

INDUSTRY OVERVIEW

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PERIOD COVERAGE

Market review for this report has been carried out for the period covering 2012–2021, unless otherwise stated.

SOURCES OF INFORMATION

We commissioned a report from Euromonitor to conduct an analysis of, and to report on, the construction industry in Singapore. A total fee of US\$65,000 was paid to Euromonitor for the preparation of the report.

Established in 1972, Euromonitor is the world leader in strategy research for both consumer and industrial markets. With both primary and secondary research in place, Euromonitor utilized both types of sources to validate all data and information collected, with no reliance on any single source. Furthermore, each respondent’s information and views were cross-checked against those of others to eliminate bias from the report’s sources. This Industry Overview contains information extracted from the Euromonitor Report, prepared by Euromonitor for the purposes of this document. The report was last updated in March 2017 based on data available at the time of publication.

METHODOLOGY

In compiling and preparing the Euromonitor Report, Euromonitor used the following methodologies to collect multiple sources, validate the data and information collected, and cross-check each respondent’s information and views against those of others:

- Secondary research involved the review of published sources such as the Singapore Department of Statistics and official sources such as BCA, MOM, PUB, URA, HDB, Singapore Land Authority, specialist trade press and associations such as Singapore Contractors Association Limited, company reports including audited financial statements where available and independent research reports.

INDUSTRY OVERVIEW

- Primary research involved interviews with a sample of leading industry participants and experts for the latest data and insights into future trends, supplemented by verification and cross-checking of data and research estimates for consistency.
- Projected data was obtained from a historical data analysis plotted against macroeconomic data with reference to specific industry-related drivers.
- Review and cross-checks of all sources and independent analysis to build final estimates including the size, shape, drivers and future trends of the construction market in Singapore and prepare the final report.

ASSUMPTIONS

Euromonitor based the Euromonitor Report on the following assumptions:

- The Singapore economy is expected to maintain steady growth over the forecast period;
- The Singapore social, economic, and political environments are expected to remain stable during the forecast period;
- Key market drivers such as the government’s continued regard towards public infrastructure development, policies in relation to housing, workplace skill development and measures to increase construction productivity growth are expected to boost the development of Singapore’s construction market; and
- Key drivers including Singapore’s gross domestic product (“**GDP**”) growth and the adoption of more advanced construction technology by contractors are likely to drive the future growth of Singapore’s construction market.

The research results may be influenced by the accuracy of these assumptions and the choice of these parameters. The market research was completed in March 2017 and all statistics in the Euromonitor report are based on information available at the time of reporting. Euromonitor’s forecast data is derived from an analysis of the historical development of the market, the economic environment, and underlying market drivers, and it is cross-checked against established industry data and trade interviews with industry experts.

1.1 CONSTRUCTION INDUSTRY IN SINGAPORE

The Singapore economy registered moderate growth during the 2012 to 2016 period, with GDP growing by a CAGR of 3.2% to reach S\$410.3 billion in 2016. The construction industry accounted for 4.8% of GDP in 2016, with the industry’s contribution to GDP increasing gradually during the review period, from 4.1% in 2012 to 4.8% in 2016.

In Singapore, construction activities are categorised into two main sectors — building works and civil engineering works. Building works are further sub-categorised by the development type, which includes residential, commercial, industrial, and institutional and others. On the other hand, civil engineering works typically relate to infrastructure projects, including construction of the MRT network, airports, roads and bridges.

INDUSTRY OVERVIEW

Public sector construction projects in Singapore are required to follow the procurement procedure set by the Ministry of Finance. Majority of public construction are made available for open tender via the GeBIZ online portal, which is the Singapore Government’s one-stop business centre. To be eligible for a public tender, companies need to hold a “Government Supplier Registration”, which can be obtained from the BCA. For private construction projects, there are no mandatory requirements for a tender process. Private sector projects are usually publicised through construction industry networks or through word-of-mouth among industry players.

Subcontracting is a prevalent practice in the construction industry in Singapore, whereby it is common for main contractors to subcontract different parts of the construction work for each project to a wide range of specialised contractors. Due to the large number of subcontractors in Singapore, specialising in various segments of the design and construction work, there is intense competition for construction works at the lower end of the value chain, especially for general construction works.

1.1.1 Market activities

Total construction demand, measured by the value of contracts awarded, registered a negative CAGR of 4.1% from 2012 to 2016. In 2016, total construction demand moderated to S\$26.4 billion due to the slowdown in the property market, resulting in a decline in construction demand for all private sector building types with the exception of commercial developments. Public sector projects accounted for S\$15.8 billion worth of construction demand in 2016, a significant improvement from S\$13.3 billion in 2015, due to the rolling out of more major infrastructure contracts including those for the Thomson-East Coast MRT Line. However, public sector building construction demand registered a year-on-year decline of 16.7%, due to falling demand across all building types. Comparatively, the private sector only contributed S\$10.3 billion to total construction demand in 2016, falling from S\$13.8 billion in 2015. All building types, with the exception of commercial developments, saw a decline in construction demand. By the end of 2016, public sector construction demand accounted for 60.5% of overall construction demand, up from 31.0% in 2012.

Total certified payments grew at a CAGR of 2.6% during the review period, in contrast with the 4.1% negative CAGR for value of contracts awarded. In 2016, total certified payments fell 3.7% to S\$35.1 billion, as a result of the 30.2% contraction in the value of contracts awarded in 2015. Certified payments in the public sector grew at a CAGR of 7.9%, driven by the strong growth in residential and institutional building activities over the review period, and the large number of civil engineering projects carried out from 2014 to 2016; while certified payments in the private sector saw a negative CAGR of 1.3%, weighed down by a sustained property market slump, causing a reduction of construction activities across private sector residential, commercial and industrial building types.

Civil engineering was the largest contributor of construction demand, accounting for 36.0% of overall construction contracts awarded, by value, in 2016. Public sector civil engineering contracts awarded registered a CAGR of 38.9% from 2012 to 2016, supported by a strong pipeline of transport infrastructure projects, including various Thomson-East Coast Line contracts. Residential building works represents 24.7% of the value of total construction contracts awarded in 2016. Public residential construction contracts awarded in 2016 were worth S\$3.3 billion, down from S\$3.8 billion in 2015. Residential housing demand has fallen sharply since 2014 for both public and private housing, as a result of oversupply of housing and the government’s property cooling measures.

INDUSTRY OVERVIEW

Contracts awarded for institutional and other developments by the public sector contracted at a negative CAGR of 0.1% over the review period to reach S\$3.7 billion in 2016. Value of contracts awarded nearly doubled in 2014 from the previous year to reach S\$5.2 billion, as a result of contracts awarded for the Sengkang General and Community Hospitals and the Tampines Town Hub projects. However, public sector demand for institutional and other developments has been on a downward trend since 2015, registering a decline of 21.7% and 10.7% in 2015 and 2016 respectively. Major contracts awarded in 2016 include the Outram Community Hospital, Centre for Oral Health and New State Courts Building.

Private sector contributes to the bulk of construction demand for industrial development, accounting for 77.3% of all industrial developments in 2016. From 2012 to 2016, contracts awarded for public sector industrial construction projects grew strongly at a CAGR of 24.7% to reach S\$742.9 million in 2016. On the other hand, demand for private sector industrial construction projects registered a negative CAGR of 19.8% over the review period to reach S\$2.5 billion, in line with the general slowdown in the manufacturing sector over the same period. Construction demand for commercial developments from the public sector grew moderately at a CAGR of 14.8% over the review period to reach S\$176.4 million in 2016. Conversely, demand for private sector commercial developments registered a negative CAGR of 2.0% during the 2012 to 2016 period, falling to S\$2.7 billion in 2016.

Steel reinforcement work and formwork are part of common construction activity and pertain to the structural work carried out for all types of construction projects. Therefore, the performance of the steel reinforcement work and formwork sectors is directly correlated to and mirrors the development of the overall construction industry. Typically, steel reinforcement work and formwork projects for high-rise buildings, buildings with deep basement and structures with unconventional designs tend to be of higher value, due to increased complexity of the project, requirement for more raw materials and more man-hours to execute.

1.1.2 Legislative and regulatory policies specific to the industry

The construction industry in Singapore is regulated by the BCA, which ensures that buildings in Singapore are designed, constructed and maintained to high standards of safety through its building regulatory system. Jointly with other relevant government agencies, the BCA has developed extensive regulations governing various aspects of the construction industry, including contractor registration, employment of foreign workers, buildability (Minimum Buildable Design Score) and construction methods (Minimum Constructability Score).

The number of foreign workers employed in the construction industry is regulated via the MYE quota system and FWL. As part of the national strategy to achieve productivity-driven growth, MOM has gradually reduced the MYE quota over the years, leading to a cumulative 45% cut in MYE allocation between July 2010 and July 2013. Under the MYE waiver system, contractors are allowed to renew the work permits of experienced foreign construction workers without the need for MYE. To qualify for the MYE waiver, a construction worker must have at least two years of working experience in the construction sector in Singapore. From July 2017 onwards, the minimum experience requirement for MYE-waiver workers has been raised from two to three years to encourage firms to retain their more experienced workers to support productivity.

INDUSTRY OVERVIEW

Construction companies also pay a foreign worker levy of between S\$300 and S\$950 a month for each work permit holder employed. The amount varies depending on the individual workers’ relevant academic or skills-based test qualification.

1.1.3 Construction costs, raw materials and labour issues

The cost of construction projects typically falls under one of four main categories, namely, structural costs, architectural costs, mechanical and electrical (M&E) service costs, and external works costs. The BCA Building Works Tender Price Index (TPI) provides an indication of construction cost trends in Singapore through tracking the historical movement of tender prices in the construction industry for the building works of three major development types, namely, public sector residential, private sector non-landed residential and commercial office. During the review period, there was a marginal decline in construction costs, as TPI fell from 99.8 in 2012 to 98.0 in 2016. Since 2015, the TPI has been on a downward trend, as prices of basic construction materials, with the exception of steel bars, declined consistently over 2015 and 2016.

Significant fluctuation in cost of construction materials

During the review period, the construction industry saw an overall decline in construction material costs. The price of steel bars, which is the main raw material for steel reinforcement work, fell consistently from S\$705.90 per tonne in Q1 2014 to S\$397.10 per tonne in Q4 2015. However, price of steel bars staged a recovery in Q1 2016, rising by 12.5% to S\$446.60 per tonne, due to steel production cuts as part of the Chinese government’s efforts to improve air quality ahead of the G20 summit in September 2016, increased domestic demand in anticipation of a revival in China’s property market and a surge in infrastructure investment by state-owned enterprises. By the end of Q4 2016, the price of steel bars had climbed to S\$649.60 per tonne. Price of structural steelwork is more stable and has fallen from S\$5.40 per kilogramme in Q1 2014 to S\$5.00 per kilogramme in Q4 2016. Prices of bricks, plywood, timber formwork, and metal formwork have been stable from Q1 2014 to Q4 2016, with the prices of plywood and metal formwork being the same at S\$16.00 per square metre and S\$51.50 per square metre throughout the period respectively. The price of timber formwork fluctuated between S\$41.60 and \$43.90 per square metre during the Q1 2014 to Q4 2016 period; while the price of bricks has been S\$35.10 per square metre since Q3 2014.

As the prices of most construction materials relevant to the steel reinforcement work and formwork sectors have displayed some volatility over the period from Q1 2014 to Q4 2016, steel reinforcement work and formwork service providers are subject to the risks of these price fluctuations and have to take this into consideration when pricing for projects. Alternatively, steel reinforcement work and formwork sub-contractors may also pass on the risk of volatile raw material prices to their main contractors by having the main contractor pay for raw materials directly.

Construction labour costs on the rise due to tight labour market

Labour costs climbed steadily from 2012 to 2015, which was reflected in the positive annual increment in total wages. However, the rate of increase in wages saw a decline from 5.2% in 2013 to 3.1% in 2015. Due to the high level of construction activities between 2012 and 2014 and an increasingly tight labour market, construction workers were in high demand and contractors had to

INDUSTRY OVERVIEW

pay higher wages to retain existing manpower or hire additional manpower for their construction projects. The wage change in 2015 was the slowest during the review period, as construction activities slowed and the problem of manpower shortage became less acute.

Total construction employment registered a net gain of 46,600 between 2012 and 2016, at a CAGR of 2.5%. Most of the growth took place between 2012 and 2014, driven by the surge in construction activities. Employment growth has tapered since 2014, due to a combination of the government’s foreign manpower tightening measures and a slowdown in the industry towards the end of the review period. In 2016, total construction employment fell by 11,500 to reach 488,500 workers, a decrease of 0.6% from the total employment of 500,000 in 2015, which marked the first annual decline over the review period.

The construction industry is heavily dependent on foreign manpower. In 2016, foreign workers accounted for 74.8% of the total construction employment in Singapore, marginally higher than 74.1% in 2012. The number of foreign workers in the industry increased every year up to the end of 2015. However, the rate of growth has eased noticeably since 2014, as government measures to restrict foreign manpower started taking effect. Employment change in foreign manpower fell to an increment of 6,800 in 2015, which was lower than an increment of 9,700 in 2014 and significantly lower than an increment of 31,600 in 2013. In 2016, the total number of foreign workers in the construction industry even fell by 10,100 workers, or 2.7%, while the number of local workers also declined by 1.1%. Moving forward, the current foreign labour trends are likely to continue into 2017, as the Singapore government continues to roll out manpower tightening measures, such as further increases in the foreign worker levy for the construction industry.

New Design for Safety regulations and financial incentives encourage better construction safety practices

The construction industry continued to be the biggest contributor of workplace fatalities in Singapore. In October 2016, the government implemented incentives for companies to send workers for safety training. Basic Skilled (R2) workers with at least six years of construction experience and a Skills Evaluation Certificate (Knowledge) in the construction trade can be certified as Higher Skilled (R1) workers, provided that they also complete at least 120 hours of training in approved safety-related courses, or obtain an advanced certificate under the Singapore Workforce Skills Qualification framework. As the foreign worker levy for R1 workers is lower than that for R2 workers, construction companies who get their staff certified as R1 workers will be able to save S\$350 a month per certified foreign worker. Higher Skilled (R1) workers can also be hired for up to 22 years, 12 more than their lower-skilled counterparts, which allows companies to retain skilled and experienced workers for a longer period. The new incentives are expected to boost the construction industry’s workplace safety and health standards and quality of the construction workforce in the long term.

INDUSTRY OVERVIEW

1.1.4 Market outlook

Based on the construction demand forecast released by BCA in January 2017, total construction demand in 2017 is projected to be between S\$28.0 billion and S\$35.0 billion, representing an increase from S\$26.4 billion in 2016. However, revenue receipt of the construction industry is expected to decline from S\$35.1 billion in 2016, to between S\$30.0 billion and S\$32.0 billion in 2017, due to the impact of two consecutive years of decline in contracts awarded by 30.2% and 3.6% in 2015 and 2016 respectively.

A total of 374 public construction tenders are expected to be called in 2017, with 50% of the tenders each worth S\$13 million or more. Notable public sector contracts to be awarded in 2017 will include the second phase of the Deep Tunnel Sewerage System (DTSS phase 2), North-South Corridor, Circle Line 6, a steady pipeline of new public housing construction, upgrading works for HDB flats, HDB’s Defu Industrial City, JTC’s Logistics Hub @ Gul, and various healthcare and educational facilities. On the other hand, demand from the private sector is expected to remain subdued, with forecast value to range between S\$8.0 billion and S\$11.0 billion.

Outlook for the construction industry over the forecast period remains positive. Annual construction demand is expected to reach as high as S\$35.0 billion annually in 2018 and 2019, and increase further to S\$37.0 billion annually in 2020 and 2021. Civil engineering construction demand is likely to drive overall construction demand growth in the forecast period, boosted by major projects including the construction of the Jurong Regional Line, Cross Island Line, and various infrastructure developments for Changi Airport Terminal 5.

1.1.5 Steel reinforcement work in Singapore

Steel reinforcement work is done to strengthen and hold concrete in tension because concrete is hard and strong when compressed, but not when it is stretched. To enable the use of concrete in buildings and structures, wet concrete is cast around strong steel reinforcing bars. When the concrete sets and hardens around the bars, it becomes reinforced concrete. The concrete resists squeezing while the steel resists bending and stretching, thus enabling it to work well in either tension or compression. The steel bars (also known as rebar) used to make reinforced concrete are typically made from twisted strands with ridges to anchor them firmly inside the concrete. Steel reinforcement work can be carried out either on-site or offsite, through prefabrication of rebar products such as rebar cages and the cutting and bending of rebars at off-site yards.

Steel reinforcement work is regulated by the BCA. The design of reinforced concrete structures and the use of steel reinforcement materials must comply with various standards and specifications stipulated by the BCA under Regulation 27 of the Building Control Regulations. There are no specific requirements for companies to qualify for bidding of steel reinforcement work in the public sector, apart from registration with BCA under CW01 (General Building) or CW02 (Civil Engineering) workheads.

Steel reinforcement revenue fell slightly in 2016 and expected to decline further in 2017

Revenue receipts from steel reinforcement work grew at a CAGR of 2.8% during the review period from 2012 to 2016, reaching S\$6.2 billion in 2016. The performance of the steel reinforcement sector broadly mirrors the growth and decline of the overall construction industry, because steel reinforcement forms part of the structural work which is essential for most building

INDUSTRY OVERVIEW

projects. The sector’s fastest growth of 9.3% was registered in 2012. This corresponded with 9.6% growth in the overall construction industry revenue receipts in the same year, as the industry was busy with a record number of contracts awarded in the previous year. Revenue receipts from steel reinforcement continued to grow in 2013 and 2014, albeit more moderately, supported by a large volume of ongoing projects. However, steel reinforcement slowed down significantly since 2015, with 1.8% growth in revenue receipts in 2015 and 3.2% decline in 2016, as a result of the sustained downturn in the property market and a significant reduction in private building construction activities.

Nevertheless, steel reinforcement work was supported by public sector projects which were in progress in 2016, such as the Liquefied Natural Gas Terminal at Jurong Island, Sengkang General and Community Hospitals, and construction of various stations and tunnels for the Thomson-East Coast MRT Line. However, revenue receipts for steel reinforcement works was weighed down by the significant decline in private sector construction output of 11.7%, resulting in an overall 3.2% decline in steel reinforcement work revenues for the year.

During the forecast period from 2017 and 2021, revenue receipt from steel reinforcement is projected to grow at a CAGR of 2.4%. Revenue is expected to decline more significantly in 2017, compared to 2016, as the consequence of declining contracts awarded in both 2015 and 2016. However, positive growth is expected from 2018 onwards, with the anticipated recovery in the housing market and mega public infrastructure projects which have been planned for award in 2017 and 2018.

Steel prices and labour are the main factors impacting cost of steel reinforcement work

One of the most important factors impacting cost of steel reinforcement work is the price of steel. Steel prices tend to fluctuate more than other construction materials, making the cost of steel reinforcement work relatively more volatile. Steel price is anticipated to increase in 2017, due to growing demand from China and the rest of the world. China is expected to produce more steel, but will also use most of its steel output, driven by the Chinese government’s investments in public infrastructure projects which will continue well into 2017. Globally, many countries, including Brazil, India and the United States of America, are showing signs of improved demand for steel.

The value of rebar projects typically depend on the cost price of rebar, measured by dollar per kilogramme, and estimated man hours required to complete the project. This means the more complicated the building design is, the more man hours required and the more expensive the project. Steel reinforcement work is one of the most intensive types of construction work. It is estimated that structural work is the most labour intensive part of the construction process, consuming about 50% of the full construction time. BCA estimates that structural work is also the biggest employer of foreign workers among the different work types (structural, finishing, and mechanical & electrical), where 80% to 85% of the structural workforce are foreign workers. The major trades in structural work are formwork carpentry and steel reinforcement fixing. Therefore, the increase in foreign manpower levies and the cut in MYE quota will reduce the manpower pool for steel reinforcement work, which will have significant impact on manpower costs for steel reinforcement subcontractors, as they may have to pay higher wages or train up existing workers.

INDUSTRY OVERVIEW

Prefabrication reduces manpower costs, but may reduce local revenue due to work being moved overseas

The government’s push for the prefabrication method in the construction process will have a significant impact on manpower costs for steel reinforcement companies. Given the government’s tightening of its foreign manpower policy and the slowdown in local labour force growth, prefabrication is growing increasingly relevant within the construction industry. On the other hand, prefabrication may result in lower revenue receipts for local sub-contractors providing steel reinforcement work as some main contractors have set up their own prefabrication plants in nearby countries, such as Malaysia, to reduce costs. Currently prefabrication work is mostly carried out for residential developments and is more prevalent in public sector residential projects in Singapore.

Table 1 Steel Reinforcement Work Revenues Receipts, Review (2012–2016) and CAGR 2017F–2021F

SGD million	2012	2013	2014	2015	2016	CAGR 2012–2016	CAGR 2017F– 2021F
Revenue receipts accrued from							
steel reinforcement work	5,564.3	5,902.4	6,314.0	6,429.0	6,220.8	2.8%	2.4%
Growth (%)	9.3%	6.1%	7.0%	1.8%	-3.2%	—	—

Source: Euromonitor estimates from desk research and trade interviews with leading steel reinforcement work service providers and the relevant trade associations in Singapore

1.1.6 Formwork in Singapore

Use of conventional formwork or modern system formwork depends on building type and project duration

Formwork involves the work of placing temporary or permanent molds which shape and support the concrete until it solidifies. Conventional formwork is built on-site out of timber and plywood or moisture-resistant particleboard. It is time consuming and labour intensive for large structures, whereby the formwork has to be repeatedly assembled and disassembled. On the other hand, modern system formwork, also known as engineered formwork system, is typically made of pre-fabricated modules of steel or aluminium, which is more robust and reusable. The advantages of using engineered system formwork includes being time-saving as modules can be assembled quickly and lowering construction cost since formwork made of steel or aluminum are more durable and can be re-used more times. System formwork is especially relevant for high-rise buildings, as they can be elevated to multiple stories of a building, saving time and labour which would otherwise be required to assemble conventional formwork on-site. However, conventional formwork can be used for low-rise buildings where the construction timeline is not tight, buildings of a smaller scale or certain unique structures which do not involve repetitive use of formwork in the construction process, as it is most cost effective.

INDUSTRY OVERVIEW

Formwork is regulated by the BCA. There are specific regulations pertaining to design, construction and use of formwork structures, and health and safety requirements which are stipulated in the Workplace Safety and Health (Construction) Regulations and the Workplace Safety and Health (Risk Management) Regulations. There are no specific requirements for companies to qualify for bidding of formwork in the public sector, apart from registration with BCA under CW01 (General Building) or CW02 (Civil Engineering) workheads.

Revenue receipts for formwork mirror the trend for overall construction industry

Revenue receipts for the formwork sector grew at a CAGR of 3.0% during the review period, reaching S\$3.4 billion in 2016. Similar to the steel reinforcement sector, the performance of the formwork sector is broadly in line with that of the overall construction industry, because formwork is carried out on most construction projects, where on-site structural work is required. The sector's fastest growth of 9.1% was registered in 2012, driven by a record number of contracts awarded in 2011, resulting in a large number of projects beginning construction activities in 2012. Formwork revenue receipts grew moderately in 2013 and 2014, supported by on-going projects. However, growth slowed down significantly to 2.2% in 2015 and turned negative in 2016, recording a decline of 2.9%, due to a sustained slowdown in the residential property market.

Revenue receipt from the formwork sector is projected to contract further in 2017, due to a plunge in private sector contracts for both building works and civil engineering works awarded in 2015 and 2016. However, during the forecast period from 2017 to 2021, revenue receipt from formwork is projected to grow at a CAGR of 2.7%. Future growth will be driven by a strong pipeline of mega public sector infrastructure projects such as the construction of the Thomson-East Coast Line, the second phase of the Deep Tunnel Sewerage System (DTSS phase 2), North-South Corridor and Circle Line 6, new public housing construction, upgrading works for HDB flats, and a number of upcoming sizeable condominium projects earmarked for development on various Government Land Sale sites.

Material costs for formwork projects relatively stable while prefabrication may alleviate rising manpower costs

Formwork is commonly rented rather than purchased, because it is more economical and does not require regular storage. As sub-contractors typically do not own the system formwork, changes in the prices of raw materials, such as steel and aluminium, have less impact on their operational costs as formwork rental costs are relatively stable. Formwork suppliers are known to have a stock of raw materials, which cushion the suppliers from the impact of fluctuating material costs.

Similar to steel reinforcement work, labour costs are significant for formwork. As the government is likely to maintain its foreign manpower policy and focus on productivity-led growth during the forecast period, the manpower supply for formwork is expected to remain tight as with the overall construction industry. Rising wages, increase in FWL and the government's requirements for workers to undertake productivity training may continue to increase cost pressures for formwork contractors.

INDUSTRY OVERVIEW

Although the government’s push for prefabrication is likely to reduce demand for formwork because precast molds used in prefabrication replace formwork, there is a limit to the extent of prefabrication in construction, depending on various factors, such as architectural design, type of buildings and project duration. This ensures continued demand for formwork, especially for civil engineering projects.

Table 2 Formwork Revenues Receipts, Review (2012–2016) and CAGR 2017F–2021F

SGD million	2012	2013	2014	2015	2016	CAGR 2012–2016	CAGR 2017F– 2021F
Revenue receipts accrued from formwork	3,033.2	3,207.9	3,442.6	3,516.8	3,414.9	3.0%	2.7%
Growth (%)	9.1%	5.8%	7.3%	2.2%	-2.9%	—	—

Source: Euromonitor estimates from desk research and trade interviews with leading formwork service providers and the relevant trade associations in Singapore

1.2 FUTURE DRIVERS AND CONSTRAINTS

1.2.1 Future drivers for the construction industry

Key Driver 1 — Public infrastructure developments boost construction pipeline

Public sector construction projects, especially civil engineering developments, will be a key driver for the construction industry during the forecast period. The Singapore government plans to increase investment in infrastructure development to S\$30 billion by the end of 2020. Major infrastructure projects ahead include the construction of new mass rapid transit (MRT) lines, the North-South Expressway, Singapore-KL High Speed Rail Link, Changi Airport Terminal 5 and Phase 2 of the Deep Tunnel Sewerage System. As these infrastructure projects are complex and large-scale, involving high contract values and typically carried out over a period of four to eight years, they are likely to create sustained new demand for steel reinforcement work and formwork.

Key Driver 2 — Productivity enhancement measures help companies cope with manpower constraints

The Singapore government announced in March 2015 that it will be providing S\$450 million of funding under the 2nd Construction Productivity and Capability Fund (CPCF) Tranche for the subsequent three years to help companies increase productivity through three main pillars — workforce development, technology adoption and capability development. Under the CPCF, companies may receive enhanced subsidies of up to 90% to upgrade the skills of local employees under the Workforce Training and Upgrading Scheme. The construction industry will benefit from higher productivity and a more skilled workforce, as they will cope better with manpower shortage and be able to move up the value chain by taking on more complex projects.

INDUSTRY OVERVIEW

Key Driver 3 — Development of high growth industries drives demand for new industrial developments

For industrial type developments, construction demand is likely to get a boost from the government’s plan to develop key growth industries. To gear up for the transformation of the manufacturing industry, the government announced the development of the Jurong Innovation District (JID), an innovation district covering Nanyang Technological University, CleanTech Park, and the surrounding areas of Bulim, Bahar and Tengah, in Q1 2016. The industrial park, which will be developed in several phases over the next 20 years, will host global companies along the full manufacturing sector value chain, including R&D, design, prototyping, production and supply chain management. The development planning and engineering work for the 1st phase of JID is targeted for completion around 2022.

1.2.2 Market risk factors

Key Risk Factor 1 - Slow recovery of residential property market may impede growth of construction demand

The uncertainties surrounding the residential property market may pose as one of the biggest risks for the construction industry during the forecast period. At the end of 2016, the Singapore property market still appears gloomy. According to URA data, private home prices fell by 3.0% in 2016, marking the third consecutive year of decline. However, it appears that the rate of decline has eased. Private home prices are expected to continue to fall in 2017 and the sector may bottom out in 2017, subjected to uncertainty in macroeconomic conditions. Decreasing demand from one of the biggest construction development type — residential developments — may dampen the effect of growth from other development types.

Key Risk Factor 2 — Construction manpower costs expected to continue climbing due to government policies

As the labour market is expected to remain tight over the forecast period, manpower shortage and rising wages may pose a risk for the construction industry. According to the labour forecast of MOM in March 2017, labour supply will remain tight over the forecast period, due to modest growth of local workforce and continued moderation of foreign workforce. There is no indication that the government will change its position regarding policies that restrict foreign manpower hiring. As a result, the wage of construction workers may continue the current upward trend. Problems related to manpower is further compounded by a shortage of skilled workers, which will affect the steel reinforcement and formworks sector, because the work requires specialised know-how for cutting rebars and constructing formworks. To mitigate this risk, BCA has embarked on measures to enhance productivity and upgrade the skills of construction workers.

Key Risk Factor 3 — Volatility in cost of construction materials

As high as 96% of steel reinforcing bars demand in Singapore is imported from China and close to 60% of total local cement demand is met by imports from Japan, while the majority of total granite demand is sourced from Malaysia and Indonesia. High dependence of construction

INDUSTRY OVERVIEW

supplies from a few countries makes the construction industry’s demand for construction materials highly price inelastic. Hence, industry players are subjected to the risk of fluctuating material prices and the impact it has on their profit margins.

Key Risk Factor 4 — More complex regulatory requirements may lead to higher overall business costs

During the review period, the regulatory environment for the construction industry has become increasingly more complex. New measures were continuously introduced and existing initiatives were revised, impacting the operations and costs of construction companies. New regulations relate to areas such as green buildings, workplace health and safety, buildability and constructability framework, foreign manpower quota and tender evaluation framework for public sector projects. While the initiatives are beneficial for construction companies and the overall industry in the long term through raising the standard of the industry, companies may incur significant additional costs in the short run to keep abreast of these new requirements. Construction companies may also face increased risks of breaching regulatory requirements, as the rules may become too complex for some companies to follow.

1.3 COMPETITIVE LANDSCAPE

As of September 2017, 1,871 companies were registered under the General Building workhead of BCA’s CRS. There were also a substantial number of 983 companies registered under the Civil Engineering category. Within the General Building workhead, 15.7% of the companies (i.e. 294 companies) qualified for A1, A2, B1 and B2 Grades, which allow them to bid on projects valued at S\$13 million or more. Hence, the General Building sector has a broad-based structure with a large number of small players; 59.9% belonging to the C3 Grade, leading to intense competition among these players. The distribution of companies is similar for the Civil Engineering workhead, where 55.8% of the 983 companies under this workhead qualified for C3 Grade, while only 19.2% qualified for A1, A2, B1 or B2 Grades.

Highly fragmented market with many small to medium-sized players in steel reinforcement work and formwork

At the end of 2016, there are approximately 1,100 small to medium-sized steel reinforcement work and formwork contractors, which take on main contracts or sub-contracts in Singapore, resulting in a highly saturated and competitive market. Due to the nature of the work being highly manpower-intensive, smaller contractors are increasingly reporting fewer opportunities for subcontracting of steel reinforcement work and formwork projects, as they lose out to contractors with more manpower due to their capacity to take on more large-scale projects and lower costs stemming from economies of scale. This is especially the case for public sector projects where there are tender limits based on BCA registration Grades.

INDUSTRY OVERVIEW

1.3.1 Market entry barriers

In general, it is easy for new players to enter the construction industry, especially as a sub-contractor in a sector that does not require significant capital investment to purchase or lease specialised machinery and vehicles to facilitate operations. Due to the diverse nature of works in the construction industry and the prevalence of subcontracting, contractors can take up either general building work or a range of specialised works (e.g. electrical, mechanical) and work on a specific part of construction projects. However, in practice, the construction industry is one that relies to a large extent on reputation and reliability, which takes time to build up.

The barrier of entry for the steel reinforcement sector is higher compared to that for the broader construction industry because of the specialised work. Experienced workers are required to build reinforced concrete structures, or to cut, bend, fix and install customised rebar and pre-fabricated steel cages to exact specifications. Companies operating in the sector will also need to invest in machinery for cutting and bending rebars. Similarly, formwork is a specialised activity that requires experienced personnel to oversee and deliver projects. Therefore, requirement for experienced workers and some specialised machinery makes it harder for businesses to enter the steel reinforcement work and formwork sector.

1.3.2 Interno Engineering (1996) Pte Ltd’s market share

Considering the number of companies in the construction industry and diverse nature of work involved in construction projects, the market share of Interno Engineering in the overall construction industry is estimated to be lower than 1%. However, in the steel reinforcement and formwork sector, it has achieved a significant scale of operation with between 400 and 500 workers.