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Executive summary

ASX welcomes the opportunity this review provides to deliver the most efficient and lowest risk infrastructure to Australia's financial markets. ASX is committed to deliver a world-class cash equities clearing and settlement infrastructure that meets the needs of end users and the financial system.

In February 2015, ASX announced that it will upgrade its technology infrastructure over the next three to four years, including all main trading and post-trade systems. The program will start with the replacement of Australia's equities and derivatives trading platforms by the end of 2016. A decision in relation to ASX's cash equities clearing and settlement infrastructure will be made when there is regulatory certainty around the market structure for cash equities clearing. An investment in new cash equities clearing and settlement infrastructure provides the opportunity to deliver significant efficiencies and service innovation to the industry.

Today, equities trades from ASX and Chi-X are cleared through ASX Clear, a subsidiary of ASX. The moment a trade is matched, ASX Clear becomes the central counterparty to the transaction – the buyer to every seller and the seller to every buyer. Clearing of equity transactions is an important function that reduces the risk to investors and provides confidence to a wide range of stakeholders, including institutional and retail investors, intermediaries and listed companies.

ASX Clear is backed by sophisticated risk management processes and \$250 million in capital. This capital is provided by ASX shareholders. The activities of ASX Clear are overseen by the Reserve Bank of Australia (RBA) and the Australian Securities and Investments Commission (ASIC).

Clearing is an activity that benefits from scale. The Australian equity market is not large – in FY15 year to date, the daily value cleared is \$3.8 billion. For a market of this size, a single clearing infrastructure provides the most efficient and lowest risk solution.

Other markets have reached the same conclusion. The most important single markets in the world all operate a single clearing facility, including Canada, the USA and the main markets in Asia. Europe is the exception, where regulators created a single market across country borders through a complex model of interoperability between clearing houses.

Clearing is an important risk management activity, but not a costly one for the economy. The fees charged by ASX Clear for clearing cash equities for the entire Australian market are approximately \$45 million per annum or 24 cents for an average trade of \$5,500. This compares to the total cost for investors to transact in the Australian equity market – including the fees they pay all intermediaries and service providers – of approximately \$1 billion per annum.

Today, ASX Clear makes normal returns. In 1H15, the return on equity from cash equities clearing was 12%. This is modestly above ASX's cost of capital. An independent international benchmarking study showed that the costs of clearing in Australia are broadly in line with the costs of other markets of a similar size and where similar clearing services are provided.

In 2012, the Council of Financial Regulators recommended to retain the current market structure for a period of two years. The Government accepted this recommendation. ASX subsequently implemented a Code of Practice that sets out how ASX manages its cash equities clearing and settlement infrastructure on behalf of its diverse stakeholders. The Code makes commitments on transparent and non-discriminatory access to ASX's services and provides full transparency on the performance and economics of clearing and settlement services.

Today, ASX Clear and ASX Settlement provide Chi-X access to its clearing and settlement services through the Trade Acceptance Service (TAS) at no cost. Over the last 12 months, TAS service availability has been 100%, processing over 45 million trades. The access arrangements through the TAS have allowed for effective competition in trade execution and there is no evidence that the access arrangements have had an adverse impact on competition.

Under the Code, ASX has established a stakeholder forum that provides input into the performance and investment program for the central infrastructure. A tangible outcome from this process is agreement by the industry to transition from a T+3 to a T+2 settlement cycle in the first quarter of 2016.

The Code has facilitated industry collaboration and service innovation, and delivered outcomes that are consistent with a competitively dynamic market place. This has been achieved with minimal regulatory oversight, at relatively low cost and within the regulators' existing powers.

ASX believes that the Council's original assessment of the market for clearing services was sound and remains relevant. A single infrastructure is the most efficient for a market the size of Australia and the initial two year 'trial period' for the Code has demonstrated the effectiveness of this form of industry-led regulation.

ASX proposes that the current regulatory settings be maintained and that the moratorium on competition in cash equities clearing be extended for five years. The five year period would give ASX the certainty it needs to commit to a significant investment in Australia's cash equities post-trade infrastructure, including the replacement of CHESSE. A five year extension is at the lower end of a five to ten year investment horizon that shareholders would typically apply to infrastructure projects.

Replacing Australia's clearing and settlement infrastructure is a significant task for the industry. ASX would commence the design work in FY16 and expects that the project would take approximately three to four years to complete.

Under a five year extension of the current arrangements, ASX proposes to make changes to its clearing fees and strengthen the operation of the Code. These changes will deliver outcomes that are consistent with a competitive market and that are in line with best practice regulation.

The proposed changes to cash equities clearing fees will share the upside from growth and scale economies with the market. Currently, clearing fees are charged as a 'flat' 0.25 basis points on value cleared. The proposed fee schedule applies progressively lower fees as total market volumes increase:

Value cleared by the Australian equity market (average daily value over 6 months) ¹	Fee in basis points
All value up to \$3 billion per day	0.225
Any value between \$3 billion and \$4 billion per day	0.175
Any value between \$4 billion and \$5 billion per day	0.125
Any value over \$5 billion per day	0.100

¹ Fee rebates are paid to all participants every six months

Based on the FY15 year to date value cleared of \$3.8 billion per day, the proposed fee schedule will provide all participants with a 14.2% fee reduction.

The proposed fee schedule will reduce ASX's return on equity to approximately 10.8%. This is broadly in line with its cost of capital, and will allow ASX to commit to the necessary infrastructure investments. As volumes increase, the return on equity of ASX also increases, but at a slower rate. Most of the benefit of growth is shared back to all ASX clearing clients.

ASX is prepared to commit to strengthened regulatory controls under the Code of Practice. The additional commitments ASX will include relate to:

- Implementation of the proposed clearing fee schedule
- Requirement to submit future changes to clearing and settlement fees to regulators for review
- Commencement of consultation on the replacement of the CHES platform
- Recognition of the role of the Business Committee and extension of its membership to include Heads of Equity
- Further strengthening of the governance processes of ASX Clear
- Extension of the access arrangements to include certain CHES eligible non-ASX-quoted products
- Updated audit review to include the additional commitments made by ASX.

A strengthened Code would address the legitimate concerns that may be expressed by users of a single infrastructure in relation to pricing of services, access to clearing and settlement infrastructure for other trade execution and listing venues, and the handling of confidential information.

The proposed five year extension ensures that the industry can focus on delivering a robust market infrastructure and improved services for end-investors.

The changes to clearing fees and the Code are proposed on the basis that the existing moratorium is 'rolled over' for five years and that there will be no need to devote additional resources to studying or designing alternative market structures during this period. ASX could not implement the proposed fee changes if this is not the case. Its economics do not allow for a significant diversion of resources from, or changes to, the investment program that has been announced.

There are policy alternatives. One of the alternatives is to introduce competition, either through the creation of multiple stand-alone clearing houses or through a model of 'interoperability' where the separate clearing houses are connected to each other. Interoperability is a model that is unique to the European common market.

Either model would be a 'world first' for a single market and would focus attention for several years on the implementation of a new and complex market structure, with highly uncertain outcomes for the financial system, the industry and end-investors. It is unclear what arrangements would need to be put in place for a second clearing house to commence operations. Designing them would require engagement from industry, potential entrants, stakeholders and regulators, without any certainty that an alternative model would be implemented or create a better outcome for end-investors.

While the legislative framework allows for multiple operators to clear Australian cash equities, this approach has not been adopted by any other single country and has never been tested against consideration of what is the most appropriate market structure for a market the size of Australia.

The introduction of a second clearing house would lead to increased connectivity costs, regulatory charges and settlement costs – together by as much as \$20-30 million per annum. Supervision would need to be transferred to ASIC and the risk management processes for clearing would need to be fundamentally redesigned, including the recovery and resolution mechanisms which are currently being developed.

Interoperability does not seem to be a feasible option for Australia. No other single market has been fragmented by regulatory design to then be ‘pieced back together’ through interoperability, with the end result being a market with the same scale to what it was originally.

Moreover, fragmentation would benefit some types of high frequency traders (HFT) at the expense of retail and institutional investors, who are the foundation of a long-term stable market place. The market structure for cash equities should be designed for the benefit of end-investors, not to improve the relative economics of HFT. The experience of investors with fragmentation of equities trading has been that their ‘market impact costs’ have increased as they find it more difficult to access liquidity to execute their orders. The impact of trading fragmentation has been moderated to some degree by the positive work ASIC has done to implement a regulatory regime that supports end-investors.

There are other ways to regulate a natural monopoly, including full oversight by central regulators of all aspects of its operations and commercial arrangements. Depending on the way this oversight is implemented, it could reduce the ability of the Board of ASX Clear to have regard to the legitimate interests of ASX and therefore may require those authorities to share in the risks assumed by the clearing house.

Arrangements to structurally or operationally separate functions that are performed within the ASX Group would increase operating and infrastructure costs, and fees would be higher than under the proposed model. Moreover, structural separation would increase the risk and complexity of providing clearing and settlement services and may require changes to the capital structure of the default fund or the resolution regime. In the absence of any net benefit or regulatory failure, there is no basis to justify the introduction of any form of structural separation.

The experience with the Code of Practice and the proposed changes to the Code allow Australia to rely on industry self-regulation and avoid a more complex, inflexible and expensive regime.

ASX has built a business case that combines a highly successful central infrastructure, an improved fee schedule and a stronger Code of Practice. It is evidence based and will work. There should be a heavy onus on those advocating a change to the market structure to demonstrate that there will be net benefits for end users, in particular retail and institutional investors.

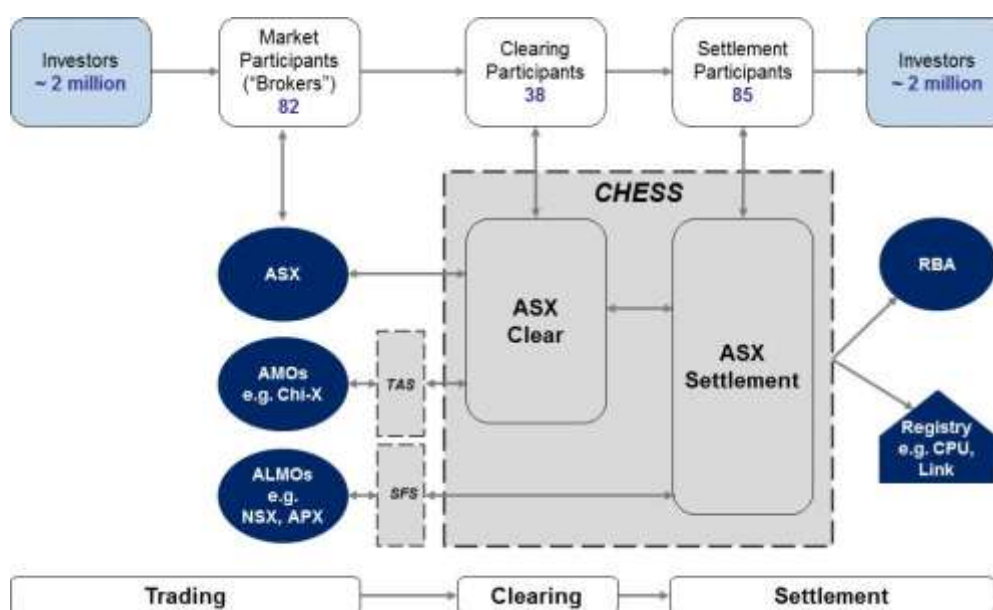
ASX recognises that 2020 will be an appropriate time for the regulators to again review the market structure of clearing, the effectiveness of the regulatory tools and the operation of the Code. In addition, a review in five years will provide the opportunity to determine if the advancement of technology and the development of alternative business models changes the business case for a single clearing house.

ASX is committed to deliver the outcomes all stakeholders expect over the next five years.

Single clearing house is most efficient for a market the size of Australia

The majority of equity markets in the world are served by a single clearing house. In Australia, the clearing service is provided by ASX Clear, a subsidiary of ASX Limited.

The following diagram illustrates the structure of the Australian equity market, where multiple trading and listing facilities connect to one centralised clearing and settlement infrastructure.



The diagram highlights the critical role ASX's financial market infrastructure plays in providing seamless connectivity for a large number of trading, clearing and settlement participants.

When a trade is matched, ASX Clear becomes the central counterparty (CCP) to the transaction – the buyer to every seller and the seller to every buyer. Clearing is an important function that reduces the risk to investors and provides confidence to a wide range of stakeholders, including institutional and retail investors, intermediaries and listed companies.

ASX Clear and ASX Settlement provide clearing and settlement services to other trade execution and listing venues. Clearing services are provided to other trade execution venues (i.e. Chi-X) through the Trade Acceptance Service (TAS) and settlement services are provided to other listing and trading venues (i.e. NSX, SIM and APX) through the Settlement Facilitation Service (SFS). These services are provided utilising the CHES (Clearing House Electronic Sub-Register System) infrastructure.

The access arrangements for clearing and settlement services by other trade execution venues were put in place when Chi-X commenced trading in 2011. They allowed Australia to introduce competition in equities trading while maintaining an efficient central post-trade infrastructure.

The single clearing and settlement facilities operated by ASX Clear and ASX Settlement provide significant efficiencies for participants and their customers. The table on the next page highlights the operational and financial efficiency that is delivered through the netting of trades in the clearing service and the single batch settlement model.

Clearing	Before netting	After netting	Risk reduction and efficiency benefit
Daily Average Cleared Value	\$3.8bn	\$1.5bn	60%
Number of settlements	915,000	13,758	98%
Settlement	Value	Average daily batch CHESSE settlement	Settlement efficiency
Novated trades	\$1.54bn	\$8.0bn	99.7%
Non-novated bilateral transactions	\$6.5bn		

The data is provided for the last 12 months from March 2014 to February 2015.

The technology and operational costs to provide clearing services are largely fixed. This means that there are significant economies of scale that come with a single central infrastructure.

The introduction of clearing competition would fragment the existing structure and reduce the efficiency of the operating model. It would introduce new issues for the industry to manage. Depending on the model chosen this could include: duplication of infrastructure; additional costs of connecting to two facilities; reduced level of netting and settlement efficiency; higher overall capital and collateral requirements; increased risk of insolvency in the event of a participant default; and complexities and risks associated with building interoperability links between multiple clearing houses.

ASX is not aware of any markets where the pre-existing scale of clearing services has been fragmented. ASX has not been presented with a working model of how such a fragmented clearing infrastructure would operate in practice, how benefits would flow to retail and institutional investors, and how risk and financial stability would be managed.

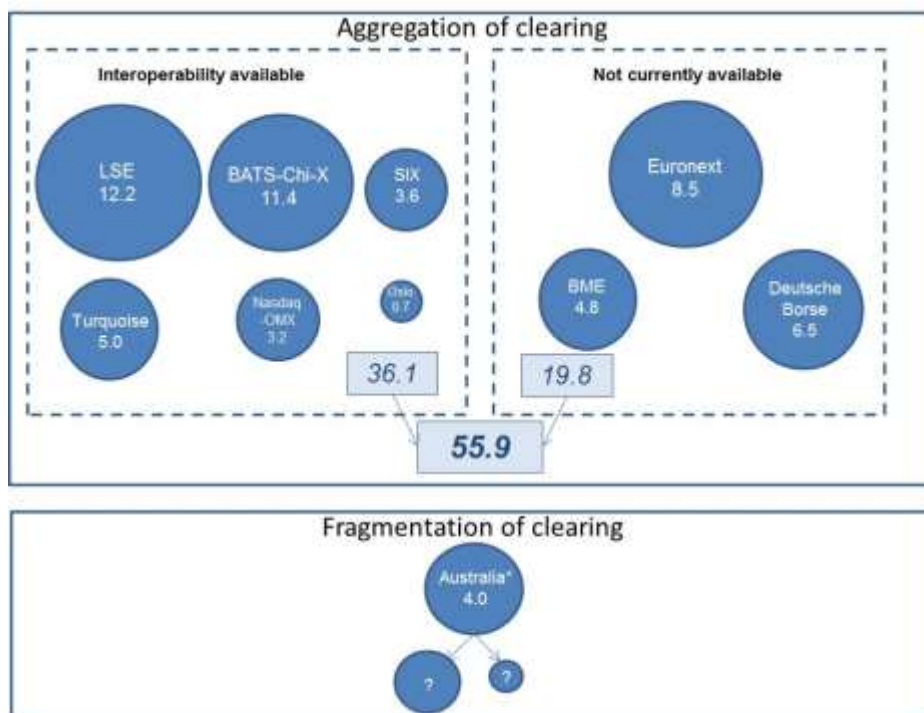
The common market of Europe is the only example where there is competition between clearing houses. This example has limited practical relevance for Australia and other single markets.

In Europe, a key driver of economic reform has been the desire to create a single market across country borders. In the case of clearing services, Europe allowed for competition between clearing houses and introduced 'interoperability' between clearing houses to manage risk and create a single pan-European market with greater scale than individual countries could achieve on their own. The cross-border model remains untested in times of crisis.

For single markets, the European logic does not apply. There would be no scale benefit provided to users. The Australian equity market is not large – in FY15 year to date, the daily average value cleared is \$3.8 billion. Therefore, for a market the size of Australia, the case for a single infrastructure remains compelling.

To illustrate the difference in size between Europe and Australia, the diagram on the next page shows average value of daily trading (denominated in billions of Australian dollars) for a number of major European markets and Australia. Many of the European markets now allow a choice of clearing facility, supported by interoperability links between the CCPs. These markets trade a total of around A\$36.1 billion a day. If the other major markets in Europe also join the model, this would increase to A\$55.9 billion a day.

Market Comparison Europe and Australia (Trading volumes in A\$ billions)



The largest single markets in the world, such as the US and Japan, have a single clearing provider. For smaller markets, such as Australia, the case for a single provider is even more compelling. The following two tables summarise the market structures for a range of markets.

Country	Trading platform(s)	Single Clearing House	Vertical integration
Australia	ASX, Chi-X	• ASX Clear	√
Hong Kong	Hong Kong Exchange	• Central Clearing and Settlement System	√
Singapore	Singapore Exchange	• Central Depository	√
Japan	Tokyo Stock Exchange	• Japan Securities Clearing Corporation	√
Korea	Korea Exchange	• Korea Exchange	√
Brazil	BM&FBovespa	• BM&FBovespa	√
USA	NYSE, Nasdaq, BATS	• National Securities Clearing Corporation	X
Canada	Toronto Stock Exchange	• Canadian Depository for Securities	√
Germany	Deutsche Börse	• Eurex Clearing	√
France Netherlands Belgium Portugal	Euronext	• LCH.Clearnet	X
Spain	Bolsas y Mercados Españoles	• Arca (to be established 2015)	√
Sweden Denmark Finland Iceland	Nasdaq Nordic	• EuroCCP	X

Country	Trading platform(s)	Multiple Interoperable Clearing Houses	Vertical integration
UK	London Stock Exchange	<ul style="list-style-type: none"> • LCH.Clearnet¹ • EuroCCP • SIX x-clear 	X ¹ X X
Switzerland	SIX Swiss Stock Exchange	<ul style="list-style-type: none"> • SIX x-clear • LCH.Clearnet 	√ X
Norway	Oslo Bors	<ul style="list-style-type: none"> • Oslo Clearing • LCH.Clearnet 	X X
Pan-European	BATS Chi-X Turquoise	<ul style="list-style-type: none"> • EuroCCP • LCH.Clearnet 	X X

¹ London Stock Exchange has a 60% ownership interest in LCH.Clearnet.

Costs of clearing the Australian market are reasonable

Modest total costs and return on equity

Clearing is an important risk management activity, but not a costly one for the Australian economy. The fees charged by ASX Clear for clearing cash equities for the entire Australian market are approximately \$45 million per annum, or 24 cents for an average trade of \$5,500.

	Trading	Clearing	Settlement	Total
ASX reported revenue FY14	\$33m	\$43m	\$41m	\$117m
Average on-market fee per trade	\$0.18 (0.33bps)	\$0.24 (0.42bp)	\$0.22 (0.41bp)	\$0.64 (1.16bp)

This compares to the total cost for investors to transact in the Australian equity market – including the fees they pay all intermediaries and service providers – of approximately \$1 billion per annum.

ASX Clear is backed by sophisticated risk management processes and \$250 million in capital. This capital is provided by ASX shareholders. In other markets, the default risk capital in the clearing house is largely provided by intermediaries, which increases the risk that intermediaries are exposed to and allows for lower clearing house fees.

The following table provides a profit and loss statement for cash market clearing. It shows that ASX Clear makes normal returns. In 1H15, the return on equity from cash equities clearing was 12%. This is modestly above ASX's cost of capital.

Cash Market Clearing	FY14 \$m	1H15 \$m
Operating Revenues	43.5	23.2
Operating Expenses	10.5	5.4
EBITDA	33.0	17.8
Depreciation and Amortisation	1.8	1.0
EBIT	31.2	16.8
Interest Income	5.9	2.5
Profit Before Tax	37.1	19.3
Income Tax Expense	(11.1)	(5.8)
Profit After Tax	26.0	13.5
Economic Profit after Capital Charge	3.7	2.5
Total Capital	221.3	218.1
Return on Equity	11.7%	12.3%

Costs are broadly in line with other markets of a similar size

ASX commissioned Oxera Consulting (Oxera) to independently benchmark the costs of using its cash equity post-trading (clearing and settlement) services against the costs of using these services in other markets.

The Oxera report² is the most comprehensive report produced in relation to clearing and settlement services. In comparing the fees charged, the report considers differences in scale, service levels and capital contributions. ASX consulted extensively with the Forum and Business Committee, which were established under the Code of Practice, on the scope and methodology of the study. Members provided information directly to Oxera to assist in framing its analysis.

Oxera compared markets based on a range of user profiles, with each profile representing different types of investors (retail and institutional) and different brokers that are active in the Australian market. The profiles were then applied to the fee schedules of financial market infrastructure providers (FMIs) in other countries to give an estimate of the costs of using trading and post-trading services. The approach used by Oxera is well-established and has been used to undertake similar benchmarking analysis for securities regulators and exchange groups in other markets.

The analysis showed that across the indicative user profiles, annual exchange-related post-trade fees in Australia range from as low as \$4 for infrequent retail traders to just below \$170,000 for a large fund manager trading around \$6 billion.

Oxera Consulting: Estimated annual post-trade fees paid by different types of investors						
Investor type	Infrequent retail investor using online broker	Frequent retail investor using online broker	Small hedge fund using small broker	Small fund using mid-size broker	Large hedge fund using mid-size broker	Large fund using large-size broker
Value traded	\$45,000	\$500,000	\$60 million	\$350 million	\$600 million	\$6 billion
Annual post-trade fees	\$4	\$100	\$3,300	\$16,400	\$17,200	\$168,400

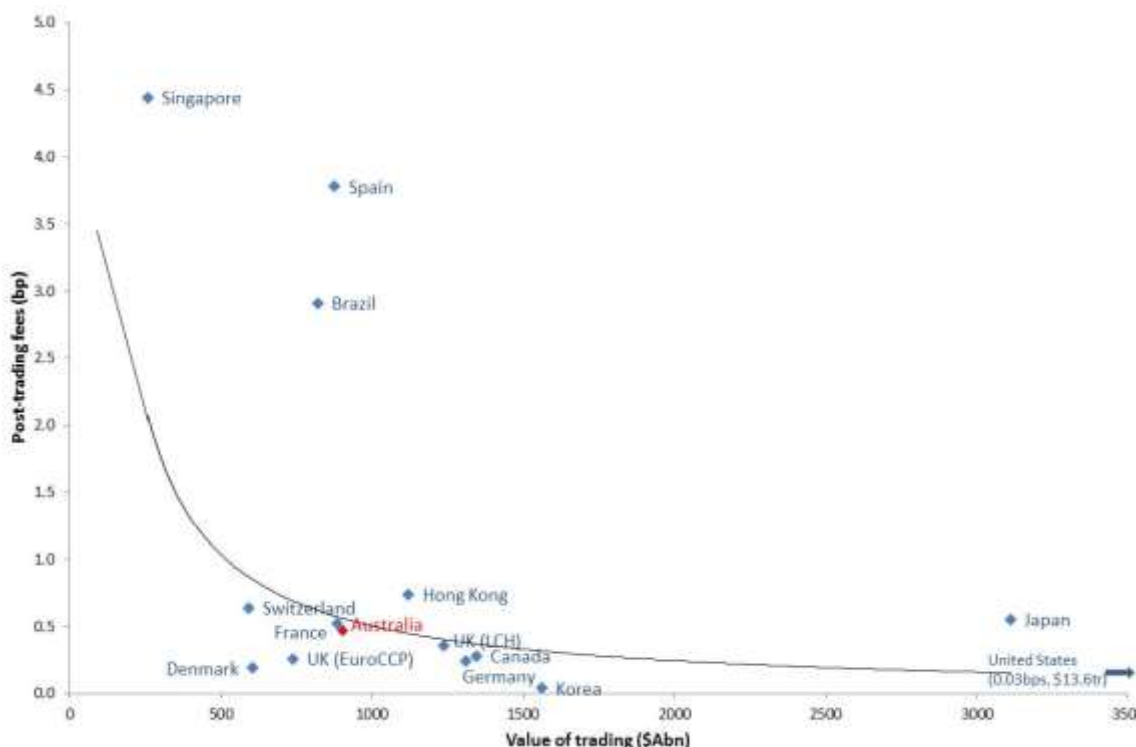
The overall conclusion from the Oxera analysis was that “the fees charged by ASX for post-trade services of 0.3-0.6 basis points for institutional investors and 0.9-2.0 basis points for retail investors are within the range that FMIs of a comparable size charge to investors with the same trading characteristics”.

Oxera did note that ASX is at the low end of the range for fees charged for Central Securities Depository (CSD) services and at the high end of the range for fees charged for central clearing services. In terms of clearing, Oxera identified two key drivers of cost differences: the relative scale of different markets and the nature of the different services provided (e.g. ASX contributes more capital and recoups the cost of this through fees). Once the capital contribution of ASX to the default fund is taken into account, the overall cost to users of ASX Clear is closer to the middle of the range observed elsewhere.

² Oxera Consulting, *Global cost benchmarking of cash equity clearing and settlement services*, June 2014.

To illustrate the influence of scale, the chart below shows that the cost of post-trading services (clearing and settlement combined) generally decreases as the value of trading increases. ASX's position on the chart is consistent with the conclusions drawn by Oxera.

Relationship between the cost of post-trading (for institutional investors) and the value of trades



The Oxera analysis also demonstrates that clearing competition in Europe has seen a redistribution of the fee burden across different users, with larger clearing participants benefiting from volume discounts as CCPs compete for this high volume business. These larger participants can bundle their clearing across a range of national markets through a single CCP and maximise any volume discounts, which are applied at the participant level.

In smaller markets such as Australia, the scale provided to the clearing house comes from the total market rather than individual participants who bundle across markets. Therefore, it makes sense that all participants share in the benefits of the scale they collectively provide.

An alternate benchmarking study, commissioned by some market participants and conducted by Market Structure Partners (MSP), found similar quantitative results where the same markets were reviewed.

However, the MSP study suffers from a number of constraints. First, the study has a heavy focus on Europe and does not consider several Asian markets that are relevant peers to Australia. Second, MSP did not fully consider the service differences between markets that help explain fee differences. For example, in Canada novation occurs very late in the post-trade process, and in a number of countries CSD revenues are based on custody fees and not settlement fees. These custody fees were not taken into account in the MSP study.

Finally, the study gave insufficient weight to risk management and the impact of risk capital on the economics of clearing. ASX Clear carries \$250 million of capital to meet the RBA's Financial Stability Standards (based on the highest 'Cover 2' global benchmark). In the absence of ASX providing that capital, it would need to be contributed by participants, who would directly bear the cost.

Alternatives are likely to be costly, higher risk and disadvantage end-investors

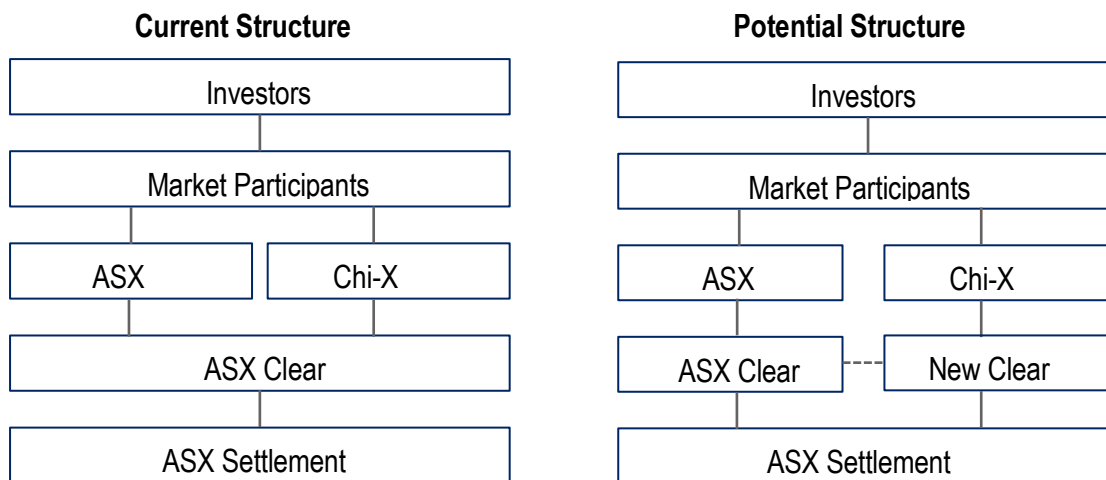
The design of a market with multiple clearing houses is uncertain

One of the two broad policy approaches identified in the Council's consultation paper is the removal of the moratorium on competition in clearing of Australian cash equities. At this stage, no advocate for change has clearly set out what the model would be for introducing multiple clearing houses to the Australian market. There are two broad options:

1. Introduction of a second clearing house, without linkages between the clearing houses. Each market operator would clear with one clearing house.
2. Linking of multiple clearing houses by putting in place interoperability arrangements. Under this approach, links between the clearing houses would allow participants of one clearing house to deal with participants of another clearing house.

It is not clear whether, under either option, only one additional clearing house would be licensed or if the market would be opened up to several new entrants.

The diagram below illustrates the potential market structure where there is more than one clearing house.



Key:
 ----- Interoperability model

It should be noted that there is no precedent for the introduction of a second clearing house by way of either option in a market with similar circumstances and the size of the Australian cash equities market. No other single market has been fragmented by regulatory design to be 'pieced back together' by interoperability where the end result is a market with the same scale to what it was originally.

Fragmentation would create a permanent loss of efficiency and higher costs to the financial system

In 2012, a cost-benefit analysis conducted by the Council of Financial Regulators did not support the introduction of multiple clearing facilities. This conclusion is still valid today.

Whilst the introduction of competition may provide for lower clearing fees, they are likely to be offset by higher connectivity, regulatory, risk management and settlement costs. Interoperability would add further costs to connect the clearing houses to each other, and create new risks that come with the exposure of one clearing house to another.

The loss of scale would be a permanent loss to the efficiency of the Australian financial system.

ASX has undertaken a preliminary analysis of the cost of the introduction of a second clearing house on a stand-alone basis (i.e. without interoperability). The additional costs for the industry associated with interoperability are highly uncertain.

ASX estimates the cost to the financial system of a second stand-alone clearing house and fragmentation to be at least \$20-30 million per annum.

Cost of clearing fragmentation (Assuming second clearing house clears 15% of market trades)

• Increase in settlement volume fees	\$ 1.7m - 2.3m
• Cost of increase liquidity requirement on grossed up settlement value	\$ 2.5m – 11.0m
• Additional participant default fund contributions	\$ 4.0m
• Gross up in CCP cash margins	\$ 0.2m - 1.0m
• Additional CCP liquidity requirements	\$ 0.1m - 0.5m
• Higher regulatory supervisory costs	\$ 2.0m – 5.0m
• Participant ongoing technology and operational costs (est)	\$10.0m
Total additional costs to financial system	<u>\$20 - 30 million pa</u>
One-off participant technology build	Unknown

The additional costs would need to be compared to the possible savings that could be achieved on the total cost of clearing the Australian market of \$45 million per annum, or \$38 million under the proposed fee schedule.

A change in the clearing model would require several years to implement. During this time, no other significant investments or innovations could be introduced that provide benefits to participants and investors. ASX and the wider industry would collectively be spending their time designing a different model.

Multiple clearing houses introduce new risks

Need to redesign regulatory arrangements

Significant new regulatory arrangements would need to be put in place for the introduction of a second clearing house to manage the additional systemic risk, complexity, operational arrangements and default management processes. The entry of a new clearing house would mean that some of the supervisory responsibilities for clearing and settlement participants will transfer from ASX to ASIC and/or the RBA. This would involve a disaggregation of the central clearing risk management framework that exists today and would add further complexity to the recovery and resolution mechanisms which are currently being developed. The costs to the industry under a 'user pays' model of cost recovery would be material.

Interoperability would introduce new risks

The introduction of interoperability would create a risk exposure for ASX Clear that did not previously exist. With interoperability, ASX Clear would be exposed to counterparty risk from its linked clearing house. There would be significant costs associated with managing the complexity and risks associated with the new inter-clearing house exposures. This would likely include an additional capital impost on the clearing house to cover the credit and liquidity risk arising from the interoperable arrangement. It may involve a requirement for a clearing house to have a 'Cover 2 Plus' default fund, sufficient to cover the losses of the largest two clearing participants plus the exposures to the linked clearing house.

In addition to a larger default fund, there would need to be a requirement for margin to be posted by the linked clearing houses with each other (linked margin) in respect of 'trades cleared over the link'. The additional costs associated with a larger default fund and the linked margin would be borne by the clearing houses, participants and the financial system more broadly.

In the absence of a detailed operational blueprint and information on the potential counterparty risk, the Board of ASX Clear cannot assess if it would be willing to accept the additional exposure and the economic impact. Moreover, it is unclear what assurances regulators would need to provide under their expanded oversight role.

Interoperability is untested in a stress scenario. In some markets, such as the USA, interoperability is actively discouraged. In relation to derivatives, US regulators have stated that "in order to minimise systemic risk, under no circumstances shall derivatives clearing organizations be compelled to accept the counterparty risk of another clearing organization."³

Offshore versus domestic location

If a second clearing house were to be located overseas, further risks and complexities would arise in relation to the recovery and resolution processes for the Australian financial system. This is because a foreign resolution authority would be responsible for supervising the second clearing house's recovery and resolution, and would have no statutory duty to consider the impact of its decisions on the Australian financial system.

³ 7 U.S. Code § 7a-1(f) - Derivatives clearing organizations, <https://www.law.cornell.edu/uscode/text/7/7a-1>.

ASX supports the 'domestic location requirements', as set out in the Council of Financial Regulators' March 2014 policy document 'Application of the Regulatory Influence Framework for Cross-border Central Counterparties', applying from the commencement of operations of any second clearing house. The cash equities market has a strong domestic connection, is systemically important to the Australian financial system, and there would be significant difficulties in imposing a 'threshold-based' approach to domestic location requirements.

Reduced ability to prevent and manage participant defaults

A second clearing house would increase the complexity of managing a participant at risk of default. If there is more than one clearing house, it would be in the interest of either clearing house to act first and ensure that it has access to any remaining assets of the participant. This would be achieved by calling an event of default at an early trigger point.

ASX Clear has recent experience that has provided practical insights into the difficulties of managing these situations had there been two clearing houses. While ASX Clear managed the issue, if there had been two clearing houses, it is likely that ASX Clear would have had to closely consider how to minimise its risk exposure.

Significant potential impact on settlement

If Australia were to adopt interoperability, the impact to settlement would need careful consideration. Additional linkages would increase complexity within the central settlement facility and risk management would assume even greater significance. This would need to be further examined to understand the issues and subtle nuances in relation to preserving settlement efficiency, clearing house liquidity support, the settlement model, prioritisation, and the management of default events.

For example, the current methodology of the back-out algorithm may need to be re-engineered to ensure that default events could continue to be managed within the legal frameworks of the competing clearing facilities and without adding risk to the overall system. A unified approach and well-rehearsed crisis management procedures and protocols would need to be put in place to enable quick, effective and informed decision making. This would be a complex undertaking.

Consideration would also need to be given to whether DvP model 3 settlement could continue to be used or whether DvP model 1 settlement with real time gross settlement occurring continuously would be required. ASX is not aware of any DvP model 3 settlement system globally in which competing clearing houses are active. Moving to DvP model 1 settlement would fundamentally change the settlement processes and the economics of settlement in the Australian market. It may also have implications for the ability to maintain name on register for security holders.

It is critical that the central settlement facility continues to provide a safe environment which efficiently allows clients to manage counterparty risk, settlement risk and credit risk. This cannot be compromised.

Clearing fragmentation is likely to increase costs for end-investors

Fragmenting financial markets reduces scale economies and can create significant inefficiencies for users. Some of the inefficiencies can be observed through the additional direct costs of regulation and connectivity. Other indirect costs relate to the loss of liquidity that investors can access in single pools, and in the interaction with high frequency traders (HFT). These costs are referred to as 'market impact costs' and they can be several times the costs charged by exchanges.

In other words, fragmentation tends to be unhelpful to real investors and can create a material cost for them.

Proponents of competition claim that the benefits of competition and fragmentation outweigh the costs. However, experience has shown that complex regulations are required to manage a fragmented market place and that end-investors can never be fully compensated for the significant market impact costs that arise from such fragmentation.

In the US, the emergence of competition between equity trading platforms led the Securities and Exchange Commission to develop the National Market System (NMS). The NMS attempted to create a highly competitive and efficient equity market through a complex series of regulations and linkages between trading platforms.

The NMS has created an equity market structure that favours the business model of HFT who engage in strategies involving 'latency arbitrage', and has led to significant growth in HFT activity. The various regulatory standards interact and reinforce each other to benefit these HFT strategies and disadvantage real investors.

In Europe, a similar fragmented trading environment has emerged, although in that case, it was in the context of seeking to connect previously separate liquidity pools. The establishment of the Markets in Financial Instruments Directive (MiFID) set the rules within which the competing trading platforms had to operate. While not as prescriptive as the US regulatory system, the result is still a complex set of rules.

In 2011, Australia decided to follow the US and Europe and fragment the equity market. The relatively modest size of the Australian market means that the fragmentation of liquidity has been more limited. The secondary market for ASX-listed securities is now conducted through two licensed exchanges (ASX and Chi-X) and 18 broker crossing networks.

The new market structure necessitated the transfer of market surveillance and participant supervision from ASX to ASIC and the creation of new Market Integrity Rules. These changes were accompanied by additional regulatory costs as well as other IT, operational and compliance costs for industry. While some participants may have benefited from competition, the aggregate costs of implementing the new market structure outweigh the reduction in exchange trading fees.

This outcome is not surprising given the size of the Australian market. Exchange fees reduced by approximately \$15 million when competition was introduced, and in FY14 they were less than \$40 million in total. It does not take a significant increase in complexity for the costs of fragmentation to exceed the modest benefits.

The above cost-benefit analysis focuses only on the direct costs of fragmentation. They exclude the costs of fragmenting liquidity for end-investors who look to trade in the equity market. Institutional investors have reported that the fragmentation of liquidity makes it more difficult to trade larger blocks of stock, increasing their market impact costs and reducing their lit market activity. Moreover, they are concerned with the emergence of new trading strategies whereby HFT are able to leverage multiple trading platforms and interpose themselves between genuine buyers and sellers. Given that most of the HFT latency arbitrage activity is in highly liquid securities, there is no new liquidity being provided to the market that would benefit investors. It is essentially a wealth transfer from investors to HFT.

ASIC has been effective in limiting the downside of trading fragmentation on end-investors. ASIC is well informed and has been deliberate, pro-active and practical in the regulation of the equity market. Examples include: prohibiting maker-taker rebates (also known as payment for order flow); appropriately capturing the regulatory costs through the ASIC cost recovery arrangements; and not narrowing tick sizes. Had these actions not been taken, it is likely that HFT would be a much larger part of the Australian market, as it is in the US and Europe. Australia is now regularly referred to as a benchmark for equity market regulation.

In understanding the impact of fragmentation, the analysis must be broader than only one step in the value chain that constitutes the equity market. In other words, trading, clearing and settlement are part of a single value chain, and changes in the way any of the steps operate will impact on the way the market functions overall. Therefore, a change in the market structure for clearing must be analysed by reference to the end-to-end process and the fragmentation that already exists in trading.

The largest beneficiaries of clearing fragmentation will be HFT. The economics of HFT trading activity is based on a high volume of small, low margin trades. In broad terms, clearing fees are around one-third of total exchange related fees for investors but around half of all fees for HFT, as they normally close-out positions by the end of the day and don't pay any settlement fees. As a result, HFT activity will be more sensitive to changes in clearing fees. In addition, HFT trading strategies are not negatively affected by the same indirect costs that institutional investors can incur from fragmentation, such as greater market impact costs and delays in executing larger trades.

Exchanges that are owned by HFT firms, including Chi-X, will advocate for clearing competition. In a fragmented market, it is important that regulators and policy makers understand the micro-economics and motivations of different participants and trading models across the entire value chain.

Other implications of removing the moratorium on clearing competition

ASX believes that a clear choice needs to be made for the next five years. There is no justification for investing significant time and resources in preparing for a change in market structure when the business case for change has not been made. ASX's commitments on fees and the Code of Practice assume that no further resources have to be allocated to the review or design of alternative market structures.

Significant opportunity cost of preparing for competition

If the policy outcome from the review was to remove the moratorium on clearing competition, ASX could not implement the proposed fee schedule that shares the benefit of scale with the market. ASX would have to assume that a second clearing house will arrive and that the market will end up implementing the type of fee structures that are being observed in Europe. These typically differentiate between users, with some large users paying materially lower fees than smaller users.

Moreover, ASX would have to reconsider the scope and timing of its investment in cash equities post-trade infrastructure. ASX and the industry would have to 'solve' for a very different policy outcome.

No scope to devote additional resources to further reviews until investment program is completed

For the next three to four years, ASX will have to devote its available resources to the implementation of its investment program. If ASX was directed to allocate resources to further work on clearing competition or market structure alternatives, this would come with a cost.

Moreover, such a request would be inconsistent with a conclusion that a single infrastructure is the most efficient for a market the size of Australia. It would imply there is uncertainty around the best model for the Australian market.

An outcome that provides for a five year moratorium yet imposes requirements on ASX Clear and ASX Settlement to design or prepare for a change in market structure during that time would mean that ASX needs to reconsider the proposal that it has put forward. It is unlikely that the proposed new tiered fee schedule would be implemented under such circumstances until the work is completed and the market structure has been finally confirmed.

Withdrawal of Code of Practice commitments

ASX would need to withdraw its commitments under the Code of Practice if there was an announcement by the Government to remove the moratorium and allow competition in cash equities clearing.

The Code currently provides for a level of transparency and information disclosure that would not be made available in a market with more than one provider. The information that is made available includes the publication of the management accounts, papers and minutes for the Business Committee and Forum meetings, and investment plans. ASX would need to review and minimise the information that it made publicly available in the context of the removal of the moratorium to allow for a competitor.

ASX could not be placed under any obligation to publish information that could be used by future competitors to plan their market entry. This includes most of the information provided under the Code today.

ASX also expects that it would have to reinstate an annual TAS service fee for ASX quoted and non-ASX-quoted products. In the TAS legal terms, the waiver of the annual TAS service fee is subject to the Code and the related Government policy for a moratorium on the introduction of competition in cash equities clearing remaining in place. If there is a change to the Government policy, those fees become a matter for ASX to set having regard to the commercial environment and the return that is needed to provide these services.

ASX's other Code commitments in relation to access and pricing would fall away and be governed by legislative and other regulatory mechanisms.

Code of Practice is best practice regulation

In 2013, ASX put in place a Code of Practice for Clearing and Settlement of Cash Equities in Australia (the Code) that sets out a number of commitments in relation to the delivery of clearing and settlement services and the development of ASX's clearing and settlement infrastructure. In the short time that it has been in place, the Code has demonstrated that it is an effective and efficient form of regulation that has provided outcomes consistent with a competitive market without the significant expected costs and risks associated with the introduction of a second clearing house.

The Code creates the dynamic of a competitive market through ASX's commitments in three key areas:

- **Active engagement with customers and other stakeholders drives service improvements.** This has been achieved through the establishment of an advisory forum (the Forum) of senior industry leaders and a Business Committee to provide the Boards of ASX Clear and ASX Settlement with input into ASX's investment in infrastructure and service improvement programs.
- **Evidence is available on service benefits and pricing.** Publication of ASX's management accounts and a global benchmarking report by the independent consulting firm Oxera has deepened the understanding by ASX, the industry and regulators of the economics of ASX's cash equity clearing and settlement services. The Oxera Report provides a solid fact base for comparing how the services that ASX provides compare with services in other markets. The material impact of scale, ASX's significant capital contribution to the clearing house and the service differences are now benchmarked and available. This is underpinned by a number of ASX commitments on the provision of transparent and non-discriminatory pricing of cash equities clearing and settlement services.
- **Competing exchanges gain non-discriminatory and highly efficient access to clearing services.** The operational performance of the third party clearing and settlement services has been outstanding with an average monthly system availability of 100% over the last 12 months. Under the Code, no annual fee is charged for access by other trade execution venues to ASX's clearing services.

The Code has delivered active engagement with clients and greater industry collaboration, a range of service improvements to clients and other trade execution and listing venues, and provided for transparency in relation to the economics and financial performance of cash equities clearing and settlement services. This transparency has provided competitive pressure in relation to the economics, and created a greater understanding of the economies of scale and the services provided in the Australian market.

The table on the next page provides an overview of the benefits and outcomes delivered under the Code to date.

Evaluation of the Code of Practice

1. User Input into Governance	2. Transparent and Non-Discriminatory Pricing
<ul style="list-style-type: none"> ✓ Industry wide advisory forums; outcomes published ✓ Input into benchmarking project ✓ Introduction of T+2, international messaging standards ✓ Positive feedback from members 	<ul style="list-style-type: none"> ✓ Additional pricing information on ASX website ✓ Clearing and settlement income statements ✓ Oxera benchmarking report ✓ Quarterly reports on fees, activity and peer comparison
3. Transparent and Non-Discriminatory Access	4. Tangible Outcomes
<ul style="list-style-type: none"> ✓ Consulted on service arrangements for TAS and SFS ✓ Confirmed material equivalence of TAS ✓ TAS and CHES Availability 100% last 12 months ✓ Implemented information handling standards ✓ Waived annual TAS fee (Chi-X pays no access fee) 	<p><i>Investment in infrastructure and services</i></p> <ul style="list-style-type: none"> ✓ Implementation of T+2. <p><i>Transparency and reporting</i></p> <ul style="list-style-type: none"> ✓ Management income statements ✓ Global benchmarking of post-trade services ✓ Transparency of operational performance <p><i>Customer requests</i></p> <ul style="list-style-type: none"> ✓ Quarterly fee and activity level reporting ✓ Tiered capital for general clearing participants

Further details of the benefits and outcomes delivered under the Code to date are set out below.

User input into Governance

Under the Code, ASX has established three advisory forums – the Forum, a Business Committee and a Technical Committee. The Forum, supported by the Business Committee and Technical Committee, provides input to the Boards of ASX Clear and ASX Settlement on the ongoing development and investment in the cash equities clearing and settlement infrastructure and services. The Forum also provides an accountability mechanism for the Boards of ASX Clear and ASX Settlement to report to users on their plans and decisions in relation to the design, operation and development of the infrastructure and services.

The Forum has recommended several service improvements, including the implementation of a T+2 settlement cycle by the first quarter of 2016 and the introduction of the ISO 20022 messaging standard with the development of the new cash equities clearing and settlement infrastructure that will replace CHESS. The Boards of ASX Clear and ASX Settlement have adopted the recommendations. At the request of customers, ASX will change the timing of the daily batch settlement cut-off from 10.30am to 11.30am to support the shorter settlement cycle and help ensure market efficiency is maintained. ASX worked closely with the Business Committee and payment providers to achieve an industry supported outcome on the batch settlement cut-off time.

Greater flexibility in participant structures and capital efficiencies have been delivered through the following initiatives:

- Introduced tiered minimum core capital requirements for general clearing participants. This has provided for the release of \$55 million in capital for five existing customers. Two new market entrants are also expected as a result of this change.
- Facilitated clearing by participants through multiple PIDS (participant identification numbers). This initiative has allowed customers to re-engineer their processes and has provided for a consolidation of liquid capital requirements and cash market margins for those customers.
- Facilitated Authorised Deposit-Taking Institutions (ADIs) to become clearing participants by waiving ASX Clear capital requirements and relying on capital held under prudential regulatory requirements. This initiative has delivered significant capital savings for an existing customer.
- Facilitated the admission of foreign ADIs (branches of foreign banks) as clearing participants of ASX Clear by waiving the risk based capital requirements or net tangible assets requirements where ASX Clear is satisfied that the foreign ADI is subject to appropriate prudential supervision. This will provide for significant capital efficiencies by allowing clearing participants to participate in ASX Clear and ASX Clear (Futures) through the same legal entity.

Further rule harmonisation and rationalisation between ASX Clear and ASX Clear (Futures) that can deliver capital, technology, connectivity and compliance cost savings will be advanced over the next few years.

Other initiatives that ASX has delivered or is seeking to progress as a result of feedback from the Business Committee, include:

- ASX has delivered new quarterly activity level and fee reports for individual cash equities clearing and settlement participants.
- ASX has committed to deliver phase 2 of corporate actions straight through processing (STP) for five corporate actions – non-renounceable rights issues (including accelerated), share purchase plans, renounceable rights issues (including accelerated), bonus issues and priority issues (non-pro rata) – prior to the implementation of the new cash equities clearing and settlement infrastructure.
- ASX is working with industry to examine the feasibility of the development of 'principal to principal' clearing arrangements within the current regulatory framework.

The Forum, Business Committee and Technical Committee

The Forum comprises 22 senior representatives from clearing and settlement participants, a mid-tier broker, a third party clearer, ASX and Chi-X, and a wide range of other industry stakeholders including custodial service providers, the superannuation industry, the funds management industry, listed companies, share registries and system vendors. Since its establishment, the Forum has met four times, with good engagement and attendance at each of the meetings.

ASX has established a Business Committee to support the Forum. The Business Committee comprises executives with a deep understanding of clearing and settlement from clearing and settlement participants and other trade execution and listing venues. The Business Committee has met seven times. At each of these meetings, there has been a high level of engagement and attendance.

The Business Committee provides business and operational input on the forward work program to the Forum. The forward work program has been developed with input from Business Committee members and has been endorsed by the Forum. The forward work program has been developed around four major themes: capital efficiency and industry economics; participant structure flexibility and efficiency; service innovation; and technology and infrastructure enhancements.

ASX has also established a Technical Committee to provide input on the replacement of CHESS and the introduction of ISO 20022 messaging. The Technical Committee comprises technology executives from clearing and settlement participants, other trade execution and listing venues, and share registries. The Technical Committee has met three times. The Technical Committee is expected to be one of the key consultative mechanisms used in the development of the new cash equities clearing and settlement infrastructure and services. The frequency of Technical Committee meetings will increase once there is clarity on the environment within which the project for the new cash equities clearing and settlement infrastructure will be developed.

Transparent and non-discriminatory pricing

The Code has delivered significant transparency in relation to the financial performance of ASX's cash equities clearing and settlement services and the economics of these businesses with the publication of the following:

- Cash market clearing and settlement management accounts, together with an independent auditor's report for FY13 and FY14. In FY14, the cash market clearing management income statement reflected a profit after tax of \$26.0 million, an economic profit after capital charge of \$3.7 million and a return of equity of 11.7%. Total capital allocated to cash market clearing was \$221.3 million. It comprises default capital, operational capital and invested capital representing the value of fixed assets and intangibles supporting the activity.
- An ASX internal cost allocation and transfer pricing policy for cash market clearing and settlement services.
- A comprehensive Global Cost Benchmarking of Cash Equity Clearing and Settlement Services Report prepared by Oxera, which was publicly released in June 2014.
- Additional pricing information on the ASX website, including fee schedules with service descriptions, worked examples of headline fees for common transactions, and the terms, conditions and eligibility criteria applicable to the revenue sharing arrangements that are in place.

Transparent and non-discriminatory access

Under the Code, ASX provides access to its clearing and settlement infrastructure to other trade execution venues. This access is provided through the Trade Acceptance Service (TAS) at no cost to those venues. ASX also provides settlement services to other trade execution and listing venues through the Settlement Facilitation Service (SFS).

All access arrangements are provided on a non-discriminatory and transparent basis with the terms and conditions publicly available.

Robust governance and conflict management arrangements for ASX Clear and ASX Settlement that meet international and domestic regulatory standards are in place. These arrangements provide for the protection of confidential and conflict sensitive information obtained through clearing and settlement access arrangements provided to other trade execution and listing venues. There is no evidence that the access arrangements through the TAS have had any impact on the competition that exists between ASX and Chi-X in trade execution.

The Code has delivered transparency of the operational performance of cash equities clearing and settlement services, and improved access arrangements with the introduction of the following:

- The publication of quarterly operational performance reports for cash equities clearing and settlement services, which includes information in relation to system availability of CHES and the TAS, netting efficiency, settlement efficiency, the number of trades rejected, daily average traded and cleared value, the percentage of transactions novated and the daily average settled value (including non-novated transactions).

The average monthly system availability for both CHES and the TAS was 100% over the last 12 months. The average monthly system availability for both CHES and the TAS between November 2011 (the TAS commenced operation in November 2011) and February 2015 was 99.99%.

Rejection rates for CHES and the TAS remain very low. Over the last 12 months, the TAS processed 45.8 million trades, with 4 trades rejected. CHES processed 183.9 million trades, with 173 trades rejected. In all cases, the rejected trades were processed at a later stage, creating no disadvantage for a competing trading venue or the counterparties to the trades.

- The publication of protocols and procedures for responding to requests for access to cash equities clearing and settlement arrangements (both requests for standard access and requests for an enhancement or expansion of the services) by other trade execution and listing venues. The protocols and procedures set out information on the application process, fees, legal terms, timeframes for responding to requests and considering applications, dispute resolution processes and information handling standards implemented by ASX.
- Amended legal terms for the TAS implementing a waiver of the \$275,000 annual service fee for the TAS from the commencement of the Code for so long as the Code and the Government policy for a moratorium on cash equity clearing competition remain in place. Prior to the introduction of the two year moratorium on clearing competition, the \$275,000 annual service fee was charged for the cost recovery for the development of the TAS for a five year period.
- Enhanced service level agreements and operational and technical standards for the TAS and the SFS following consultation with other trade execution and listing venues in late 2013 and the first half of 2014.
- Enhanced information handling standards for the protection of confidential information received in connection with the provision of the TAS and SFS. These standards:
 - Create appropriate governance arrangements at Board and management level. For example, a quorum of the ASX Clear and ASX Settlement Boards can be formed by non-ASX Limited directors to consider access arrangements for new products where necessary.
 - Include restrictions on the dissemination of confidential and conflict sensitive information that is consistent with the principle of information only being disseminated on a 'needs to know' basis.
 - Provide for the General Manager of Regulatory Assurance being the single point of contact for the provision of conflict sensitive information provided by other trade execution and listing venues.
 - Require that conflict sensitive information only be provided to nominated persons consented to by the relevant trade execution and/or listing venue.
 - Provide for the communication of conflict sensitive information with nominated persons using an encrypted email service, and the storage of such information using secure documentation storage.

The information handling standards are subject to an assurance program and review by ASIC.

A technical review of the TAS was undertaken in late 2013 to confirm that the verification services performed by the TAS for trades received from other trade execution venues are technically equivalent to the verification services performed by CORE for trades executed on the ASX market. The review found no material differences in the field specifications and validation conditions between the TAS and CORE. Three minor modifications to the TAS were made in the November 2014 CHES release to ensure equivalent validation conditions to those for the ASX market.

ASX Clear and ASX Settlement have recently worked with Chi-X to provide access to clearing and settlement arrangements for Chi-X's new initiative to list and trade warrants and ETFs through the new Chi-X Multi Asset Trading Platform (i.e. these are non-ASX-quoted products).

ASX Clear and ASX Settlement have committed to provide the same clearing and settlement arrangements for non-ASX-quoted products as those that are currently in place for equivalent products quoted on ASX⁴. The process to provide these new access arrangements to Chi-X was undertaken within the enhanced framework for the protection of confidential information received in connection with the provision of the TAS and the enhanced information handling standards.

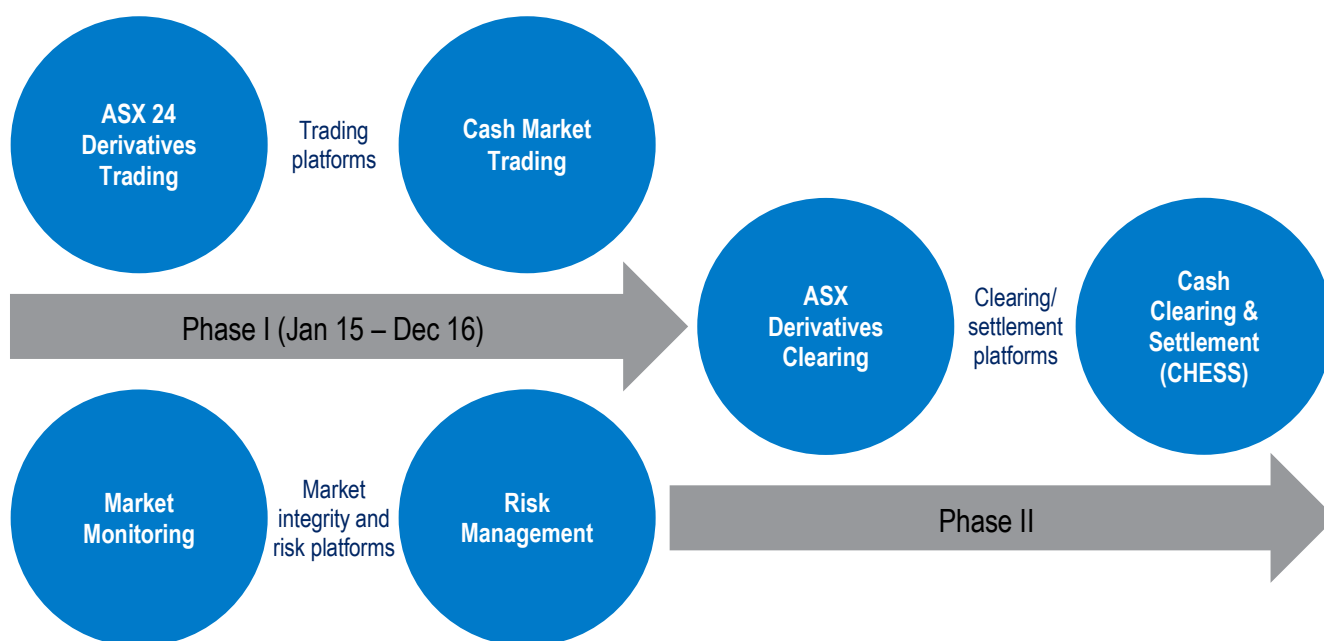
The information handling standards work well and there is no evidence of any breach of the arrangements in place for the handling of confidential information. In the FY 2013 ASIC Assessment Report released in July 2014, there was a focus on the TAS Information Handling Standards. Overall, the assessment found that ASX Group had implemented robust controls and procedures to manage the handling of competitively sensitive information.

⁴ Chi-X consultation paper, *The Chi-X Multi Asset Platform*, February 2015, p.6

ASX infrastructure investment program

In February 2015, ASX announced that it will upgrade its technology infrastructure over the next three to four years, including all main trading and post-trade systems. The program will start with the replacement of Australia's equities and derivatives trading platforms by the end of 2016. A decision in relation to ASX's cash equities clearing and settlement infrastructure will be made when there is regulatory certainty around the market structure for cash market clearing.

The diagram below shows the phasing of the investment program.



The clearing and settlement of cash equities performs a critical role in the operation of Australia's financial markets by reducing counterparty and systemic risk, and by providing transaction efficiency and certainty for end-investors. Currently, clearing and settlement services for the cash equities market are provided by CHESS. CHESS performs two important functions:

- It facilitates the clearing and settlement of trades
- It provides an electronic sub-register for securities in listed companies.

The 'netting' of settlement obligations that is delivered by CHESS reduces transaction and funding costs for participants. On average, the netting processes in CHESS provides for a reduction of more than 98% in the volume of trades and 60% in the value of trades to be settled. At the same time, CHESS minimises the risk of settlement failure. On average, less than 0.1% of settlements fail. The system availability of CHESS has been maintained at a high level, with an average monthly availability of 99.99% over the last three years.

Unique to Australia, CHESS registers the legal title of securities on its sub-register while also providing settlement efficiency through netting. As at the end of February 2015, CHESS held approximately \$1.7 trillion in securities and had approximately 1.9 million account holders holding 11.7 million equity securities.

The sub-registry service provides a number of benefits to investors, including simplifying the administration of a portfolio by consolidating all holdings into a single account and providing confidence that their holdings are secure. This is reinforced by the provision of CHESS holding statements which confirm an investor's holdings, purchases, sales and transfers. The sub-registry service also provides issuers with an efficient and accurate mechanism for the processing of corporate actions.

Replacing CHESS is a significant undertaking for ASX and the industry. It is likely that the different functions that are currently integrated in CHESS will be separated into specialist clearing and depository systems.

Moreover, the replacement creates the opportunity for automated distribution of CHESS statements. Currently, ASX distributes almost 13 million paper CHESS statements each year. This change in itself is material given that there is currently no central register of email addresses for investors.

ASX expects that the replacement of CHESS will take three to four years and will cost up to \$30 million. The project will require significant effort from a broad base of users and will provide new efficiencies to the industry, listed companies and investors. In this context, a five year extension of the Code is at the low end of the investment horizon that shareholders would normally apply for infrastructure projects.

ASX proposes to strengthen Code of Practice under five year extension

The business case to have a single provider of clearing and settlement services in Australia, and to extend the current market structure and Code of Practice for five years, is compelling.

ASX is proposing to strengthen the Code of Practice so that the industry can be confident in its operation for the next five years. The main changes relate to the following items:

- Reduce clearing fees and strengthen fee commitments
- Commence consultation on the replacement of the CHESS platform
- Recognise the role of the Business Committee and extend membership to include Heads of Equity
- Further strengthen the governance arrangements of ASX Clear
- Extend access arrangements to include certain non-ASX-quoted securities
- Include the above commitments in the annual audit review.

It is proposed that the strengthened Code commitments address the concerns that legitimately arise when there is a vertically integrated single provider of infrastructure. The common themes that underlie these concerns include the following:

Legitimate concerns	How the Code addresses the concern
1. Price gouging by ASX	<ul style="list-style-type: none"> • Code locks in 5 year clearing fee commitment • Fee schedule shares scale benefits with whole market • ROE at current volumes is in line with cost of capital
2. Access to clearing and settlement to compete with vertically integrated ASX	<ul style="list-style-type: none"> • Access is provided at no cost to Chi-X • Track record and metrics in service delivery through the TAS are world class • Updated Code extends access to CHESS eligible non-ASX-quoted (like for like) products
3. Confidentiality	<ul style="list-style-type: none"> • Information handling standards have maintained confidentiality in initial two year Code period • Code includes enhanced Information Handling Standards • Updated Code includes independent board oversight and decision making processes • Processes are subject to assurance, audit and regulator review

The transparency and accountability of the Code of Practice, the existing regulatory tools available to ASIC and the RBA, and the annual review by the external auditor, address any bona fide stakeholder concerns that ASX may fail to meet its commitments under the Code of Practice.

The proposed approach does not require legislative amendments and does not impose new regulator or industry costs.

The changes to the Code are proposed on the basis that the existing moratorium is 'rolled over' for five years and that there will be no need to devote additional resources to studying or designing alternative market structures during the five year period. ASX could not implement the proposed changes if this is not the case. Its economics do not allow for a significant diversion of resources from the investment program that has been announced.

Reduce clearing fees and strengthen fee commitments

ASX's proposed commitments on clearing and settlement fees puts in place an effective 'partial regulation' mechanism and a regulatory oversight process for fee changes.

Clearing fees

Under a five year extension, ASX will make changes to its cash equities clearing fees. The fee changes will share the upside from growth and scale economies with the market. Currently, clearing fees are charged as a 'flat' 0.25 basis points on value cleared.

The proposed fee schedule applies progressively lower fees as total market volumes increase:

Value cleared by the Australian equity market (average daily value over 6 months) ¹	Fee in basis points	Reduction from current 0.25bp fee
All value up to \$3 billion per day	0.225	10%
Any value between \$3 billion and \$4 billion per day	0.175	30%
Any value between \$4 billion and \$5 billion per day	0.125	50%
Any value over \$5 billion per day	0.100	60%

¹ Fee rebates would be paid to all participants every six months

Based on the FY15 year to date average value cleared of \$3.8 billion per day, the proposed fee schedule would provide all participants with a 14.2% fee reduction.

The proposed fee schedule would reduce ASX's return on equity to approximately 10.8%. This is broadly in line with its cost of capital, and would allow ASX to commit to the necessary infrastructure investments. As volumes increase, the return on equity of ASX would also increase, but at a slower rate. Most of the benefit of growth would be shared back to all ASX clients. For example, if the daily value cleared were to double to \$7.6 billion, the average fee reduction would be 35% and the return on equity would be 17% (assuming no changes to the total capital supporting the clearing house).

ASX would commit to the proposed clearing fee schedule for the full five year extension period and include this commitment in the Code of Practice.

During the five year period, ASX would be able to make fee changes if there are regulatory changes or impacts that change the economics of the clearing service. For example, if ASX were required to add capital to ASX Clear under Cover 2 or if regulatory or other market changes create the need for additional capital, then ASX would be able to review its fees with the objective of maintaining its return on equity at that time. ASX Clear already meets the Cover 2 capital standards and ASX considers it unlikely that more capital would be required in the near to medium term.

Under the changes ASX proposes to make to the Code of Practice, ASX would have to submit any proposed fee changes to regulators for review prior to implementation.

Settlement fees

ASX proposes to include a commitment in the Code to submit pricing changes for settlement services to the regulators prior to implementation.

The structure of ASX's cash equities settlement pricing will need to be reviewed in the context of the functionality that the new settlement infrastructure will offer. It is possible that the new design will change the current CHESSE messaging structure and hence the way fees are charged. ASX proposes a commitment in the Code that these changes will be subject to review by the regulators.

Fee commitments are consistent with existing process for trading fees

ASIC has already put in place regulatory controls for notifying changes to cash equities trading fees. The process has been working well for a number of years and was implemented at a small cost to the regulators and the industry. The proposed process under the Code for clearing and settlement fees is consistent with the experience for cash equities trading.

Commence consultation on the replacement of the CHESSE platform

A five year extension of the Code will allow ASX and the industry to focus on the investment program that will upgrade Australia's clearing and settlement infrastructure.

During FY16, ASX will consult on the business requirements for the replacement of CHESSE, which will provide important input into the design of the systems. ASX proposed to include its commitment to commence the consultation process in the Code.

Recognise role of the Business Committee

The Business Committee has demonstrated that it is an effective forum to provide input to ASX's infrastructure investment program. Given the ongoing role that the Business Committee will play, it is appropriate for its role to be recognised in the Code of Practice.

There has been a suggestion that the Heads of Equity should be included as members of the Forum or Business Committee. Under an updated Code, it is proposed that the membership of the Business Committee be extended to Heads of Equity.

Further strengthen governance arrangements

ASX Clear and ASX Settlement boards

International and domestic regulatory standards impose strict governance arrangements on ASX Clear and ASX Settlement. These standards include requirements such that where a clearing house or settlement facility is part of a group structure, the composition and independence of the boards is not compromised. The standards also include specific procedures for managing conflicts of interest. Refer: PFMI 2.1 and 2.3; and FSS 2.8 and 2.9.

ASX publishes on its website a comprehensive public disclosure statement which sets out in detail how ASX Clear and ASX Settlement comply with international (PFMIs) and domestic regulatory standards (FSS). The RBA and ASIC assess ASX's ongoing compliance with these standards and broader licence conditions under the Corporations Act.

The ASX Clear Board provides oversight of ASX Clear's clearing operations and risk management processes, including the establishment and maintenance of an effective risk management framework for clearing risk. The ASX Clear Board:

- Sets the risk appetite for the clearing house. In doing this the Board has regard to the legitimate business interests of ASX Limited as the sole provider of capital to the clearing house.
- Oversees the adequacy of internal controls, systems and processes for the effective management of clearing risk, including: receiving reports on performance of systems, services and controls; reviewing at an aggregate level, and when needed at individual participant level, limits and stress testing outcomes; reviewing participant revenues, business initiatives and operational issues; and operational and technical incident reporting.
- Reviews default management systems and processes to manage clearing risk in the event of counterparty failure and defaults. Reporting is provided to directors in the event of a potential or actual default.
- Reviews and approves policies under the Financial Stability Standards, including the clearability policy for the admittance of new products.
- Assesses and approves new product categories against the clearability policy and provides feedback to management on potential counterparty or systemic risk issues that need to be considered.
- Oversees the adequacy of management, systems and processes to achieve ongoing compliance with the Financial Stability Standards and management of the clearing house within the risk appetite set by the Board.
- Provides input into the performance assessment of key executives, particularly in relation to operations and clearing risk management functions.

The ASX Clear Board does not make decisions on the commercial arrangements or fees for access arrangements, or the clearing fees. These matters are administered by ASX management and are 'regulated' by the Code. All access arrangements and fees are transparent and non-discriminatory. If ASX's proposals are adopted, the clearing fees for the next five years will be regulated under the Code.

ASX has already constituted the boards of ASX Clear and ASX Settlement such that directors who are not on the ASX Limited Board can form a quorum and meet if required. This would usually arise if one of the boards was required to consider commercially sensitive information where another market operator or listing venue is obtaining services from, or access to, ASX Clear or ASX Settlement. In those cases, no directors who are also on the ASX Limited Board can attend a meeting and neither the matter discussed nor the minutes of the board meeting are reported to the ASX Limited Board.

What this means is that when the boards of ASX Clear and ASX Settlement need to consider information that Chi-X, APX or NSX have identified as commercially sensitive it is only made available to independent directors who are not also ASX Limited directors. The board that meets to consider commercially sensitive is entirely independent of ASX Limited.

ASX is proposing to include an additional Code of Practice commitment to reflect these governance arrangements.

Extend access arrangements to include certain non-ASX-quoted securities

ASX Clear and ASX Settlement have recently agreed to extend the access arrangements for Chi-X to include certain non-ASX-quoted products. The management and board processes that approved this extension were well managed by the governance processes and the Information Handling Standards that the ASX Group has put in place to deal with commercially sensitive information of competitors.

The extension of these access arrangements for Chi-X has involved ASX making a \$500,000 capex provision in ASX's FY15 capex budget. For so long as the Government policy to maintain a moratorium on clearing competition remains in place, Chi-X will not be paying any fees for these access arrangements to ASX's clearing and settlement infrastructure.

ASX is proposing to include additional Code of Practice commitments to reflect the extension of the access arrangements for Chi-X to include CHESSE eligible (like-for-like) non-ASX-quoted products (for example, warrants and ETFs).

These access arrangements mean that such products that will be listed on the new Chi-X Multi Asset Trading Platform will go through the same process for approval and implementation of clearing and settlement arrangements as that for like-for-like products quoted on ASX.

ASX publishes its Information Handling Standards on its website. An annual self-assessment and independent assessment by ASIC of ASX's compliance with these standards is addressed by existing regulatory tools.

Include new commitments in annual audit review

ASX engages an independent external auditor to conduct an annual review regarding ASX's compliance with each of ASX's material commitments under the Code of Practice. The external auditor's written report is published on the ASX website. This external audit provides a formalised oversight mechanism which confirms ASX's compliance with its commitments in the Code.

ASX will commit to extend this review to ASX's new commitments on pricing, access and governance.

In addition, ASIC and the RBA could require an annual attestation to be provided by the ASX CEO of compliance with the material commitments under the Code of Practice. As a practical matter, this could be included in the Annual Group Licence Report that ASX provides to ASIC and RBA.

Success of industry self-regulation makes other regulatory models unnecessary

There are other ways to regulate a natural monopoly, including full oversight of all aspects of the operational and financial performance of the business.

Such a regulatory approach has not previously been applied to this industry and to an important and independent risk management function for financial markets. It would be more expensive than industry self-regulation and may require risk management processes to be redesigned, including clarity on the obligations assumed by regulators for the default and liquidity risks involved in clearing the Australian equity market.

These more extensive regulatory interventions may be required in circumstances where there has been a general regulatory failure or where 'monopoly rents' are being extracted. In the case of equities clearing, there are no concerns that would warrant a more interventionist regulatory approach.

The Code of Practice has delivered transparency, service improvement and efficient access to the infrastructure by other market operators. Following implementation of the proposed cash market clearing fee schedule and the replacement of CHES, return on equity for ASX's cash equity clearing services would be around 10.5%. This would be in line with ASX's cost of capital and is not a monopoly rent.

The operation of the Code of Practice and the further strengthening proposed by ASX are consistent with the principles of best practice regulation⁵. There is a positive case to adopt the updated Code of Practice.

Review in 2020 is appropriate

ASX recognises that 2020 will be an appropriate time for the regulators to again review the market structure of cash equity clearing, the effectiveness of the regulatory tools and the track record of the Code of Practice in maintaining a competitive dynamic in this market.

A review in five years will provide the opportunity to determine if the advancement of technology and the development of alternative business models changes the business case for a single clearing house.

A review in 2020 would be the third major review in less than a decade by the Council of Financial Regulators of what is a proven market infrastructure.

⁵ The principles of best practice regulation are discussed in the Report of the Taskforce on Reducing Regulatory Burdens on Business, *Rethinking Regulation*, January 2006, pp146-147 and the Business Council of Australia, *Standards for Rule Making*, p7.

ASX response to Consultation Questions

Consultation Questions

Policy Approaches

1. Which policy approach would you prefer, and why?

ASX proposes the extension of the current moratorium for five years. As part of a five year extension, ASX will put in place a revised fee schedule and strengthen the Code of Practice. This approach provides outcomes consistent with a competitive market without the significant costs and risks associated with the introduction of a second clearing house, or the additional regulatory and compliance costs associated with structural separation or a more interventionist 'full regulation' monopoly approach.

2. Are there alternative policy approaches to those outlined in this paper that you think should be considered by the Agencies? If so, please provide details.

ASX submits that its proposal of a five year extension of the moratorium supported by existing regulatory controls and a strengthened Code of Practice is the most efficient regulatory approach to meet the industry's objectives. The benefits of this approach include:

- It provides certainty on the fees that ASX will charge and the way the benefits of scale are shared with all market participants.
- It enables ASX to invest in new cash equities clearing and settlement infrastructure and service innovations that will deliver efficiencies for the industry.
- It addresses stakeholder concerns and perceptions that have been expressed by some with respect to ASX Clear's governance arrangements.
- It avoids the significant costs, complexity and risks to the financial system that would result from the introduction of a second clearing house and fragmentation of cash equity clearing in Australia.
- It avoids the significant costs and red tape that would be borne by the industry by moving to structural separation or a 'full regulation' monopoly approach. There would be no net benefits to users or end-investors from such an approach.
- It provides for a further review of the Code in 2020 and allows the Council to assess at that time if the advancement of technology and the development of alternative business models changes the business case for a single clearing house.

3. Are there any other overarching issues that should be taken into consideration?

The decision on the best model for Australia must be based on evidence, not opinions or beliefs. The evidence demonstrates that a single cash equity clearing house is the most efficient model for a market the size of Australia.

While the legislative framework allows for multiple operators to clear Australian cash equities, this approach has not been adopted by any other single country and has never been tested against consideration of what is the most appropriate market structure for a market the size of Australia.

Further detail on the benefits of a single clearing house is provided on pages 7 to 10 of this submission.

Consultation Questions

Competition

4. What particular benefits would you expect to arise from competition in the clearing of Australian cash equities? What level of fee reduction, or specific innovation in product offerings or service enhancements would you expect to arise? Please share any relevant experiences from overseas or in related markets.

ASX believes that the 2012 cost-benefit analysis remains valid. The potential for lower clearing fees that may be realised with the introduction of a second clearing house will be more than offset by higher connectivity, regulatory risk management and settlement costs.

As discussed earlier in the submission, the potential benefits that may be realised from the introduction of interoperability in Australian cash equity clearing are much more limited than was the case with the introduction of interoperability in Europe. This is because the scale and netting benefits that were realised in Europe were derived from bringing together a number of national markets. These benefits would not be available in the Australian context. In fact, fragmentation of cash equity clearing in Australia would likely lead to a reduction in scale and netting efficiencies for the market.

The 2014 Oxera Report included a service comparison, which found that there were no significant differences in the clearing services provided in different markets, except for the following:

- ASX Clear provides the capital for the default fund, whereas participants provide large capital contributions to the default fund in other markets.
- ASX Clear novates transactions at the time of trade, whereas in Canada novation occurs just prior to settlement.

The service comparison confirms that the Australian market has not been a laggard with innovation for clearing services. Moreover, ASX's submission shows that it is working closely with its clients to bring efficiencies to the market and to the operations of individual clients.

5. What costs or other impediments might you expect that you, and the industry as a whole, may incur if competition in clearing emerged? Please provide a description of the nature of these costs and any relevant estimates?

ASX expects that there would be significant upfront and ongoing costs that would arise with the entry of a second clearing house.

ASX considers that a decision to change the market structure and provide for the entry of a second clearing house should only be made if the following criteria can be met:

- A second clearing house would provide a clear net benefit to the market as a whole and end users/investors.
- Australian regulators can effectively manage systemic risk and maintain market stability.
- It advances Australia's global competitive position and ambitions in Asia.

At a macro level, the loss of scale that would result from the introduction of a second clearing house in a market the size of the Australian cash equities market would create a permanent loss of efficiency for the Australian financial system.

Consultation Questions

The introduction of a second clearing house would lead to higher connectivity, regulatory, capital, risk management and settlement costs. ASX estimates that the cost increase that would come with clearing fragmentation is at least \$20-30 million per annum. For more information, see page 16 of this submission.

Interoperability would add further costs to connect the clearing houses to each other and manage the additional risks created by interoperability:

- The initial set-up costs of putting in place interoperability arrangements would be significant. These include costs associated with establishing the link between the clearing houses, implementing new risk systems and processes to manage the inter-clearing house exposure, connecting the new clearing house to the settlement facility and putting in place any new settlement processes that may be required with a second clearing house.
- New regulatory arrangements that would need to be established, including a transfer of some of the supervisory responsibilities for clearing and settlement participants to the appropriate regulator(s).
- Interoperability would create a risk exposure for ASX Clear that did not previously exist. ASX Clear would be exposed to counterparty risk from its linked clearing house, which would be additional to the counterparty risks arising from its exposures to clearing participants. The exposure associated with interoperability may lead to an increase in the aggregate size of the default funds to support the financial system, including a requirement for each clearing house to have a 'Cover 2 Plus' default fund, which would need to have sufficient capital to cover the losses of the largest two clearing participants plus the exposures to the linked clearing house.
- In addition to a larger default fund, there would need to be a requirement for margin to be posted by the linked clearing houses with each other (linked margin) in respect of 'trades cleared over the link'. Any margin posted by one clearing house to another would need to be separate from and additional to the margins already collected by the clearing house to cover its exposures to its clearing participants.
- If a second clearing house were to enter the Australian cash market without the need to obtain a domestic licence, be locally incorporated or hold regulatory capital in Australia, further risks and complexities would arise in relation to the recovery and resolution processes in Australia.
- Interoperability, or the introduction of a separate second clearing house, would increase the complexity of managing a participant default, or near default. In a system that has multiple clearing houses, they would each be motivated to call a default early to obtain access to any surplus assets available to cover their losses.

Fragmentation of cash equity clearing would lead to higher indirect costs ('market impact costs') for end investors, consistent with what has been observed with the fragmentation of equity trading. The main beneficiaries are likely to be high frequency traders (HFT) who engage in 'latency arbitrage' strategies. While HFT may benefit from fragmentation of clearing through a reduction in clearing fees, HFT would not be impacted by the higher settlement costs as they generally close out positions by the end of the day. The higher costs would be borne by end investors, tilting the balance in favour of HFT. This in turn, would increase investors' market impact costs.

Consultation Questions

6. What are your views on the specific risks that competition in clearing could pose to market functioning and financial system stability? Do you think the 'minimum conditions' identified by the Agencies would be appropriate to both promote competition and protect the stability and effective functioning of securities markets? Are there any other conditions that should be considered or other issues that the minimum conditions should seek to address? Please describe these.

There will be no positive outcomes for financial stability that come with the fragmentation of clearing. As set out in the response to question 5, it is likely that the complexity and risk of the financial system will increase with very limited upside to balance this risk given the low cost of clearing for the Australian economy.

Minimum conditions

Since no single developed market has introduced a second clearing house, the required minimum arrangements remain uncertain. Considerable detail would be required to ensure that the system works in times of crisis.

Domestic location requirements

The domestic locations requirements (local incorporation, a domestic licence and a requirement to hold capital for the default fund in Australia) should be in place from the commencement of operations of a second clearing house.

Australia should not outsource management of systemic risk to other jurisdictions where regulators do not explicitly recognise the wellbeing of Australian citizens in their mandates. Considerations include:

- The strong domestic connection of cash equities market and the importance of the cash equities market for the economy and investor confidence.
- The practical difficulties of imposing a threshold-based approach to domestic location requirements.

7. What changes, if any, would be necessary to effectively oversee a multi-CCP environment in the cash equity market (e.g. additional regulatory arrangements)?

The changes to the regulatory arrangements and risk management frameworks for ASX Clear and ASX Settlement are not properly understood. It is difficult to understand the change in the risk profile for ASX Clear in the absence of an identified market entrant or a detailed design that can be considered by the clearing house.

Significant new regulatory and risk management arrangements would be needed for the introduction of a second clearing house to manage the additional systemic risk, inter-clearing house exposure, complexity, operational arrangements and default management processes.

The entry of a new clearing house would mean that some of the supervisory responsibilities for clearing and settlement participants would transfer to ASIC and/or the RBA. It is unlikely that this process would be as straightforward as it was for the introduction of competition in trading, as it would involve a disaggregation of the clearing risk management framework. This would require a redesign of the risk management framework and could give rise to a significant change in responsibilities, incentives and accountability for any losses that flow from a participant default.

Consultation Questions

- 8. Is there likely to remain a single provider of equity settlement services, either in the short or long term? Should competition in clearing emerge, what implications might this have for the design of the equity settlement facility, the cost of equity settlement services, access to equity settlement for the competing CCP, and future investment in the settlement infrastructure? Would the Code be sufficient to achieve access to equity settlement on appropriate terms, or would an alternative regulatory approach be necessary?**

A single or multiple providers of settlement services

It is likely that a single settlement service provider will remain in place for the foreseeable future on the basis of the efficiency benefits provided to the Australian financial system. A single provider of settlement services is the global norm. Such a market structure has proven effective in delivering efficient, cost-effective post-trade processing that ensures the confidence of all participants that settlement finality is achieved.

The services provided by a settlement facility can be broken down into:

- Settlement services: pre-settlement positioning (ensuring that the buyer has the monies available and the seller the securities available) and the completion of a transaction through the transfer of ownership of assets and monies.
- Custody and safekeeping services: account provision (at the end-investor or intermediary level), and, to varying degrees of detail between different CSDs, the management of corporate actions.

The design of Australia's settlement regime, particularly the use of CHES sub-registry arrangements, provides a flexible mechanism for large settlement participants and/or registries to provide services within the framework of a single settlement facility.

Implications of a second clearing house for the settlement facility and the delivery of settlement services

Settlement arrangements can have a significant impact on the costs of those services to end user. The ability to net down transactions is a key driver of the overall cost.

How the introduction of a second clearing house would impact the settlement arrangements is unclear. If interoperability were to be adopted, the impact to settlement would need to be considered carefully. Additional linkages would increase complexity within the central settlement facility and risk management would assume even greater significance. ASX would need to dedicate significant resources to understand the impact of connecting a second clearing house to the settlement facility, particularly in relation to settlement efficiency, clearing house liquidity support, the settlement model, prioritisation, and the management of default events.

Consideration of the introduction of a second clearing house raises significant questions in relation to the design of cash equity settlement in Australia, including:

- It is uncertain if DvP model 3 settlement could continue to be used or if a transition to DvP model 1 would be required. ASX is not aware of model 3 settlement being used in any other market where competing clearing houses are active and use a single settlement facility. Generally, DvP model 1 settlement with real time gross settlement occurring continuously is used in these circumstances. The exception to this is in Denmark where DvP model 3 is in place. However, the operation of model 3 in Denmark is untested as no clearing has been undertaken through the second clearing house.

Consultation Questions

- If DvP model 1 with continuous real time gross settlement is required to manage settlement defaults in a multiple clearing house environment, it would fundamentally change the settlement processes and the economics of settlement in the Australia market:
 - There would be significant initial set-up costs in re-designing the settlement infrastructure, which would also involve significant change and costs for settlement participants.
 - There would be a loss in netting efficiency.
 - It is uncertain if name on register for security holders could be retained or if a full central securities depository (CSD) would be required to effect continuous real-time gross settlement under DvP model 1.
 - Continuous real-time gross settlement under DvP model 1 would likely require that participants have cash management accounts in place and have direct securities holdings within the CSD. Continuous real time settlement would make it impractical to maintain issuer-sponsored registers as it is unlikely that the registries could process movements of securities quickly enough.
- If DvP model 3 settlement could be retained, it is possible that multiple settlement batches would be required. Additional batches would lead to significant reduction in settlement efficiency and increased settlement costs for the industry. The RBA previously considered separating novated and non-novated trades into separate batches as part of its 2008 review into settlement practices. This was not supported by participants based on the loss of efficiency and the increased cost of settlement.
- It is possible that settlement participants would need to manage two priming / settlement accounts (one per clearing house).
- It is uncertain what changes would be required to the back-out algorithm to ensure that default events could continue to be managed within the legal frameworks of the competing clearing houses and without adding risk to the overall financial system.

Access to the settlement facility by a second clearing house

ASX Settlement is committed to operating its business on a commercial basis and in a fair and transparent manner in compliance with the law and its regulatory obligations as a clearing and settlement facility licence holder. The existing licence obligations include a requirement to provide fair and effective access to its clearing and settlement facilities. This licence obligation is subject to ongoing monitoring through annual assessment processes by the regulators. In addition, ASX has made a number of commitments in the Code of Practice in relation to the provision of access to clearing and settlement arrangements to other trade execution and listing venues.

ASX Settlement already provides other trade execution and listing venues with access to settlement services. This access is provided on a transparent and non-discriminatory basis at a low cost. Currently, ASX provides access to settlement services for:

- ASX-quoted securities traded on Chi-X Australia.
- Securities quoted and traded on the National Stock Exchange (NSX) and the SIM Venture Securities Exchange.
- Securities quoted and traded on the Australian Pacific Exchange (APX).

Consultation Questions

In addition, ASX Clear and ASX Settlement have recently worked with Chi-X Australia to put in place access arrangements to facilitate the clearing and settlement of CHESS eligible (like-for-like) non-ASX-quoted products (warrants and ETFs) which will be quoted and traded on the new Chi-X Multi Asset Trading Platform. These clearing and settlement arrangements will be provided on the same basis as those in place for equivalent products quoted on ASX.

ASX Settlement has also previously negotiated settlement access arrangements for an alternate clearing house. These arrangements were put in place when Chi-East was established as an offshore trade execution venue for regional and ASX-listed securities, with clearing to be conducted through LCH.Clearnet. Under this arrangement, access was provided through a designated agent (an ASX Settlement participant) who would match settlement instructions in CHESS for inclusion in the batch settlement. While the link was established, there was no trading through the link prior to Chi-East ceasing operations.

Impact on the future investment in settlement infrastructure?

The introduction of clearing competition would involve changes in technology and operational processes. The resources required to implement these changes reduce the ability to implement other changes to the infrastructure that may support new or enhanced services. It would have an impact on the scope and timing of investment in ASX's new cash equities post-trade infrastructure.

Is the Code of Practice sufficient to achieve access to equity settlement on appropriate terms, or would an alternative regulatory approach be necessary?

Yes, the TAS provides access to clearing and settlement arrangements on a transparent and non-discriminatory at no annual cost to Chi-X.

Existing regulatory arrangements include the Code of Practice, the Corporations Act requirements, the settlement facility licence obligations, Australian competition laws, and annual assessment processes undertaken by regulators. These are sufficient and have facilitated fair, non-discriminatory and transparent access to ASX's settlement infrastructure and services by third parties at low cost and no disruption to the industry.

9. If competition in clearing emerged, should interoperability between CCPs be encouraged in Australia?

While linking clearing houses through interoperability may mitigate some of the costs of fragmentation that arise from the introduction of a second clearing house without interoperability, it would introduce significant additional complexity and risks, which would make it more difficult for the clearing houses and regulators to effectively manage systemic risk and maintain market stability.

A key question for consideration by regulators is whether the materially increased complexity in the post-trade market structure and the mechanism for contagion that would arise from the introduction of interoperability could be effectively managed without imposing costs on the Australian financial system that are disproportionate to any potential benefits. A compelling business case would need to be presented before it could be considered.

Consultation Questions

Any decision to enter into interoperability arrangements must be made on commercial grounds between the clearing houses having regard to the risk exposure to the clearing house created by interoperability, directors duties and licence obligations. Given the potential for interoperability to increase systemic risk, it is not clear how this could be consistent with the licence obligation to do “all things necessary to reduce systemic risk”.

Also see the response provided to question 5 detailing the risks and costs specific to interoperability, and the response to question 9(c).

9. (a) How might competition in clearing affect the organisation and conduct of your operations? In the absence of interoperability, would you expect to establish connections to multiple trading platforms and CCPs? If so, would implications such as this diminish the commercial attraction of competition between CCPs?

See responses to questions 5, 6 and 8 for some of the implications of a second clearing house on ASX Clear and ASX Settlement.

As discussed in other parts of the submission, if the policy outcome from the review was to remove the moratorium on clearing competition, ASX could not implement the proposed fee schedule that shares the benefit of scale with the market. ASX would have to assume that a second clearing house will arrive and that the market will end up implementing the type of fee structures that are being observed in Europe. These typically differentiate between users, with some large users paying materially lower fees than smaller users. ASX would also have to reconsider the scope and timing of its investment in new cash equities post-trade infrastructure.

9. (b) With interoperability in place, would you expect to consolidate clearing in a single CCP? How would this decision be affected by best execution obligations? What effect would interoperability have on the costs that you may expect to incur from competition in clearing?

Not applicable for ASX to provide a response.

9. (c) What actions might the Agencies need to take (in addition to the requirements around management of financial exposures between interoperating CCPs specified in the Bank’s FSS) in order to ensure that interoperability did not introduce additional financial stability risks? Would ‘open access’ obligations need to be imposed to facilitate interoperable links?

Interoperability would introduce additional risk exposure for ASX Clear that did not previously exist. In some markets, such as the US, interoperability is actively discouraged. In relation to derivatives, US regulators have stated that “in order to minimise systemic risk, under no circumstances shall derivatives clearing organisations be compelled to accept the counterparty risk of another clearing organisation.”⁶

The Financial Stability Standards (Standard 19) notes that a clearing house contemplating a link arrangement would have to satisfy the RBA that the full range of risks in the arrangement had been identified, and could be monitored and managed before they would agree to such an arrangement. These include legal, operational, credit and liquidity risks.

⁶ 7 U.S. Code § 7a–1(f) - Derivatives clearing organizations, <https://www.law.cornell.edu/uscode/text/7/7a-1>.

Consultation Questions

9. (d) What are your views on the stability and effectiveness of interoperability between CCPs in other jurisdictions?

The only example of where interoperability in cash equity clearing is in place is in Europe. As discussed earlier in the submission, the different market circumstances in Europe compared to Australia make it difficult to draw conclusions regarding the benefits and effectiveness of interoperability for the Australian market.

In relation to the impact of interoperability on market stability, ASX understands that there was an incident involving the transfer of risk between two interoperable clearing houses in Europe that required careful management in the second half of last year. ASX is not in a position to provide the details relating to this incident.

10. If the moratorium were lifted, would you expect a competing CCP to seek entry to the Australian market in the near future, noting the 'minimum conditions' set out in the Agencies' 2012 Report (refer to Section 4.3)? If competition were permitted but no competing CCP entered the market, at least for a time, should transitional regulatory measures (such as the existing Code) remain in place until such time as competition did emerge?

ASX does not have any intelligence on market entry plans of another clearing house should the moratorium on clearing competition be removed. If there is an absence of market entry intentions, that may be due to:

- The scale of the Australian market, and/or
- ASX Clear providing a competitive service.

If the policy outcome from the review is the removal of the moratorium on clearing competition, ASX could not implement the proposed fee schedule that shares the benefit of scale with the market. ASX would also have to reconsider the scope and timing of its investment in new cash equities post-trade infrastructure.

If the moratorium was removed, ASX could not be required to continue to comply with the Code of Practice. This is on the basis that the Code currently provides for a level of transparency and information disclosure that would not be made available in a market with more than one provider. The information required to be disclosed under the Code includes the publication of the management accounts, papers and minutes for Business Committee and Forum meetings, and investment plans.

ASX could not be under any obligation to publish information that may be used by future competitors to plan their market entry. This includes most of the information disclosed under the Code currently.

ASX also expects that it would have to reinstate an annual TAS service fee for ASX quoted and non-ASX-quoted products. In the TAS legal terms, the waiver of the annual TAS service fee is subject to the Code and the related Government policy for a moratorium on the introduction of competition in cash equities clearing remaining in place. If there is a change to the Government policy, those fees become a matter for ASX to set having regard to the commercial environment and the return that is needed to provide these services.

ASX's other Code commitments in relation to access and pricing would fall away and be governed by legislative and other regulatory mechanisms.

Consultation Questions

11. If the moratorium on competition were to be lifted, would the threat of competition be sufficiently credible to encourage ASX to retain and adhere to the Code, or would the Code need to be mandated (see Section 5.4)?

It would not be appropriate for the Code to remain in place if the moratorium on clearing competition was removed. For further information, see the response to question 10.

The purpose of competition policy is not to facilitate market entry of other players in-of-itself, but to provide net benefits to consumers/end-users. ASX contends that for a market the size of Australia, a single clearing house is the most efficient model in providing clearing services to the Australian financial system.

12. Would you support an extension to the moratorium on competition in clearing? If so, why? What time period would be appropriate before the industry was ready for competition in clearing to emerge?

ASX submits to the Agencies that its proposal for a further five year extension of the moratorium supported by existing regulatory controls, including a strengthened Code of Practice, and a review in 2020, is the least cost regulatory approach to meet industry objectives and support a single infrastructure provider. For more information on the benefits of this proposal, see the response provided to question 2.

Monopoly

13. If competition in the clearing of Australian cash equities were to be deferred indefinitely, what form of regulation may be necessary? Would a self-regulatory regime under the Code be sufficient to deliver the benefits of competition in clearing, or would some other form of regulation be necessary?

ASX submits that an industry-led regulatory regime under ASX's proposed strengthened Code of Practice would be consistent with best practice regulation. It provides a proportionate regulatory response that meets industry objectives and addresses the concerns that have been expressed by some stakeholders in relation to ASX's responsiveness to customers, the pricing of cash equity clearing services, service innovation and the access to clearing and settlement services on reasonable terms.

In the short time that the Code has been in place, it has demonstrated that it is an effective and efficient mechanism to deliver customer engagement, economic and pricing transparency and access arrangements. Moreover, the Code allows ASX to commit to significant investments in its cash equities post-trade infrastructure. These outcomes have been achieved with minimal regulatory oversight, at a relatively low cost and within regulators' existing powers.

One of the regulatory options identified in the consultation paper is a 'full regulation' monopoly approach. There is no evidence of a regulatory failure or of ASX Clear extracting monopoly rents to justify such an extensive regulatory intervention. It would also be significantly more expensive than industry self-regulation.

It is difficult to see how a 'full regulation' monopoly approach could be justified or pass a 'regulatory impact statement' process in light of the following:

- ASX earns a normal return on equity from its cash equities clearing service of 12%, reducing to 10.8% after implementation of the proposed fee schedule.

Consultation Questions

- The Oxera international cost benchmarking analysis demonstrates that the cost of clearing through ASX is broadly in line with the cost of clearing in other markets of a similar size and with similar services.
- Access arrangements are provided to other trade execution and listing venues on a transparent and non-discriminatory basis at low cost. Chi-X has been provided a high standard of access to clearing and settlement arrangements through the TAS. Systems availability over the last 12 months was 100% and the TAS processed 45.8 million trades.
- Under an extension of current arrangements and the moratorium on clearing competition for a further five years, ASX proposes to strengthen the Code of Practice. This will include a new tiered clearing fee schedule that offers an upfront 14.2% fee reduction and shares the benefits of volume growth with customers, and a commitment to invest in new cash equities post-trading infrastructure over the next three to four years.

The consultation paper and some stakeholders have raised the issue of whether structural separation of ASX's cash equity clearing and settlement businesses should be considered. Arrangements to structurally or operationally separate functions that are performed within the ASX Group would increase operating and infrastructure costs. It would also increase the risks and complexity of providing clearing and settlement services for the industry. There is no evidence that separation arrangements would be beneficial to the market. In the absence of any net benefit or regulatory failure, there is no basis to justify the introduction of any form of structural separation.

14. How effective are the governance arrangements under the Code? For example, please expand upon the following:

(a) the effectiveness of the Forum and Business Committee

(b) the responsiveness of ASX to the issues raised by the Forum and Business Committee

(c) the composition of ASX's Boards.

The effectiveness of the Forum and Business Committee

The level of engagement and participation by industry in the Forum, the Business Committee and the Technical Committee has exceeded ASX's initial expectations. In the short time that the Code has been in place, these advisory forums have provided effective mechanisms for achieving greater industry collaboration and a means for providing input to ASX with respect to improvements in service delivery, and investment in services infrastructure and innovation.

If the current arrangements and the moratorium on clearing competition are extended for a further five years, ASX proposes to extend the membership of the Business Committee to the Heads of Equity.

Further information on the effectiveness of the Forum, Business Committee and Technical Committee in providing user input into the governance of ASX to deliver service improvements, capital efficiencies and greater flexibility in participants structures, and ASX commitments to invest in infrastructure to deliver a T+2 settlement cycle and ISO 20022 standard messaging, see pages 22 to 28 of this submission.

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Responsiveness of ASX to the issues raised by the Forum and Business Committee

ASX's responsiveness to issues raised by the Forum and Business Committee can be demonstrated by the consultation with members of these advisory forums in developing the forward work program, and the subsequent inclusion of topics suggested. The following initiatives have been undertaken or are being progressed by ASX directly as a result of feedback received from the Business Committee and/or the Forum:

- A commitment to implement ISO 20022 standard messaging with the replacement of CHES.
- A commitment to implement a later batch settlement cut-off time to support the implementation of T+2.
- A commitment to implement corporate actions STP phase 2 prior to the replacement of CHES.
- The formation of an industry working group to examine principal to principal clearing arrangements.
- The provision of quarterly activity and fee reports to individual participants.
- Providing a longer transitional period for clearing and settlement participants to comply with new guidance on outsourcing and offshoring arrangements.

The composition of ASX's Boards

The ASX Clear Board provides oversight of ASX Clear's clearing operations and risk management processes, including the establishment and maintenance of an effective risk management framework for clearing risk. For further information on the role of the ASX Clear Board, see page 34 of this submission.

The Boards of ASX Clear and ASX Settlement include independent non-executive directors with clearing and settlement expertise. The Boards of ASX Clear and ASX Settlement are made up of 6 directors, which includes the ASX CEO and Managing Director as the only executive director. Three of the five non-executive directors of ASX Clear and ASX Settlement, including the Chair, are not directors of ASX Limited. The Boards are structured such that two of these three directors are able to form a quorum to meet and consider any commercially sensitive information obtained from other trade execution and listing venues in the course of providing clearing and settlement arrangements. The three non-ASX Limited directors meet regularly.

- 15. How effective are the current pricing arrangements? For example, please expand upon the following:**
- (a) the level of transparency of pricing, revenues and costs associated with ASX's cash equity clearing and settlement services**
 - (b) the cost allocation policies adopted by ASX**
 - (c) whether pricing is comparable with overseas clearing and settlement services.**

ASX submits that the level of transparency provided in relation to its cash equity clearing and settlement pricing and economics is far greater than that provided by clearing and settlement facilities operating in other markets. This transparency is provided with the publication of:

- Management accounts for ASX's cash market clearing and settlement businesses, together with an independent auditor's report.

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- An ASX internal cost allocation and transfer pricing policy for cash market clearing and settlement services. The cost allocation and transfer pricing policy describes the methodology used for allocating revenue, directly attributable costs, indirect and common shared costs and capital that relate to clearing and settlement of cash equities in Australia. The ASX internal cost allocation and transfer pricing policy was developed having regard to the access principles under competition law policy.
- A comprehensive Global Cost Benchmarking of Cash Equity Clearing and Settlement Services Report prepared by Oxera, which was publicly released in June 2014.
- Additional pricing information on the ASX website, including fee schedules with service descriptions and worked examples of headline fees for common transactions, and the terms, conditions and eligibility criteria applicable to revenue sharing arrangements that are in place.

Further information on the key findings from the Oxera international cost benchmarking analysis that “the costs of post-trading services in Australia are in line with the costs of similar services provided in financial centres of a comparable size”⁷ is provided on pages 12 and 13 of this submission.

16. How effective are the access provisions under the Code? For example, please expand upon the following:

- (a) the adequacy of existing access provisions to support competition in trading of ASX-securities
- (b) whether the scope of access provisions should be expanded beyond ASX securities
- (c) whether the information-handling standards implemented under the Code are sufficient to support innovation, by mitigating potential conflicts of interest for ASX staff and management
- (d) whether any further commitments are required to improve necessary access to ASX’s clearing and settlement facilities by alternative market, and listing market, operators. If so, what measures are required?

Adequacy of existing access provisions to support competition in trading of ASX-securities

Since the commencement of the Code of Practice, ASX has provided access to its clearing and settlement infrastructure to Chi-X through the TAS at no cost. The access arrangements are provided on a non-discriminatory and transparent basis, with the terms and conditions publicly available. Following consultation with other trade execution and listing venues in the first half of calendar year 2014, ASX implemented a number of service enhancements, streamlined the operational and technical standards and strengthened its information handling standards with respect to the TAS and SFS. These enhancements were informed by the operational experience of these new services.

Over the last 12 months, systems availability of the TAS has been 100% and 45.8 million trades were processed.

Extension of access provisions beyond ASX securities

ASX Clear and ASX Settlement have recently agreed to extend clearing and settlement access arrangements for Chi-X’s new initiative to list and trade warrants and ETFs through the new Chi-X Multi Asset Trading Platform (i.e. these are non-ASX-quoted products). ASX Clear and ASX Settlement have committed to provide the same clearing

⁷ Oxera Consulting, *Global cost benchmarking of cash equity clearing and settlement services*, June 2014, extract from the concluding remarks of the Executive Summary.

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and settlement arrangements for CHESS eligible non-ASX-quoted products as those that are currently in place for equivalent products quoted on ASX⁸.

This extension in access arrangements is provided to Chi-X at no cost for so long as the moratorium on clearing competition remains in place. The development work required to extend clearing and settlement arrangements to these CHESS eligible non-ASX-quoted products was prioritised ahead of development work for the ASX market and has resulted in a delay in the launch of an ASX product.

The management and board processes that approved this extension in access arrangements were well managed by the governance processes and the information handling standards that the ASX Group has put in place to deal with commercially sensitive information of competitors.

If the current arrangements and the moratorium on clearing competition is extended for a further five years, ASX will include additional commitments in the Code of Practice to reflect the extension of the access arrangements to CHESS eligible (like-for-like) non-ASX-quoted securities.

Further information on the extension of access arrangements to include certain CHESS eligible non-ASX-quoted products, see page 35 of this submission.

Information Handling Standards

ASX has implemented intra-group information handling standards. These include restrictions on the dissemination of confidential and conflict sensitive information obtained from another trade execution and listing venue that is consistent with the principle of information only being disseminated on a 'needs to know' basis.

As discussed above, the information handling standards were enhanced following consultation with other trade execution and listing venues in the first half of calendar year 2014. The information handling standards also remain subject to an assurance program.

The safeguards that have been put in place have successfully ring-fenced conflict sensitive information. In the FY 2013 ASIC Assessment Report released in July 2014, there was a focus on the TAS Information Handling Standards. Overall, the assessment found that ASX Group had implemented robust controls and procedures to manage the handling of competitively sensitive information.

Further information on the safeguards that have been put in place under the information handling standards, see page 27 of this submission.

⁸ Chi-X consultation paper, *The Chi-X Multi Asset Platform*, February 2015, p.6

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17. In general, how effective do you think the Code has been in addressing the issues identified by stakeholders in the 2012 Review? Do you think a Code of Practice is an effective mechanism for delivering outcomes similar to those that might be expected under competition? Please share your experience in relation to the operation of the Code.

ASX considers that the Code of Practice has been effective and efficient in delivering outcomes consistent a competitive market without the significant additional costs and risks associated with the introduction of a second clearing house, or the additional operating, regulatory and compliance costs associated with structural separation or a more interventionist 'full regulation' monopoly approach. Further detail on the outcomes delivered under the Code since its commencement in 2013 is provided in pages 22 to 28 of this submission.

18. Are there any other issues that the Code should seek to address? What steps, if any, should be taken to strengthen the arrangements under the Code in order to realise the benefits of a competitive market? Are formal enforcement mechanisms or extended accountability commitments necessary?

See ASX's proposal to strengthen the Code set out in pages 31 to 36 of this submission. ASX believes that the regulatory controls set out in pages 31 to 36 can be accommodated within existing regulatory arrangements.

The strengthened Code commitments, together with the requirement for an annual review of compliance with the Code commitments by an independent auditor, and a further review of the operation of the Code in 2020, provide appropriate accountability mechanisms and incentives in relation to market conduct.

19. If you think that another form of regulation would be necessary:

- (a) What would be the appropriate scope of such regulation? Should both ASX Clear and ASX Settlement be regulated?**
- (b) What aspects of each service should be regulated (e.g. pricing, access, structure, ownership, infrastructure development)?**
- (c) Would the measures available under the existing legislative and policy framework be sufficient for this purpose? If not, what new regulation or legislation might be necessary?**

ASX submits that the existing legislative and policy framework, including a strengthened Code of Practice, is sufficient and consistent with best practice regulation. It is effective and the least cost regulatory intervention available to meet industry objectives.

The strengthened Code addresses the legitimate concerns that may be expressed by users of a single infrastructure in relation to pricing of services, access to clearing and settlement infrastructure for alternative trading venues and the handling of confidential information. The common themes that underlie these concerns are included in the table on the next page.

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Legitimate concerns	How the Code addresses the concern
1. Price gouging by ASX	<ul style="list-style-type: none"> • Code locks in 5 year clearing fee commitment • Fee schedule shares scale benefits with whole market • ROE at current volumes is in line with cost of capital
2. Access to clearing and settlement to compete with vertically integrated ASX	<ul style="list-style-type: none"> • Access is provided at no cost to Chi-X • Track record and metrics in service delivery through the TAS are world class • Updated Code extends access to CHESSE eligible non-ASX-quoted (like for like) products
3. Confidentiality	<ul style="list-style-type: none"> • Information handling standards have maintained confidentiality in initial two year Code period • Code includes enhanced Information Handling Standards • Updated Code includes independent board oversight and decision making processes • Processes are subject to assurance, audit and regulator review

The consultation paper and some stakeholders have raised the issue of whether structural separation of ASX's cash equity clearing and settlement businesses should be considered. Arrangements to structurally or operationally separate functions that are performed within the ASX Group would increase operating and infrastructure costs. It would also increase the risks and complexity of providing clearing and settlement services for the industry. There is no evidence that separation arrangements would be beneficial to the market. In the absence of any net benefit or regulatory failure, there is no basis to justify the introduction of any form of structural separation.

For further information on why a 'full monopoly' regulation approach is unnecessary, see the response to question 13.