highest value in all types of food service channels. Figure 18 shows that in 2020, Shanghai is projected to be the highest value market in the premium food service channel (i.e. in full service restaurants where meals cost customers at least 300 CYN per person).

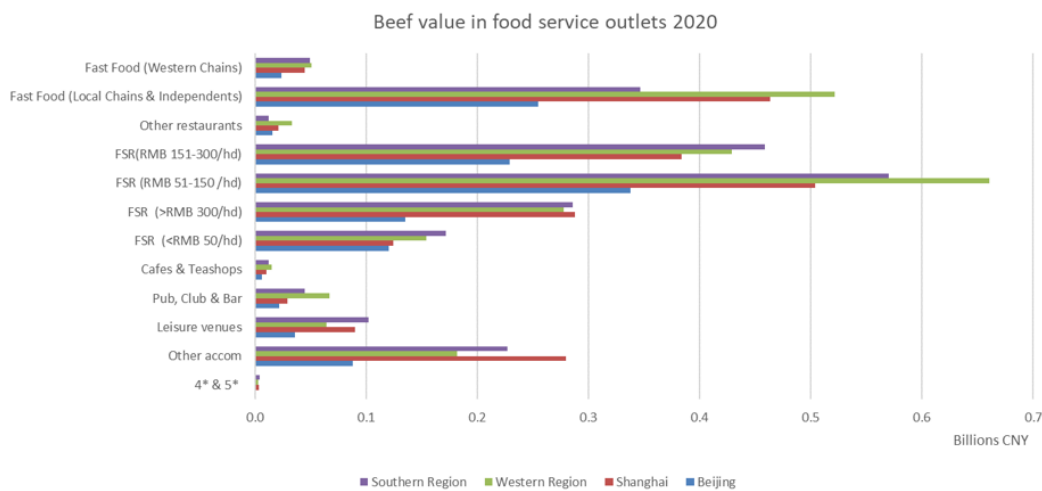


Figure 18. Beef value in food service outlet 2020 (projected) in four sales regions. Note: FSR = full service restaurant. Data sourced from Canadian Market Sizing Database.

### 4.3 Shanghai presents omni-channel retail opportunities for beef

The analysis of retail market data in Section 4.2 above shows strong growth in Shanghai potential in modern retail channels (e-retail, hypermarkets, supermarkets). Opportunities for these channels in Shanghai are discussed further below.

#### 4.3.1 E-commerce

The MLA Attractive Cities report commented that high internet penetration creates good avenues for brand-consumer engagement. Figure 19 shows that Shanghai has one of the highest internet penetration rates in China (71%), contributing to the rise to a highly connected and well-informed population, which creates opportunities to engage directly with target consumers through direct marketing and social media, as well as a tool for better informing consumers (e.g. using QR codes on



packaging). Opportunities in the e-retailing space are also created with a large proportion of the population able to place orders online (Hendrick, 2016c).

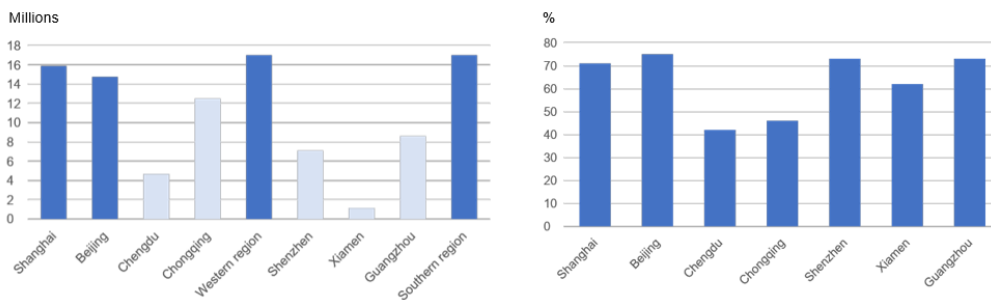


Figure 19. Number of internet users for each city and sales region (left) and internet penetration rates (%) in each city.

Source: Canadean-MLA PESTE data

A distinct difference between regions evident in Figure 19 is the poor internet penetration rates in the Western Region. The MLA Attractive Cities project (Hendry, 2016d) comments:

“One of the major issues with Chongqing’s rapid expansion has been its relative failure to keep pace with infrastructure requirements. Further, internet penetration rates are still below 50% per cent as the city struggles to provide the band width required to the general population.”

In relation to Chengdu: “An area where Chengdu is relatively weak is the provision of internet services to its population. Currently, only 42% of the population have online access – reflecting the preponderance of low skilled jobs in the city. Despite Chengdu being a hub for the electronics industry this lack of connectivity is a potential barrier to growth in modern sectors such as e-commerce.”

The MLA Attractive Cities project reported that online shoppers spend more per month on red meat than in-store shoppers. Higher average spend on red meat among online shoppers was linked to online shoppers being more likely to buy larger quantities/in bulk, and also more likely to be buying more expensive/specialist cuts of meat that are not as widely available in-store (Hendry, 2016b)

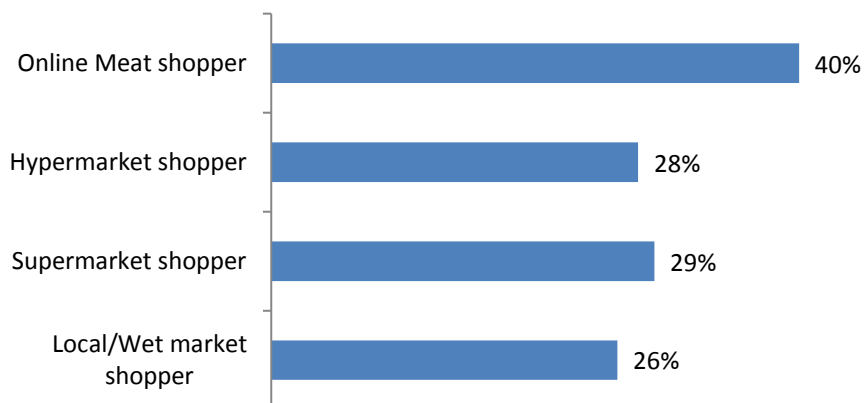


Figure 20. Percentage of consumers who spend more than CYN 200 per month on average on any type of red meat.

Source: Adapted from Hendry (2016b, p83).

### 4.3.2 Hypermarkets

Hypermarkets are a top 3 growth category and therefore worthy of consideration by Australian beef exporters. In addition, the MLA Attractive Cities project found that consumers of Australian beef are more likely to buy beef from hypermarkets. Over 60% of consumers who had eaten Australian beef (in the last year prior to being surveyed) purchased beef through hypermarkets compared to 49% of those consumers who eat beef most often generally, but not specifically Australian beef (Hendry, 2016b). The interpretation provided in the MLA Attractive Cities project was that this could be linked to greater availability of Australian beef in hypermarkets compared to more traditional retail channels, and therefore if consumers see it on shelves they become more aware of it and more likely to consider purchasing it. Hypermarkets are also the preferred destination for China's ageing population (Hendry, 2016b).

## 4.4 Shanghai performs better than other locations on most supply chain indicators

### 4.4.1 Shanghai has the most comprehensive cold chain logistics of the four locations

Opportunities for expansion of chilled beef markets in China are critically dependent on efficient and effective cold chain management throughout the supply chain.

The MLA Attractive Cities project consumer survey (Hendry, 2016b) found that safety and freshness are primary concerns with online meat deliveries, with 88% of consumers concerned about both the hygiene/safety and freshness/use-by dates of meat delivered to their home. The MLA Attractive Cities project recommended that on-line retailers use approved delivery services which guarantee meat is stored and delivered at the right temperature until it reaches the consumers' home.

Elphick-Darling et al. (2017) in a report for MLA found that capacity in storage for chilled meat remains undeveloped in cities, except in Shanghai and for airfreighted chilled meat. Shanghai has been identified as having the most comprehensive cold chain logistics in China, including a fleet of refrigerated vehicles which extend across transport tasks, from linehaul transport, cartage to manufacturing plants, and last kilometre delivery direct to consumers. For air freighted chilled meat, the international airports and their logistics parks have significantly invested in cold chain centres to cater for chilled product.

The implication for Australian beef exporters is the need ensure quality of refrigerated transport, particularly outside of Shanghai, especially those located greater than two hours from the beef entry port (Elphick-Darling, 2017).

*Compared to the other cities (*

Table 2), Shanghai has the largest estimated number of refrigerated transport vehicles per 100,000 population able to transport red meat. However, of these cities, Shanghai also has the lowest cold chain capacity per capita, and it has been suggested that this part of the infrastructure may come under pressure (Hendry, 2016c).

Table 2. Supply chain factors in four sales regions compared.

	BEIJING	SHANGHAI	SHENZHEN	XIAMEN	GUANGZHOU	CHENGDU	CHONGQING
No. of commercial international airports within 50km	2	2	1	1	1	1	1
Distance of city from nearest meat port (kms)	30	28	22	13	4	270	?
No. of refrigerated vehicles per 100,000 population	132	135	123	126	131	124	117
% of registered meat transport vehicles in the city that can carry and distribute red meat	29	41	35	36	31	39	38
Cold storage capacity (million litres) per capita	94	94	113	103	110	144	94
% of cold storage capacity that can handle red meat	23	32	23	26	21	27	30

Source: Data extracted from MLA Canadean PESTE database

#### 4.4.2 Other cities should be monitored as the cold chain logistics network expands rapidly in China

Australian beef exporters to China should monitor the development in cold chain logistics throughout the regions because they are developing rapidly in terms of investment in infrastructure, new alliances, advances in regulation, cross-border e-commerce and trade facilitation (MLA 2017). Growth in cold chain logistics market is exceeding 10% p.a. with large private investment, and there are also public investments in transport and telecoms infrastructure, and logistics hubs. Investment growth has shifted from a focus on Eastern and Southern China to inland (Western) regions; and from infrastructure to improving quality cold chain/food safety systems and coping with the explosive growth of E-commerce (MLA 2017).

For example, in the other regions of interest in this project, developments include:

- **Western Region: Chengdu**, with its strategic westward orientation, is rapidly building capacity and attracting investment (MLA 2017). It has also been noted that Chengdu, which is 270km from China’s only inland custom-bonded port, is not necessarily disadvantaged by relative far distance from the nearest meat port given the strength of local transport infrastructure (Canadean).
- **Southern Region: Shenzhen**, which has a sea port and a river port, is rivalling Hong Kong as a gateway to China;
- **Beijing** is working to improve its last kilometre delivery systems (also has a sea port) (Elphick-Darling, 2017).

### 4.4.3 Shanghai has a favourable regulatory environment

The government effectiveness index (from the PESTE database) is taken to reflect the degree to which the government can facilitate foreign business, and there is a large difference between Beijing and Shanghai and the other cities.

Shanghai has a high concentration of Western retail, hotel, and foodservice chains and registers the highest number of HACCP certified meat wholesalers in comparison to the other cities, indicating commercial demand for products that conform to high international quality and safety standards (Hendry, 2016c, p 113). The number of HACCP certified meat wholesalers can be an indication of the state of each city’s regulatory environment. A high number of HACCP certified facilities indicates a willingness within the local food distribution network to adhere to higher international food quality and safety standards (Hendry, 2016).

The number of incidents of corruption per 100,000 population has also been used as indicator of the regulatory health of the city. The differences between cities are not as pronounced as for the other indicators.

Table 3. Comparison of cities against selected regulatory indicators.

	SOUTHERN REGION					WESTERN REGION	
	BEIJING	SHANGHAI	SHENZHEN	XIAMEN	GUANGZHOU	CHENGDU	CHONGQING
Government Effectiveness Index	1	2	21	14	21	22	26
Incidents of corruption per 100,000 people	2.59	2.77	2.05	3.4	2.05	2.35	2.49
Number HACCP certified meat wholesalers	12	180	29	37	37	32	36

## 5 Conclusion/Recommendations

This project built on the MLA Canadean Attractive Cities project by isolating data relevant to beef. This project’s finding that Shanghai is the best location for prioritise sales expansion efforts is consistent with the outcome of the MLA Attractive Cities study, which also placed Shanghai as the greatest opportunity for Australian red meat exporters.

However, rapid population growth, continued investment in cold chain infrastructure and the increasing Westernisation of Chinese consumer preferences across all regions will continue to create opportunities for the Australian red meat industry. Exporters, processors and producers looking capture a share of the Chinese market should develop agile systems to monitor and assess growth and respond quickly to these opportunities as they arise.

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