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and

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LEGAL PROTECTION FOR FINANCIAL PAYMENT SYSTEMS

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EXECUTIVE SUMMARY

1 Introduction

1.1 Payment systems are critical to the effective functioning of financial systems worldwide. If a payment system is insufficiently protected against risks such as credit, liquidity and settlement risks, disruption within the system could trigger or transmit further disruptions among its participants, or generate systemic disruptions in the financial markets or more widely across the economy. A fundamental requirement for a stable and secure payment system is that it should operate in a well-defined legal environment, setting out the rights and obligations of each party involved in transmitting a payment through the system.

1.2 This Paper examines the legal and regulatory framework for a stable and secure payment system and recommends the necessary reform to the law in this area.

2 Risks in foreign exchange transactions

2.1 Foreign exchange markets are exposed to a number of risks. Settlement risk is one of the largest risks faced by foreign exchange participants today. This typically occurs in circumstances where a bank has irrevocably paid away the currency sold, but due to the failure of its counterparty, does not receive the currency purchased.

2.2 On a macro level, settlement risk can have a systemic impact on payment systems. Systemic risk refers to the domino effect that can arise following the failure of one participant in a payment system. It refers to the situation where the inability of one market participant to fulfil its payment obligations in a timely manner results in the inability of other participants to fulfil their obligations in the system or elsewhere in the financial system, and ultimately in the failure of the whole financial system.

3 Foreign exchange settlement risk – a global concern

3.1 Governments and central banks around the world are concerned with foreign exchange settlement risk. This is because of the large values involved in settling foreign exchange transactions and the resulting potential for systemic risk.

3.2 To address this concern, there have been a number of international initiatives in the reduction of foreign exchange settlement risk. Central banks and major banks around the world have undertaken studies to survey current market practices and recommend ways to manage settlement risk in a prudent manner. Singapore is no exception. MAS recognises the importance for Singapore to adopt a proactive approach and has conducted a similar study in the domestic market.

4 Continuous linked settlement system

4.1 A new international payment system, the Continuous Linked Settlement (CLS) system is due to come into operation in October 2002 with the aim of reducing foreign exchange settlement risk by means of a Payment-versus-Payment system. It is a real-time, global system for the settlement of foreign exchange transactions.

4.2 When the CLS system is launched, it will settle foreign exchange transactions in the following currencies: the Australian Dollar, the Canadian Dollar, the Euro, the Great Britain Pound, the Japanese Yen, the Swiss Franc and the US Dollar. The Singapore Dollar is expected to be part of the subsequent batch of currencies for which foreign exchange transactions will be settled through the CLS system. This is estimated to take place in the second quarter of 2003.

5 Netting in payment systems

5.1 A payment system operates on a gross or net basis depending on how it ultimately settles payment obligations among its participants. A number of payment systems operate on a net basis. In domestic and international markets for foreign exchange, the ability of dealers to set off or net out reciprocal obligations with counterparties is of fundamental importance to the integrity of the international trading and financial system.

5.2 A netting arrangement is an arrangement whereby each party agrees to set off amounts it owes against amounts owed to it. Netting arrangements can be bilateral, that is, between two parties, or multilateral, involving more than two parties.

6 Legal framework

6.1 In order for a payment system to work effectively, it is important that its legal environment ensure the finality and irrevocability of all

settlements and payments made through the system. It should, in particular, prohibit the unwinding of any settlement or payment made on the due day in the event that one or more of its participants is unable to settle its obligations. At the same time, it should be sufficiently flexible to permit the development of new payment instruments and systems, and the possible involvement of new categories of participants. Further, as payment systems may utilise netting arrangements, it is important that the netting arrangements are enforceable and binding on the parties.

6.2 The legal issues can be categorised as follows:

(a) Finality of settlement and payments

6.3 The settlement of transactions in payment systems are made pursuant to instructions from participants to debit and credit their accounts which are held by the operators of the payment systems. Funding payments are made by participants to the operator of the payment system to ensure that there are sufficient funds in the participants' accounts before settlement starts. In most cases, the funding payments are made through the local real-time gross settlement (RTGS) systems.

6.4 Insolvency law contains rules which may allow certain transactions to be unwound in the event that a participant is insolvent. It is critical that these rules do not apply to the settlement of transactions and payments effected through the payment systems before the insolvency of the participant. One such rule is found in section 329 of the Companies Act (Cap. 50). Section 329 provides for the unwinding of transactions such as transactions at an undervalue, unfair preferences and extortionate credit transactions.

6.5 Insolvency law also contains rules which may allow a liquidator to "cherry-pick" by disclaiming onerous property and enforcing contracts which are favourable to the insolvent participant. To ensure finality of settlement and payments in payment systems, it is necessary for the legal framework to curtail the liquidator's power to "cherry-pick".

6.6 Legal uncertainty can also arise if settlements and payments are required to be reversed in the event of the insolvency of a participant because of the operation of the zero hour rule.

6.7 The effect of the zero hour rule is that when an event is specified to have occurred on a particular day, that event takes place at the earliest point in time after midnight on the commencement of that day.

Therefore, if a court orders the winding up of a company at 2 pm on a particular day, the winding up is deemed to commence at one second past midnight on the day that the order is made. Therefore, any transactions entered into by the company before 2 pm that day can be rendered void. In the case of payment systems, to avoid catastrophic results, it would be prudent to expressly exempt funding payments from the application of the zero hour rule in the relevant legislation.

(b) Enforceability of netting arrangements

6.8 The issue of enforceability of netting arrangements is important for payment systems which settle transactions on a net basis. In such payment systems, there is some uncertainty about the enforceability of multilateral netting arrangements because of the decision in the *British Eagle* case.

6.9 The decision in the *British Eagle* case appears to indicate that a multilateral netting arrangement, not being sanctioned by statute, may be treated as an attempt to evade the pari passu rule in insolvency law and is therefore void as contrary to public policy. To address this uncertainty, it is critical for the relevant legislation to provide that the netting arrangement in a payment system is enforceable and binding on all the parties.

6.10 Uncertainty about the enforceability of netting arrangments arises also because of the liquidator's statutory power to disclaim onerous property. It would be undesirable if the liquidator is able to disclaim netting arrangements as onerous property.

(c) Enforceability of close-out netting

6.11 In the event of a failure of a participant, it is envisaged that the operator of the payment system would want to terminate and close out the participant's account and be entitled to net the long positions in the account against the short positions so that the combined long and short positions are regarded as a single net balance. The operator would want to have a claim or an obligation, as the case may be, to receive or pay only the net balance on the account. This is commonly known as "close-out netting".

6.12 The principle of mutual set-off between an insolvent company and its creditors has long been recognised by common law and codified in section 88 of the Bankruptcy Act as applied to corporations by virtue of

section 327(2) of the Companies Act. The relevant issue in relation to payment systems is whether the operator can rely on section 88 to terminate and close-out an insolvent participant's account and net the positions in the account.

6.13 In the case of a payment system involving several participants, it is unlikely that the operator of the payment system is able to rely on the principle of mutual set-off in section 88 as the long and short positions in the participant's account cannot be said to be "mutual credits, mutual debits or other mutual dealings" between the participant and the operator. In a payment system, the short positions in a participant's account are not obligations owed to the operator, but to other participants in the payment system with which the insolvent participant had entered into foreign exchange transactions. The operator has no control over the funds in the account and holds the currencies in the account for the benefit of the participants in the payment system.

6.14 Thus, to address this issue, it is pertinent for the relevant legislation to expressly provide that the operator is able to net the obligations such that the net amount becomes payable.

7 International position

7.1 In recent years, many countries have taken steps to ensure the legal efficacy of their payment systems and netting arrangements. These include the major common law jurisdictions such as the United Kingdom, Australia, the United States of America and Canada.

8 Need for reform

8.1 Presently, section 59A of the Banking Act (Cap. 19) provides for the finality of payments made through the real-time gross settlement (RTGS) system operated by MAS. Under the RTGS system, payment instructions between banks are processed and settled individually and continually during the day, subject to the paying bank having sufficient funds in its current account maintained with MAS. Once settled, section 59A provides that the payment is final and irrevocable.

8.2 However, section 59A is not wide enough to cover payment systems that are not operated by MAS. Payment systems such as the CLS system are not operated by MAS, but by an operator.

8.3 In view of the need to avoid systemic disruption and risk, it is vital for payment systems to have a legal framework that sets out clearly the rights and responsibilities of all parties in various contingencies. Having a sound legal environment for the operation of a stable and secure payment system is in line with international trends and will also enhance Singapore's position as a major financial centre in the world.

9 Recommendation for law reform

9.1 The paper proposes the enactment of a new Payment and Settlement Systems (Finality and Netting) Act.

10 Conclusion

10.1 The new Payment and Settlement Systems (Finality and Netting) Act provides an omnibus solution to the legal uncertainty that surrounds the operation of a payment system. It has the flexibility to provide for future payment systems. With such an economical legislation, we will not be caught flat-footed when new payment systems are introduced. This is essential for Singapore's international recognition and competitiveness as a major financial centre in the world.

CONSULTATION PAPER

LEGAL PROTECTION FOR FINANCIAL PAYMENT SYSTEMS

PART 1 INTRODUCTION

1.1 Payment systems are critical to the effective functioning of financial systems worldwide. They provide the channels through which funds are transferred among banks and other institutions to discharge payment obligations arising in the financial markets and across the entire economy. If a payment system is insufficiently protected against credit, liquidity, legal, operational and other risks, disruption within the system could trigger or transmit further disruptions among its participants, or generate systemic disruptions in the financial markets or more widely across the economy.[1]

1.2 A fundamental requirement for a stable and secure payment system is that it should operate in a well-defined legal environment, setting out the rights and obligations of each party involved in transmitting a payment through the system.[2] This Paper examines the legal and regulatory framework for a stable and secure payment system and recommends the necessary reform to the law in this area.

1.3 Part 2 of this Paper discusses the risks involved in foreign exchange transactions, in particular foreign exchange settlement risk and the potential consequence of systemic risk. Part 3 highlights foreign exchange settlement risk as a global concern and discusses the various international initiatives that have been undertaken to address this concern. Part 4 deals with the impending implementation of the Continuous Linked Settlement system as a means of reducing foreign exchange settlement risk. Part 5 highlights the importance of netting in payment systems. Part 6 outlines the legal issues that must be addressed in order to provide a conducive legal environment for the effective operation of a stable and secure payment system. Part 7 summarises the position in the United Kingdom, Australia, United States and Canada where the major financial centres in the world are situated. Part 8 discusses the need for law reform in this area. Part 9 recommends the

[1] The World Bank and International Monetary Fund, *Financial Sector Assessment Program – Experience with the Assessment of Systemically Important Payment Systems* (19 April 2002) at 6.
[2] *Ibid.*, at 11.

enactment of a new Payment and Settlement Systems (Finality and Netting) Act to address the legal uncertainty surrounding the operation of a payment system.

PART 2
RISKS IN FOREIGN EXCHANGE TRANSACTIONS

2.1 Foreign exchange markets are exposed to a number of risks including credit risk, liquidity risk and operational risk[3]. Settlement risk is one of the largest risks faced by foreign exchange participants today.[4] This typically occurs in circumstances where a bank has irrevocably paid away the currency sold, but due to the failure of its counterparty, does not receive the currency purchased.

Settlement risk

2.2 Settlement of a foreign exchange transaction requires the payment of one currency and the receipt of another. When these two legs of a foreign exchange transaction are executed in different countries and in different time zones, settlement risk arises. In the absence of any settlement arrangement that ensures that one currency will be transferred only if the other currency is also transferred at the same time, one party to a foreign exchange transaction could pay out the currency it sold but not receive the currency it purchased. This risk is referred to as foreign exchange settlement risk or Herstatt risk.

Systemic risk

2.3 On a macro level, settlement risk can have a systemic impact on payment systems. Systemic risk[5] refers to the domino effect that can arise following the failure of one participant in a payment system. It refers to the situation where the inability of one market participant to fulfil its payment obligations in a timely manner results in the inability

[3] Clyde Goodlet, Department of Monetary and Financial Analysis, Bank of Canada, "Clearing and settlement systems and the Bank of Canada", Bank of Canada Review Autumn 1997 at 52-53. It is also reported therein that credit and liquidity risks arise from the potential inability of either the payor or the payor's bank to fulfil its payment obligations in a timely manner. Such risks arise because of the time lag between the initiation of the payment process and its completion (settlement). In cases where large-value payments are flowing through the settlement systems, the exposure of one financial institution to another during the course of payment exchange can be significant. Large-value payments are often associated with foreign exchange and securities. Further, operational risk can arise if a settlement system is not designed to cope adequately with various natural or other disasters. A system designed without sufficient "backup" can result in serious disruptions in the market economy should a natural disaster or some technical problem befall the settlement system.

[4] Monetary Authority of Singapore, *Foreign Exchange Settlement Risk Practices in Singapore* (July 2001) at 5. This report can be found at http://www.mas.gov.sg.

[5] See n. 3, above at 54-55. See also Loretta DeSourdy, "New Legislation on Netting and Payments Finality", Reserve Bank of New Zealand: Bulletin Vol. 62 No. 2 where it is reported that systemic risk is the risk that the failure of a bank or other major financial institution may lead to the failure of other institutions.

of other participants to fulfil their obligations in the system or elsewhere in the financial system, and ultimately in the failure of the whole financial system.

PART 3
FOREIGN EXCHANGE SETTLEMENT RISK – A GLOBAL CONCERN

3.1 Governments and central banks around the world are concerned with foreign exchange settlement risk. This is because of the large values involved in settling foreign exchange transactions and the resulting potential for systemic risk.[6] Systemic risk is a major concern of central banks.[7] Behind this concern is the occurrence of several events in which foreign exchange settlement risk might have caused systemic risk in global financial markets, including the failure of Bankhaus Herstatt in 1974, the closure of BCCI SA in 1991 and the Barings crisis in 1995. Annex A sets out the details of these events[8].

3.2 To address this concern, there have been a number of international initiatives in the reduction of foreign exchange settlement risk. In 1995, the central banks of the G-10 countries[9] conducted a survey of 80 major banks in their respective domestic markets to document current market practices for settling foreign exchange trades and barriers to managing settlement risks in a prudent manner. The survey findings and recommendations on prudential management and control of foreign exchange settlement risk were published in a report, *Settlement Risk in Foreign Exchange Transactions* (also known as the Allsopp Report)[10] in March 1996.

3.3 The survey found that foreign exchange exposure was not just an intraday phenomenon; interbank exposures could last, at a minimum, one to two business days and it could take a further one to two business days for banks to know with certainty that they received the currency they bought. Further, it was found that well-designed multi-currency services such as multi-currency settlement mechanisms and bilateral and multilateral obligation netting arrangements could greatly enhance the efforts of individual banks to reduce their foreign exchange settlement

[6] Executives' Meeting of East Asia-Pacific Central Banks and Monetary Authorities (EMEAP) Working Group on Payment and Settlement Systems, *Foreign Exchange Settlement Risk in the East Asia-Pacific Region* at vii and 1. It is also reported therein that the April 2001 data published by the Bank of International Settlements indicates that the size of global daily foreign exchange market turnover is around US$ 1.2 trillion.

[7] See n. 3 above, at 55.

[8] These case studies are taken from the Report prepared by the Bank of International Settlements Committee on Payment and Settlement Systems on Settlement Risk in Foreign Exchange Transactions, March 1996.

[9] The Group of Ten (G-10) industrial countries consist of Belgium, Canada, France, Italy, Japan, Netherlands, Sweden, Germany, United Kingdom and United States of America.

[10] The Allsopp Report can be found at http://www.bis.org/publ/cpss17.pdf.

exposures. It was also found that some major banks which were concerned about the sizable foreign exchange settlement risks they faced were already actively pursuing ways to improve their own settlement practices and to collectively develop risk-reducing multi-currency services. However, many banks remained sceptical about devoting significant resources to such efforts. Overall, the central banks of the G-10 countries found that private sector institutions had the ability, through individual and collective action, to significantly reduce the systemic risks associated with foreign exchange settlements, and agreed to closely monitor the progress of the private sector action over the next two years to determine the need for further action.

3.4 In late 1997, the central banks of the G-10 countries carried out another survey to measure the progress made by individual banks in meeting the Allsopp Report recommendations. The results of their findings were published in another document, *Reducing Foreign Exchange Settlement Risk: A Progress Report*[11]. In summary, the report concluded that the individual banks had made encouraging progress in managing their foreign exchange settlement exposures.

3.5 In the East Asian Pacific region, a working group which meets under the auspices of the Executive Meeting of East Asia and Pacific Central Banks (EMEAP) conducted a foreign exchange settlement risk survey in their respective countries to further understand settlement risk practices. In December 2001, the working group published a report, *Foreign Exchange Settlement Risk in the East Asia-Pacific Region*[12] covering the survey findings and identifying potential options for reducing foreign exchange settlement risk.

3.6 The survey found that the average duration of foreign exchange settlement risk in the EMEAP region was more than two operating days. As a result, a bank's full foreign exchange settlement risk exposure at a particular point in time was a multiple of one day's trades and often exceeded the value of its capital. The survey also found that although the banks in the region were already practising sound risk management, there was still scope for improvement. Of particular concern was the relatively low use of bilateral obligation netting in many of the economies. The report recommended that banks take steps to enter into bilateral obligation netting arrangements with counterparties to reduce

[11] The G-10 report titled "Reducing Foreign Exchange Settlement Risk: A Progress Report" can be found at http://www.bis.org/publ/cpss26.pdf.

[12] The EMEAP report titled "Foreign Exchange Settlement Risk in the East Asia-Pacific Region" can be found at http://www.mas.gov.sg.

the magnitude of their foreign exchange settlement risk where this is legally enforceable, and where available and appropriate, use Payment-versus-Payment (PvP) systems to eliminate foreign exchange settlement risk. PvP is a mechanism in a foreign exchange settlement system, which ensures that a final transfer of one currency occurs only if a final transfer of the other currency or currencies takes place.

3.7 The Monetary Authority of Singapore (MAS) recognises the importance for Singapore to adopt a proactive approach in understanding the extent of our foreign exchange settlement risk exposures. This is of particular concern because Singapore is the world's fourth largest foreign exchange trading centre and the Singapore Dollar (SGD) is among the top ten traded currencies in the world[13]. Further, Singapore whose time is 8 hours in advance of Greenwich mean time is one of the first few major financial markets to open each day. Singapore has a time-zone difference ranging from 12 to 17 hours with that of the United States, whose currency is the one against which most foreign exchange transactions are executed. Such time-zone differences and each bank's foreign exchange settlement practices affect industry-wide and institution-specific exposure periods and magnitudes.[14] Against this background, MAS undertook a study on foreign exchange settlement practices in the Singapore market and published a report, *Foreign Exchange Settlement Risk Practices in Singapore*[15] in July 2001.

3.8 Foreign exchange transactions are today settled through the payment systems of two countries whose currencies are involved. As these systems may not be open at the same time due to time-zone differences, there is a possibility that one counterparty in a transaction delivers currency it has sold while the other counterparty may, later on the same day, default and fail to deliver its currency.

3.9 It has been accepted internationally that there are a number of ways to reduce foreign exchange settlement risk.[16] A new international payment system, the Continuous Linked Settlement system is due to come into operation later in 2002 with the aim of reducing foreign exchange settlement risk by means of a PvP system.[17] .

[13] This is a finding of the Bank for International Settlements (BIS) Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity conducted in 1998.
[14] See n. 4, above at 2-3.
[15] *Ibid*.
[16] *Ibid.* at 29-33.
[17] This concept arose in 1995 as a result of a study on foreign exchange settlement risk by a group of major FX trading banks called the Group of 20.

PART 4
CONTINUOUS LINKED SETTLEMENT SYSTEM

4.1 The Continuous Linked Settlement (CLS) system is expected to be launched in October 2002 as a new international payment system for the financial industry. It is a real-time, global system for the settlement of foreign exchange transactions. This continuous linked settlement service will be offered by the CLS Bank International (CLS Bank) in New York. It is designed to substantially mitigate (if not wholly eliminate) the settlement risk in foreign exchange transactions caused by settlement delays due to time-zone differences (Herstatt risk). More details of the CLS system can be found at Annex B.

4.2 When the CLS system is launched, it will settle foreign exchange transactions in the following currencies: the Australian Dollar, the Canadian Dollar, the Euro, the Great Britain Pound, the Japanese Yen, the Swiss Franc and the US Dollar.

4.3 The Singapore Dollar is expected to be part of the subsequent batch of currencies for which foreign exchange transactions will be settled through the CLS system. This is estimated to take place in the second quarter of 2003. In October 2001, the three major Singapore banks, Development Bank of Singapore (DBS Bank), Overseas-Chinese Banking Corporation Limited (OCBC Bank) and United Overseas Bank (UOB) have become shareholders of the CLS Group and will in due course apply to become Settlement Members of the CLS Bank.[18] In addition, MAS has received in-principle approval from the CLS Group and CLS Bank to include the Singapore Dollar as an eligible currency of CLS Bank.[19]

[18] CLS Group press release dated 21 October 2001, "Singapore Banks become new shareholders of the CLS Group, Singapore Dollar extends currencies for CLS Settlement". This press release can be found at http://www.cls-services.com.

[19] *Ibid.*

It is noted that a currency needs to meet a number of criteria before it can become an eligible CLS currency. For example, CLS Bank must have received a written request by two or more CLS Group Holdings Shareholders to designate such currency as an eligible currency and indications from at least three institutions (or such fewer number as the Board of Directors shall expressly approve) of willingness to act as liquidity providers for such currency on terms CLS Bank in its sole discretion considers commercially acceptable. CLS Bank must also have determined to its satisfaction that the currency's relevant payment system(s) would meet CLS Bank's requirements for designation as an approved payment system, including opening hours that sufficiently overlap with the settlement period for all eligible currencies. The relevant Central Bank must also have agreed to allow CLS Bank to establish a special account with such Central Bank solely for the purpose of facilitating transfer of an eligible currency from and to settlement members.

PART 5
NETTING IN PAYMENT SYSTEMS

What is netting?

5.1 A netting arrangement is an arrangement whereby each party agrees to set off amounts it owes against amounts owed to it. Netting arrangements can be bilateral, that is, between two parties, or multilateral, involving more than two parties.

5.2 Figure 1 illustrates the operation of a bilateral netting arrangement.[20]

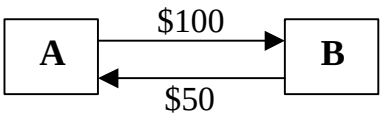

Figure 1 Bilateral netting

A owes B $100 and B owes A $50. In the absence of a netting arrangement, A will pay B $100 and B will pay A $50. The total exposure is $150. If a netting arrangement is in operation, the amounts owing will be netted off and the netted balance will be payable. A will pay B $50 and B does not have to pay A at all.

5.3 Figure 2 illustrates the operation of a multilateral netting arrangement.[21]

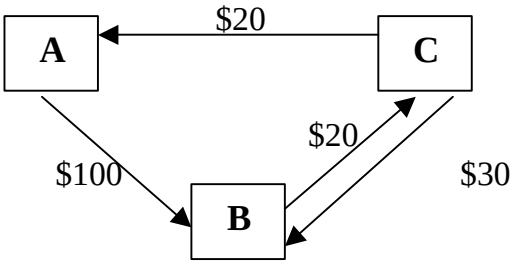

Figure 2 Multilateral netting

Multilateral netting arrangements involve settlement between more than 2 persons. In Figure 2, A owes B $100, B owes C $20, C owes A $20 and B $30. Without a netting arrangement, A owes $100, B owes $20 and C owes a total of $50. The total amount owed is $170. With a

[20] See DeSourdy, n. 5, above, at 61.
[21] *Ibid.* at 62.

multilateral netting arrangement in operation, A owes $80, B does not owe any money and C owes $30. The total exposure is reduced to $110.

5.4 As the above examples illustrate, netting allows the parties to reduce their exposures and consequently their risk. This allows capital to be used more efficiently. Netting is widely used in financial markets as a means of lowering the risks to which banks and other financial institutions are exposed.

Importance of netting in payment systems

5.5 A payment system operates on a gross or net basis depending on how it ultimately settles payment obligations among its participants. In gross systems, funds are transferred on a transaction-by-transaction basis. In net systems, only the net amounts of payment obligations are settled to and from participants at discrete intervals during the day (typically at the end of the day).[22]

5.4 A number of payment systems operate on a net basis. In domestic and international markets for foreign exchange, the ability of dealers to set off or net out reciprocal obligations with counterparties is of fundamental importance to the integrity of the international trading and financial system.[23] There are 3 reasons for this:[24]

(a) Paper flow

This is a purely administrative consideration that the massive number of bargains make individual settlement between counterparties impractical. Millions of foreign exchange transactions take place daily. If buys and sells and corresponding payments can be netted, millions can be reduced to thousands.

(b) Insolvency set-off

If a market participant defaults, the losses to other participants will be minimised if all the defaulter's open (that is, executory or unperformed) obligations either way can be cancelled and losses and gains set off in the insolvency so as to produce a net balance. Without this netting out, the solvent parties will be left with a gross exposure resulting in a risk of domino insolvencies of other market participants and banks

[22] See n. 3, above, at 54.
[23] Philip R. Wood, *English and International Set-Off*, 1989, at para 5-75.
[24] *Ibid.* at paras 5-76 to 5-78.

extending credit to them. This may lead to a systemic failure of potentially catastrophic proportions if the defaulter's liquidator can "cherry-pick" by insisting on performance of profitable transactions and disclaiming the others and if the insolvency set-off regime prevents set-off between the disclaimed amounts owed by the insolvent and the sums payable to the insolvent on the transactions required to be performed.

(c) Delivery risk (also known as settlement risk)

Delivery risk occurs where a participant delivers a foreign exchange currency without having received corresponding payment and the recipient becomes insolvent before paying. For example, a bank delivering Japanese yen in return for United States dollars may be obliged to pay the yen in Tokyo before New York opening hours and the party liable to pay the United States dollars may become insolvent before paying the United States dollars in New York. If all the yen-dollar transactions between the parties for delivery on the same day are netted, the gross exposure will be considerably reduced.

PART 6
LEGAL FRAMEWORK

6.1 In order for a payment system to work effectively, it is important that its legal environment ensure the finality and irrevocability of all settlements and payments made through the system. It should, in particular, prohibit the unwinding of any settlement or payment made on the due day in the event that one or more of its participants is unable to settle its obligations. At the same time, it should be sufficiently flexible to permit the development of new payment instruments and systems, and the possible involvement of new categories of participants.

6.2 Further, as payment systems may utilise netting arrangements, it is important that the netting arrangements are enforceable and binding on the parties. Legal uncertainty arises if the status of the netting arrangements is unclear.

6.3 The legal issues can be categorised as follows:

(a) Finality of settlement and payments
(b) Enforceability of netting arrangements
(c) Enforceability of close-out netting

Each issue is discussed in turn below.

(a) Finality of settlement and payments

6.4 The settlement of transactions in payment systems is made pursuant to instructions from participants to debit and credit their accounts which are held by the operators of the payment systems. Insolvency law contains rules which may allow certain transactions to be unwound in the event that a participant is insolvent. It is critical that these rules do not apply to the settlement of transactions effected through the payment systems before the insolvency of the participant.

6.5 In some payment systems, participants are required to make funding payments to the operator of the payment system to ensure that there are sufficient funds in the participants' accounts before settlement starts. The CLS system is one such system. It requires participants to make funding payments to CLS Bank.[25] This is to ensure that the participants have a net positive balance with the CLS Bank before settlement begins

[25] These funding payments are referred to as pay-ins in CLS.

each day. The funds are paid into CLS Bank's account at the relevant Central Bank based on a pay-in schedule issued by the CLS Bank. In most cases, the funding payments are made through the local real-time gross settlement (RTGS) systems. Legal uncertainty arises if these funding payments are required to be reversed in the event of the insolvency of a participant. This can occur if certain insolvency rules apply.

Unwinding of transactions at an undervalue, unfair preferences and extortionate credit transactions

6.6 One such insolvency rule is found in section 329 of the Companies Act (Cap. 50). Section 329 provides for the unwinding of transactions such as transactions at an undervalue[26], unfair preferences[27] and extortionate credit transactions[28]. It would be undesirable if a payment or settlement of instructions in a payment system could be set aside as being such a transaction.

6.7 Section 329 of the Companies Act (Cap.50) states that in the event of a company being wound up, any transfer, mortgage, delivery of goods, payment, execution or other act relating to property made or done by or against the company shall be void or voidable if, had it been made or done by or against an individual, it would have been void or voidable in his bankruptcy as a transaction at an undervalue, an unfair preference or an extortionate credit transaction.

6.8 Such transactions entered into by the company may be challenged if they were made within the following periods before the commencement of the winding up of the company: 5 years (in the case of a transaction at an undervalue), 2 years (in the case of an unfair preference which is not a transaction at an undervalue and which is given to an associate), 6 months (in any other case of an unfair preference which is not a transaction at an undervalue)[29] and 3 years (in the case of an extortionate credit transaction)[30]. The effect of these provisions is that transactions effected through payment systems one to two years before the commencement of the winding up of a participant can be unwound as being transactions at an undervalue, unfair preferences or extortionate credit transactions.

[26] Section 329 which applies sections 98, 100, 101 and 102 of the Bankruptcy Act (Cap. 20).
[27] Section 329 which applies sections 99, 100, 101 and 102 of the Bankruptcy Act.
[28] Section 329 which applies section 103 of the Bankruptcy Act.
[29] Section 100 of the Bankruptcy Act.
[30] Section 103 of the Bankruptcy Act.

Disclaimer of onerous property

6.9 Apart from the unwinding of prior transactions, insolvency law contains rules[31] which allow a liquidator to disclaim onerous property. When a contract is disclaimed, it brings to an end the insolvent party's rights, interests and liabilities in the contract. Onerous property is an unprofitable contract or property of the insolvent party that is unsaleable or not readily saleable, or which may give rise to a liability to pay money or to perform an onerous act. In the context of payment systems, uncertainty arises if the liquidator is allowed to "cherry-pick" among contracts such that he is able to disclaim contracts that were unfavourable, for example, those where the insolvent party would be required to pay out, but enforce the ones that were favourable to the insolvent party. To avoid this, it is necessary for the legal framework to curtail the liquidator's power to "cherry-pick".

Zero hour rule

6.10 Another insolvency rule which may result in the avoidance of transactions effected through a payment system is the zero hour rule. The effect of the zero hour rule is that when an event is specified to have occurred on a particular day, that event takes place at the earliest point in time after midnight on the commencement of that day. For instance, if a court orders the winding up of a company at 2 pm on a particular day, the winding up is deemed to commence at one second past midnight on the day that the order is made. Therefore, any transactions entered into by the company before 2 pm that day can be rendered void.

6.11 The zero hour rule, if applied to a winding up of a participant in a payment system, can produce catastrophic results. For example, since section 259 of the Companies Act (Cap.50) renders void any disposition of property by a company after the commencement of winding up, the zero hour rule would require the unwinding of payments made during the course of the day on which the winding up commences.

6.12 The issue that merits consideration is whether the zero hour rule applies in Singapore. In Australia, the zero hour rule has been given legislative recognition in section 57A of the Bankruptcy Act 1966[32]. However, in

[31] Section 110 of the Bankruptcy Act and section 332 of the Companies Act

[32] Section 57A of the Australian Bankruptcy Act 1966 reads:
"Time at which person becomes bankrupt on debtor's petition

Singapore, both the Bankruptcy Act (Cap.20) and Companies Act do not have a similar provision. For bankruptcy cases, section 77(1) of the Bankruptcy Act provides that the restriction on disposition of property by the bankrupt applies during the period beginning with the day of the presentation of the bankruptcy petition and ends on the making of the bankruptcy order. As there is no definition of "day" in the Bankruptcy Act or Interpretation Act (Cap. 1), it cannot be argued that "day" refers to the first instant of the day at one second after midnight. In the absence of clear words similar to those in section 57A of the Australian Bankruptcy Act, the better interpretation of section 77(1) is that the relevant period begins from the time the bankruptcy petition is presented. In the case of corporate insolvency, section 255(2) of the Singapore Companies Act states that the winding up of a company shall be deemed to have commenced at the time of the presentation of the petition of the winding up. Therefore, dispositions of property are void under section 259 of the Companies Act from the time the petition is presented and not at the zero hour. In view of the foregoing, it would appear that the zero hour rule is not applicable in Singapore.

6.13 However, such an interpretation presents a practical difficulty. A court when making an order for winding up does not record the actual time in the order. Only the date of making the order is recorded. As the time is not recorded with precision, it is open for another court to apply the zero hour rule. This gives rise to uncertainty.

6.14 Therefore, for the avoidance of doubt, it would be desirable for the legal framework to have a provision which expressly avoids the application of the zero hour rule. It is pertinent to note that the Banking Act (Cap.19) contains such a provision[33].

"57A. Where, after the commencement of this section, a person becomes a bankrupt by virtue of the presentation of a debtor's petition, the person shall, for the purposes of this Act, be deemed to become a bankrupt at the first instant of the day on which the petition is accepted by the Registrar.".

[33] The relevant provision is section 59A(7) of the Banking Act. It reads:

"Notwithstanding the provisions of any written law relating to the winding up of companies, where —

(a) proceedings are commenced for the winding up of a participant;

(b) an entry or payment referred to in subsection (5) is made through the designated system at any time on the day on which the proceedings commenced; and

(c) the entry or payment involves the payment of money by the participant,

the payment has the same effect it would have had if the proceedings had commenced on the next day.".

(b) Enforceability of netting arrangements in payment systems

6.15 For payment systems which settle transactions on a net basis, it is critical that the netting arrangements are enforceable. Uncertainty about the enforceability of netting arrangements arises because of the application of the pari passu rule in insolvency proceedings and also because of the liquidator's statutory power to "cherry-pick".

6.16 The pari passu causes doubt because of the risk that a netting arrangement may breach the rule. This rule is enshrined as a fundamental principle of insolvency law. It provides that in insolvency proceedings, unsecured creditors are to rank equally and if there are insufficient assets to satisfy all the claims, they will each receive a pro rata share of the pool of funds.[34] One important exception to this rule is the bilateral right of set-off in the winding up of a company[35].

6.17 Under common law, an arrangement which violates the pari passu rule is liable to be struck down as being contrary to public policy. One of the most significant cases is *British Eagle & International Airlines Ltd* v *Compagnie National Air France*[36] *("British Eagle").* The facts are these. British Eagle was a member airline of the International Air Transport Association (IATA) which conducted a clearing arrangement for its members. The IATA rules required a member issuing a ticket for transportation over routes operated by another member to pay the appropriate costs through the clearing arrangement. These payments were to be in substitution for payments *inter partes.* Payments by the clearing organisation were made to member airlines on a net basis every month. British Eagle went into liquidation and its liquidator brought action against another member, seeking to recover the net balance owed to British Eagle.

6.18 The House of Lords held, by a majority, that the liquidator could recover those debts which had not been cleared prior to the commencement of the winding up. It was further held that the clearing arrangement amounted to an attempt to contract out of the pari passu rule[37] since the members would obtain priority over other unsecured creditors and thus was contrary to public policy.

[34] In Singapore, the pari passu rule is contained in section 300 of the Companies Act (Cap.50). It provides that the property of a company on its winding up shall be applied pari passu in satisfaction of its liabilities.
[35] Section 88 of the Bankruptcy Act.
[36] [1975] 2 All E.R. 390.
[37] The pari passu rule is contained in section 302 of the UK Companies Act.

6.19 As bilateral set-off is statutorily allowed[38], the effect of the decision in *British Eagle* is arguably that any arrangement which attempts to structure a form of multilateral set-off, not being sanctioned by statute, may be treated as an attempt to evade insolvency law[39] and is therefore void as contrary to public policy in that it leads to an outcome contrary to the pari passu rule. This uncertainty in multilateral netting arrangements is intolerable when much is at stake. If participants in a payment system manage their risk exposures based on the net amounts of funds they owe and are owed in the system, then in the event that a participant fails and the multilateral netting arrangement is subsequently found not to be legally enforceable, the surviving participants may face credit and liquidity exposures based on the gross amounts receivable and payable, and these exposures can be unmanageable.[40] To address this uncertainty, it is critical for the legal framework to provide that the netting arrangement in a payment system is enforceable and binding on all the parties.

6.20 Apart from the pari passu rule, the liquidator's statutory right to disclaim onerous property[41] in insolvency proceedings also raises doubt as to the enforceability of netting arrangements. Uncertainty arises if the liquidator is able to disclaim a netting arrangement as onerous property. To avoid such a consequence, it is important that the law expressly enforces netting arrangements.

(c) Enforceability of close-out netting

6.21 In the event of a failure of a participant, it is envisaged that the operator of the payment system would want to terminate and close out the participant's account and be entitled to net the long positions in the account against the short positions so that the combined long and short positions are regarded as a single net balance. The operator would want to have a claim or an obligation, as the case may be, to receive or pay only the net balance on the account. This is commonly known as "close-out netting".

[38] See n. 35, above.
[39] Alan L. Tyree, "Legal Problems of Clearing and Settlement". This paper can be found at http://www.law.usyd.edu.au/~alant/banklaw.html.
[40] See n. 3, above, at 53.
[41] For a discussion of the liquidator's statutory right to disclaim onerous property, see paragraph 6.9 of this Paper.

6.22 The common law has long recognised the principle of mutual set-off between an insolvent company and its creditors. Liquidators and creditors set-off the debts so that only the net amount becomes payable or provable, as the case may be, in the liquidation. This important principle has been codified in section 88 of the Bankruptcy Act (Cap.20) as applied to corporations by virtue of section 327(2) of the Companies Act (Cap.50). The relevant issue here in relation to payment systems is whether the operator can rely on section 88 to terminate and close-out an insolvent participant's account and net the positions in the account.

6.23 In the case of a payment system involving several participants, it is unlikely that the operator of the payment system is able to rely on the principle of mutual set-off in section 88 as the long and short positions in the participant's account cannot be said to be "mutual credits, mutual debits or other mutual dealings"[42] between the participant and the operator. In *Re Cushlaw Ltd.*[43], Vinelott J. said that "it is trite law that for debts and credits to be mutual they must be between the same parties and in the same right …". In a payment system, the short positions in a participant's account are not obligations owed to the operator, but to other participants in the payment system with which the insolvent participant had entered into financial transactions. The operator has no control over the funds in the account and holds the values in the account for the benefit of the participants in the payment system.

6.24 To address this issue, it is pertinent for the law to expressly provide that the operator is able to net the obligations such that the net amount becomes payable. Such an approach is taken in the Banking Act (Cap.19)[44].

[42] See n. 23, above, at para 7-40. According to Philip R. Wood, the insolvency clause requires mutuality. This means that in general before the insolvency date of the debtor, each claimant must be clearly and beneficially entitled to the claim owed to him by the other and each claimant must be personally liable on the claim he owes. The claims must be owed between the same persons in the same right.

[43] [1979] 3 All E.R. 415 at 422.

[44] The relevant provision is section 59A(6) of the Banking Act. It reads:

"Notwithstanding the provisions of any written law relating to the winding up of companies, including but not limited to sections 61 and 62, if proceedings for the winding up of a participant of a settlement system have commenced —

(a) the Authority may do anything permitted or required by the rules of the settlement system in order to net obligations incurred before or on the day on which the proceedings commenced;

(b) the obligations that are netted under the rules of the settlement system shall be disregarded in the proceedings; and

the netting made by the Authority and any payment made by the participant under the rules of the settlement system shall not be voidable in the proceedings.".

PART 7
INTERNATIONAL POSITION

7.1 In recent years, many countries have taken steps to ensure the legal efficacy of their payment systems and netting arrangements. We discuss below the developments in the United Kingdom, Australia, the United States of America and Canada. London, Sydney, New York and Vancouver are major financial centres. In order for Singapore to be internationally competitive as a financial centre, it would be desirable to peg our standards with the standards of these financial centres.

7.2 Annex C consists of a comparative table of the legal developments in these countries.

United Kingdom

7.3 In the United Kingdom, the Financial Markets and Insolvency (Settlement Finality) Regulations 1999 ("Settlement Finality Regulations")[45] were implemented to comply with the Directive on Settlement Finality in Payment and Securities Settlement Systems by the European Parliament and the Council of Ministers ("the Directive")[46]. The Directive is aimed at reducing systemic risk in payment and securities settlement systems.

7.4 In line with the Directive, the Settlement Finality Regulations ensure that in the case of payment and securities settlement systems based on netting, the netting is legally enforceable and binding on third parties in the event of insolvency proceedings. The Settlement Finality Regulations also exempt transactions effected in the designated payment and securities settlement systems from the application of certain provisions of the English insolvency law[47]. The Settlement Finality Regulations further provide that in insolvency proceedings, priority is to be given to collateral security pledged by participants as a guarantee in case of failure[48].

Scope of legislation

7.5 The Settlement Finality Regulations apply to any payment system or securities settlement system designated by the designating authority as a

[45] 1999 No. 2979. The Settlement Finality Regulations came into operation on 11 December 1999.
[46] Directive 98/26/EC. The Directive was adopted on 28 April 1998.
[47] Regulations 14, 16, 17, 20 and 22.
[48] Regulation 14(6).

designated system. For purposes of this Joint Paper which focus is on payment systems, the discussion here will relate to transactions effected through payment systems only.

Finality of settlement and payments

7.6 The Settlement Finality Regulations provide that the rules of a designated system are not invalid at law on the ground of inconsistency with the English insolvency law.[49] Further, it is expressly provided that the insolvency rules relating to the power of a liquidator to "cherry-pick" by disclaiming onerous property and the court's power to order rescission of contracts do not apply to transfer orders[50]. In addition, a transfer order or disposition of property in pursuance of a transfer order cannot be set aside on the ground that it is a preferential transaction under which the participant intends to confer a preferential position on the other participants with which it is dealing, or a transaction at an undervalue or a transaction defrauding creditors.[51]

7.7 The Settlement Finality Regulations further provide that the insolvency rules relating to the avoidance of property dispositions effected after the commencement of winding up or presentation of bankruptcy petition do not apply to transfer orders or dispositions of property in pursuance of transfer orders[52]. This ensures that if the zero hour rule applies and the winding up is deemed to commence at the earliest point after midnight or the presentation of bankruptcy petition is deemed to take place at the earliest point after midnight, any transfer order or disposition of property in pursuance of such an order made after the zero hour will not be avoided.

7.8 The modifications to the English insolvency law as set out in the Settlement Finality Regulations do not apply to transfer orders that are effected in the designated system after the court has made an insolvency order in respect of a participant to the designated system or after a participant has passed a creditors' voluntary winding-up resolution, unless the transfer order is carried out on the same day as the making of the insolvency order or the passing of the creditors' voluntary winding-

[49] Regulation 14(1).
[50] Regulation 16.
A "transfer order" in relation to a payment system is defined in Regulation 2 as an instruction by a participant to place at the disposal of a recipient an amount of money by means of a book entry on the accounts of a credit institution, a central bank or a settlement agent, or an instruction which results in the assumption or discharge of a payment obligation as defined by the rules of a designated system.
[51] Regulation 17.
[52] Regulation 16(3).

up resolution, and the settlement agent, central counterparty or clearing house can show that it did not have notice of the making of the insolvency order or the passing of the creditors' winding-up resolution at the time of settlement of the transfer order.[53]

Enforceability of netting arrangements

7.9 The issue on the enforceability of netting arrangements in a payment system is addressed in the Settlement Finality Regulations by providing that the rules of a designated system are not invalid at law on the ground of inconsistency with the English insolvency law.[54]

Enforceability of close-out netting

7.10 The Settlement Finality Regulations provide that the obligations arising from default arrangements in a designated system are provable as a debt in insolvency proceedings.[55] Default arrangements are defined as the arrangements put in place by a designated system to limit systemic and other types of risk which arise in the event of a participant appearing to be unable, or likely to become unable, to meet its obligations in respect of a transfer order, including arrangements for netting or the closing out of open positions.[56]

Australia

7.11 Australia recognises the importance of protecting the integrity and stability of financial payment systems as being essential to having a sound financial management system. The Payment Systems and Netting Act 1998 ("PSNA")[57] was introduced to immunise certain transactions from the provisions of the Corporations Act that can operate to render the transactions void or voidable in insolvency and from the application of the zero hour rule. The PSNA is intended to support financial payment systems which objective is to reduce settlement risk.

[53] Regulation 20.
[54] Regulation 14(1).
[55] Regulation 15.
[56] Regulation 2.
[57] Act no. 83 of 1998 as amended. The PSNA came into operation on 2 July 1998

Scope of legislation

7.12 The PSNA applies to RTGS payment systems, multilateral netting arrangements[58], close-out netting contracts[59] and market netting contracts[60]. In the case of RTGS payment systems and multilateral netting arrangements, the protection accorded in the PSNA is available only to approved RTGS payment systems and approved multilateral netting arrangements. The approval may be given by the Reserve Bank of Australia only if it is satisfied that certain considerations[61] are met.

Finality of settlement and payments

7.13 The PSNA expressly preserves the validity of market netting contracts in the event that a party to the contract goes into external administration. It provides that despite any other law, the netting or termination of obligations under a market netting contract, the payment by a party to discharge a net obligation under the contract and a payment or transfer to meet an obligation to pay a deposit or margin will not be void or voidable[62]. This is intended to immunise the settlement of payment obligations in a payment system from any attack in the event that a participant becomes insolvent.

7.14 The PSNA avoids the application of the zero hour rule to any payment or settlement transaction executed through an approved RTGS payment system by providing that despite any other law, if a participant goes into external administration, any transaction executed through the approved RTGS payment system will be treated as having the same effect it would have had if the participant had gone into external administration the next day[63].

[58] Section 5 defines a "multilateral netting arrangement" as an arrangement that has more than two parties and under which the obligations owed by the parties to each other are netted.

[59] "Close-out netting contract" is defined in section 5 to mean:

(a) a contract under which, if a particular event happens, particular obligations of the parties terminate or may be terminated, the termination values of the obligations are calculated or may be calculated, and the termination values are netted or may be netted so that only a net cash amount is payment; or

(b) a contract declared by the regulations to be a close-out netting contract for the purposes of the Act.

[60] Section 5 defines a "market netting contract" as:

(a) a contract entered into in accordance with the rules that govern the operation of a netting market and under which obligations between parties to the contract are netted; or

(b) a contract declared by the regulations to be a market netting contract for the purposes of the Act.

[61] For RTGS payment systems, see section 9. For multilateral netting arrangements, see section 12.

[62] Section 16.

[63] Section 6.

Enforceability of netting arrangements

7.15 The PSNA provides that despite any other law, the netting of payments made by a party to a multilateral netting system to discharge a net obligation will not be void or voidable in the event that the party goes into external administration[64]. This overcomes the majority decision in *British Eagle* that clearing house rules are void on public policy grounds because they are inconsistent with the equality of treatment of creditor principle in winding up proceedings[65].

Enforceability of close-out netting

7.16 The PSNA provides that despite any other law, the termination of obligations, netting of obligations and payments made to discharge a net obligation under a close-out netting contract will not be void or voidable in the event that a party to the contract goes into external administration[66].

United States of America

7.17 In the United States, the Bankruptcy Code[67], the Federal Deposit Insurance Act ("FDIA") and the Federal Deposit Insurance Corporation Improvement Act of 1991[68] ("FDICIA") contain provisions that are designed to exempt certain financial transactions from the ordinary operation of certain insolvency rules.[69] The financial transactions that are covered include swaps, options, repurchase agreements, futures and forward contracts, all commonly referred to as derivatives[70]. The

[64] Section 10.
[65] For a discussion of the decision in *British Eagle*, see paragraphs 6.18 to 6.20 of this Paper, above.
[66] Section 14.
[67] Chapter 5, 11 U.S.C.
[68] Chapter 45, 12 U.S.C.
[69] Soo J. Yim and William J. Perlstein, Partners of Wilmer, Cutler & Pickering, "The Effect of Proposed Amendments to U.S. Insolvency and Banking Laws on Transactions involving Securities, Commodities and Other Financial Contracts" (1 February 2001) at 2.
[70] *Ibid.* See also the Bankruptcy Policy Paper dated 30 January 1998 issued by The Bond Market Association titled "Financial Transactions Involving Insolvent Parties: Problems, Examples and Explanations" which can be found at http://www.bondmarkets.com/legislative/policy05.shtml. It is reported therein that the term "derivatives" generally refers to securities, contracts or other financial products whose market or trading value is "derived" from the value of one or more underlying assets, securities or variables. Derivatives are commonly used by securities issuers and investors to hedge and manage risk, increase rates of return on investments and lower capital financing costs. A forward contract is an agreement between two parties for the sale and purchase of a commodity or security at a specified price for delivery on a pre-determined future date. It is a customised, private agreement and not traded on an exchange. A futures contract is an agreement between two parties for the sale and purchase of a commodity or financial product at a particular price on a pre-determined future date. Unlike a forward contract, it is executed anonymously between parties in commodity exchanges under

Financial Contract Netting Improvement Act of 2001 ("FNCIA")[71] contains proposed amendments to the Bankruptcy Act, FDIA and FDICIA. The objectives of the FNCIA are to clarify the existing law, harmonise, as appropriate, the provisions of the Bankruptcy Code, FDIA and FDICIA, bring the existing legislation up to date with advances in the financial markets and increase market liquidity.[72]

Scope of legislation

7.18 Unlike the legislation in UK, Australia and Canada, the Bankruptcy Code, FDIA and FDICIA do not extend protection to payment systems in particular. Neither does the US legislation provide for the designation of a payment system as a condition precedent for the application of the statutory protection. Instead, the Bankruptcy Code and FDIA protect agreements which fall under one of five statutory definitions: securities contracts, forward contracts, commodity contracts, repurchase agreements and swap agreements, collectively referred to as "Protected Financial Contracts" (PFCs) in the Bankruptcy Code and "Qualified Financial Contracts" (QFCs) in the FDIA. The FDICIA extends protection to netting agreements between financial institutions and netting agreements of clearing organisations.

Finality of settlement and payments

7.19 The issue on finality of settlement and payments is addressed in the Bankruptcy Code. Under the Bankruptcy Code, the following financial contracts are exempted from the trustee's general powers of avoidance:

(a) pre-petition margin payments or settlement payments made by or to a commodity broker, forward contract merchant, stockbroker, financial institution[73], or securities clearing agency[74];

highly standardised terms and conditions. An option is a contract that gives a party the right, not the obligation, to purchase or sell a given commodity or security on a certain future date. This "right" is purchased for an agreed-upon sum. The Bankruptcy Code definition of "swap agreement" encompasses many types of agreements. One of the most common swap agreements is an interest rate swap agreement. In an interest rate swap agreement, two parties agree to exchange payments based on fixed and variable interest rates. The purpose of such an agreement is to hedge against fluctuations in interest rates. A repurchase agreement is a contract to sell an asset in conjunction with an agreement by the seller to repurchase the asset at a later date. It is essentially a combination of a sales agreement and a forward contract.

[71] H.R. 11. The FNCIA was introduced in the House of Representatives on 3 January 2001.

[72] See n. 69, above, at 2.

[73] The FCNIA seeks to extend the definition of "financial institution" in section 409 of the FDICIA to include the operator of a multilateral clearing organisation.

[74] Section 546(e).

(b) pre-petition margin payments or settlement payments in connection with a repurchase agreement[75];

(c) pre-petition margin payments or settlement payments in connection with a swap agreement[76].[77]

The FNCIA proposes to add a new provision[78] to the Bankruptcy Code to protect master netting agreements from the trustee's avoidance powers. A master netting agreement is an agreement providing for the exercise of rights, including rights of netting, set-off, liquidation, termination, acceleration, or close-out, under or in connection with one or more PFCs or any security agreement.

7.20 The FDIA is also instructive on the issue of finality of settlement and payments. Under the FDIA, the Federal Deposit Insurance Corporation (FDIC), in its capacity as receiver or conservator, may avoid fraudulent conveyances[79] and preferences[80]. The FCNIA proposes to amend the FDIA by exempting QFCs with an insured depository institution from the FDIC's avoidance powers (unless the transferee had an intention to hinder, delay or defraud creditors). Further, the FNCIA proposes to eliminate the conservator or receiver's power under FDIA to cherry-pick among the debtor depository institution's QFCs[81].

Enforceability of netting arrangements and close-out netting

7.21 Of particular relevance to payment system risk reduction is the FDICIA. The objectives of the FDICIA are twofold – firstly, to promote the efficient processing of transactions among financial institutions; and secondly, in recognition that netting contracts among financial institutions reduce systemic risk within the banking system and financial markets, to protect netting agreements between financial institutions and netting agreements of clearing organisations.[82]

[75] Section 546(f).
[76] Section 546(g).
[77] It is noted that the exceptions to the trustee's avoidance powers as provided in section 546(e), (f) and (g) further protect "constructively" fraudulent transfers where the debtor did not receive reasonably equivalent value in section 548(a)(1)(B), but do not protect from avoidance transfers made with actual fraudulent intent. See n. 69, above, at 32-33 and 39.
[78] New section 546(j).
[79] Section 1821(d)(17)(A).
[80] Section 1821(c)(2)(B), (c)(3)(B) and (c)(9)(A).
[81] Section 1821(e)(1).
[82] See n. 69, above, at 103.

7.22 Sections 401 to 407 of the FDICIA accord special treatment to netting provisions contained in netting contracts between financial institutions and in the netting contracts of clearing houses in the event that one of the parties becomes the subject of insolvency proceedings.

7.23 Section 403 provides that notwithstanding any other provision of law, payment obligations and payment entitlements between two financial institutions shall be netted in accordance with the conditions of the netting contract (bilateral netting). Section 404 provides that notwithstanding any other provision of law, the payment obligations and payment entitlements of a member of a clearing house shall be netted in accordance to the conditions of the netting contract (clearing organisation netting). Further, the only payment obligation is the net obligation and the only payment entitlement is the net entitlement. The net entitlement (if any) of the failed financial institution must be paid to it in accordance with the netting contract.

7.24 Section 405 provides that no stay, injunction, avoidance, moratorium or similar proceeding or order may limit or delay the application of such netting contracts.

Canada

7.25 In Canada, the relevant legislation is the Payment Clearing and Settlement Act 1998 ("PCSA")[83]. The PCSA is designed to address three important areas. It:

(a) gives the Bank of Canada formal and explicit responsibility for the regulatory oversight of major clearing and settlement systems with a view to controlling systemic risk;

(b) provides greater certainty to the operation of netting arrangements and the settlement rules of clearing and settlement systems and gives certain protection from legal challenges based on insolvency rules; and

(c) provides the Bank of Canada with powers that can be used in its dealings with clearing and settlement systems.[84]

[83] The PCSA came into operation on 31 July 1996.
[84] See n. 3, above, at 58.

Scope of legislation

7.26 The protection in the PCSA applies only to clearing and settlement systems that are designated by the Bank of Canada ("designated clearing and settlement system"). A clearing and settlement system may be designated if the Governor of the Bank of Canada thinks that the system may be operated in a manner as to pose a systemic risk and the Minister of Finance is of the opinion that it is in the public interest to so designate.[85]

Finality of settlement and payments

7.27 The PCSA provides that notwithstanding any law, the settlement rules of a designated clearing and settlement system are valid and binding on all the parties involved.[86] Further, where the settlement rules provide so, the settlement of a payment through an entry to or a payment out of an account of a participant, clearing house or central counter-party at the Bank of Canada is final and irrevocable and the entry or payment shall not be required to be reversed, repaid or set aside.[87] The PCSA also provides that the entry or payment shall not be the subject of any provision or order that operates as a stay of that activity.[88]

Enforceability of netting arrangements

7.28 The PCSA provides that the obligation of a party to make payment to a participant and the right of a party to receive payment from another shall be netted and a net settlement or close-out amount shall be determined in accordance with the settlement rules if they so provide.[89]

Enforceability of close-out netting

7.29 The PCSA provides that notwithstanding anything in any law relating to bankruptcy or insolvency or any court order made pursuant to an administration, reorganisation, arrangement or receivership involving insolvency, where a financial institution or the Bank of Canada is a party to a netting agreement, the financial institution or the Bank of Canada may terminate the agreement and determine a net termination value or net settlement amount in accordance with the provisions of the

[85] Section 4(1).
[86] Section 8(1)(a).
[87] Section 8(1)(c).
[88] Section 8(2).
[89] Section 8(1)(b).

agreement. This net value or amount is payable to the party entitled to it.[90]

Conclusions derived from comparative study

7.30 From the comparative study, it is clear that the creation of exceptions in insolvency law is an accepted international practice. In fact, in many jurisdictions, this is regarded as critical enough to be provided in legislation. The relevant legislation in these jurisdictions contains a number of common features. It is concerned with the finality of settlements and payments as well as the validity of netting arrangements. In most jurisdictions (an exception is the US), the legislation provides for the designation of payment systems and accords protection from insolvency law only in regard to designated systems. With the exception of Canada, the oversight of payment systems is also not dealt with in the same legislation.

7.31 However, the types of financial systems and instruments that may be accorded statutory protection vary from jurisdiction to jurisdiction. The relevant UK legislation covers not only payment systems but also securities settlement systems. The UK legislation even goes further to protect collateral security pledged by participants. The relevant Canadian legislation provides protection for clearing and settlement systems in general. The relevant Australian legislation not only applies to RTGS payment systems but also to multilateral netting arrangements, close-out netting contracts and market netting contracts. On the other hand, the relevant US legislation does not extend protection to any financial system in particular; instead it protects financial contracts, namely securities contracts, forward contracts, commodity contracts, repurchase agreements and swap agreements. It also protects netting agreements.

[90] Section 13.

PART 8
NEED FOR REFORM

Present position

8.1 Section 59A of the Banking Act (Cap. 19) provides for the finality of payments made through the RTGS system operated by MAS. Under the RTGS system, payment instructions between banks are processed and settled individually and continually during the day, subject to the paying bank having sufficient funds in its current account maintained with MAS. Once settled, section 59A provides that the payment is final and irrevocable.[91]

8.2 Section 59A is not wide enough to cover payment systems that are not operated by MAS. Payment systems such as the CLS system are not operated by MAS, but by an operator (for example, the CLS Bank).

Need to avoid systemic disruption and risk

8.3 In view of the risks involved, especially systemic risk, payment systems should have a legal framework that sets out the rights and responsibilities of all parties in various contingencies. Legal risk arises if there is uncertainty as to the outcome in any particular situation affecting a payment system because each party's rights and responsibilities are not clearly delineated. An example of legal risk relates to the legal validity of netting arrangements in certain payment systems. It would not be desirable to leave it to the court to decide on the status of such arrangements on a case by case basis.

International trends

8.4 Many countries have enacted legislation to clarify their legal position. By doing so, they not only reduce possible risks for parties to payment systems and netting arrangements, but also remove an impediment to the international competitiveness of their local financial institutions[92]. Notable reforms have been made in Australia, Canada, the United Kingdom and the United States[93].

[91] See Banking (Amendment) Bill, Parliamentary Debates 1998, Volume No. 69, Column 240.
[92] Netting Sub-Committee of the Companies and Securities Advisory Committee of Australia, *Final Report on Netting in Financial Markets Transactions* (June 1997) at para 4.1.
[93] See Part 7, above, for a discussion of the legislative developments in these countries.

Singapore as a major financial centre

8.5 To enhance Singapore's position as a major financial centre, the international competitiveness of her financial institutions is paramount. Legal certainty as to the status of the transactions effected through payment systems and netting arrangements would most certainly boost Singapore's international standing as a financial hub.

PART 9
RECOMMENDATION FOR LAW REFORM

Enactment of a new Payment and Settlement Systems (Finality and Netting) Act

9.1 We recommend the enactment of a new Payment and Settlement Systems (Finality and Netting) Act to ensure the finality and irrevocability of the transactions effected through the designated payment systems by "carving out" the relevant insolvency rules (including the possible application of the zero hour rule) and to provide for the enforceability of netting arrangements in payment systems.

9.2 Annex D contains a draft Payment and Settlement Systems (Finality and Netting) Bill for consideration.

Explanatory notes on the Payment and Settlement Systems (Finality and Netting) Bill

9.3 The Payment and Settlement Systems (Finality and Netting) Bill seeks to make provision for the legal protection of payment systems. Proper regulation of such systems is critical to the effective functioning of the whole financial system. The Bill provides a conducive environment for the operation of stable and secure payment systems by empowering the Monetary Authority of Singapore (MAS) to designate systemically important payment systems and these designated systems will be exempted from the application of the various rules under the law of insolvency.

Short title and commencement

9.4 Clause 1 relates to the short title and commencement of the Bill.

Interpretation

9.5 Clause 2 provides for the interpretation of certain terms to be used throughout the Bill.

9.6 Clause 3 empowers MAS to designate a system as a designated system in the prescribed manner, subject to such terms and conditions as it thinks fit.

Application of Part II

9.7 Clause 4 relates to the extent of application of Part II of the Bill. Part II deals with transactions effected through a designated system and will apply only to transactions or class of transactions cleared or settled in the designated system to such extent as may be prescribed by MAS.

Transactions effected through designated system are final and irrevocable

9.8 Clause 5 provides that in accordance with the rules of a designated system, transactions effected through the designated system are final and irrevocable. Such transactions shall not be reversed, repaid or set aside, and no order shall be made by any court for the rectification or stay of such transactions.

Proceedings of designated system shall take precedence over law of insolvency

9.9 Clause 6 relates to the proceedings of a designated system including transfer orders, default arrangements of a designated system and rules of a designated system as to the settlement of transfer orders not dealt with under its default arrangements.

9.10 Sub-clause (1) provides that such proceedings shall not be invalid at law on the ground of inconsistency with the law of insolvency.

9.11 Sub-clause (2) forbids a relevant office holder or a court applying the law of insolvency in Singapore from exercising its power to prevent or interfere with the proceedings of the designated system.

Disclaimer of property

9.12 Clause 7 provides that the law of insolvency enabling the disclaimer of onerous property in insolvency proceedings shall not apply to the specified matters or proceedings involving a designated system.

Adjustment of prior transactions

9.13 Clause 8 provides that the law of insolvency enabling the adjustment of prior transactions in insolvency proceedings shall not apply to the specified matters or proceedings involving a designated system. In

particular, it seeks to prevent the setting aside of any transaction effected through a designated system before the commencement of insolvency proceedings on the ground that it is a transaction at an under-value, unfair preference, an extortionate credit transaction or a transaction defrauding creditors.

Netting

9.14 Clause 9 allows the operator of a designated system to net obligations incurred before or on the day a participant undergoes insolvency proceedings such that a net amount becomes payable.

Insolvency not to affect transactions carried out on day of winding up, etc.

9.15 Clause 10 exempts the payment of money or transfer of asset by a participant from the application of the zero hour rule in the event that the participant is subject to insolvency proceedings. It provides that the payment or transfer has the same effect it would have had if the insolvency proceedings had commenced on the next day.

Law of insolvency in other jurisdictions

9.16 Clause 11 provides that a court in Singapore shall not recognise or give effect to an order of a foreign court made under foreign laws of insolvency or an act of a person appointed outside Singapore to perform a function under foreign laws of insolvency insofar as such order or act would be prohibited under this Bill for a court in Singapore or a relevant office holder.

Power to make regulations

9.17 Clause 12 empowers MAS to make regulations for carrying out the purpose and provisions of the Bill and for the due administration thereof.

Transitional provisions

9.18 Clause 13 empowers MAS to prescribe transitional, savings or other consequential provisions by way of regulations.[94]

[94] It is intended that the Bill will apply to any payment system or clearing and settlement system established and operated by MAS under section 59A of the Banking Act. MAS and the Attorney-General's Chambers are working on the consequential amendments to give effect to this intention.

Securities clearing and settlement

9.19 It is pertinent to note that similar issues relating to commercial securities clearing and settlement are already dealt with in the SFA[95].

9.20 Section 69 of the SFA provides that the proceedings of a clearing house take precedence over the law of insolvency. Section 73 provides that the law of insolvency enabling the disclaimer of onerous property or rescission of contracts in insolvency proceedings shall not apply to the specified matters or proceedings involving a clearing house. Section 74 provides that the law of insolvency enabling an adjustment of prior transactions in insolvency proceedings shall not apply to the specified matters or proceedings involving a clearing house.

9.21 Further, section 72 provides that the net sum payable on completion of default proceedings shall be provable or taken into account in bankruptcy or winding up proceedings. Default proceedings are proceedings or other action taken by a clearing house under its default rules[96].

[95] See Part III Division 3 on Clearing House and Insolvency.

[96] Section 49(1) of SFA.
"Default rules" are defined in the same subsection as the business rules of a clearing house which provide for the taking of proceedings or other action if a participant has failed, or appears to be unable, or likely to become unable, to meet its obligations for all unsettled or open market contracts to which he is a party.

PART 10
CONCLUSION

10.1 Given that there is a strong case for law reform to overcome the legal issues set out at Part 6, the approach that law reform should take would be to permit certain kinds of financial arrangements to operate according to their terms without interference from insolvency law.

10.2 Our recommendation for a new Payment and Settlement Systems (Finality and Netting) Act provides an omnibus solution to the legal uncertainty that surrounds the operation of any payment system. Although one of the immediate benefits of the legislation is the provision for the implementation of the CLS system in Singapore, it is envisaged that with the continuing advancement of technology, greater competition and increased scale and sophistication of financial players, more and better payment systems will enter the financial market. The new Act has the flexibility to provide for future options. With an economical legislation such the new Payment and Settlement Systems (Finality and Netting) Act, we will not be caught flat-footed when new payment systems are introduced. This is essential for Singapore's international recognition and competitiveness as a major financial centre in the world.

Annex A

Case Studies

The following case studies are taken from the Report prepared by the Bank of International Settlements Committee on Payment and Settlement Systems on Settlement Risk in Foreign Exchange Transactions, March 1996.

A. The failure of Bankhaus Herstatt (1974)

On 26 June 1974, the Bundesaufsichtsamt fur das Kreditwesen withdrew the banking licence of Bankhaus Herstatt, a small bank in Cologne and active in the foreign exchange market. Herstatt was ordered into liquidation during the banking day but after the close of the interbank payments system in Germany. Prior to the announcement of Herstatt's closure, several of its counterparties had irrevocably paid Deutsche Mark to Herstatt on that day through the German payments system against anticipated receipts of US dollars later that same day in New York in respect of maturing foreign exchange transactions.

Upon the termination of Herstatt's Business at 10:30 New York time on 26 June (15:30 in Frankfurt), Herstatt's New York correspondent bank suspended outgoing US dollar payments from Herstatt's account. This action left Herstatt's counterparty banks exposed for the full value of the Deutsche Mark deliveries made. Moreover, banks which had entered into forward trades with Herstatt not yet due for settlement lost money in replacing the contracts in the market, and others had deposits with Herstatt.

B. The closure of BCCI (1991)

The appointment of a liquidator to Bank of Credit and Commerce International S.A. (BCCI S.A.) on 5 July 1991 caused a principal loss to UK and Japanese foreign exchange counterparties of the failed institution.

An institution in London was due to settle on 5 July 1991 a dollar/sterling foreign exchange transaction into which it had entered two days previously with BCCI S.A., London. The sterling payment was duly made in London on 5 July. BCCI had sent a message to its New York correspondent on 4 July (a public holiday in the United States) to make the corresponding US dollar payment for value on 5 July. The payment message was delayed beyond the time of the correspondent bank's initial release of payments (at 7 a.m.) by the operation of a bilateral credit limit placed on BCCI's correspondent by the recipient CHIPS (Clearing House Interbank Payments System) member. The payment remained in the queue until shortly before 4 p.m. (New York time) when it was cancelled by BCCI's correspondent, shortly after the correspondent had received a message from BCCI's provisional liquidators in London on the subject of the action it should

take with regard to payment instructions from BCCI London. As a result, BCCI's counterparty lost the principal amount of the contract.

A major Japanese bank also suffered a principal loss in respect of a dollar/yen deal due for settlement on 5 July since yen had been paid to BCCI S.A. Tokyo that day, and the assets of BCCI S.A. in New York State were frozen before settlement of the US dollar leg of the transaction took place.

C. The Barings crisis (1995)

The unforeseen collapse of Barings Brothers at the end of February 1995 caused a problem in the ECU clearing. On Friday, 24 February, one clearing bank had sent an ECU payment instruction addressed to Barings' correspondent for a relatively small amount for value on Monday, 27 February. After the appointment of an administrator to Barings on 26 February, the sending back sought to cancel the instruction, but it found that the rules of the ECU clearing did not permit this. Moreover, the receiving bank was unable to reverse the transaction. As it turned out, the sending back happened to find itself in an overall net debit position in the clearing at the end of the day. Under pressure of time, the bank agreed to cover that position by borrowing from a long bank, thus enabling the settlement of more than ECU 50 billion in payments between the 45 banks participating in the clearing eventually to be completed on the due date.

Annex B

Continuous Linked Settlement (CLS) System

1 Background

1.1 CLS was founded with the objective of eliminating settlement risk that exists in foreign exchange (FX) transactions. To achieve this aim, a "payment-versus-payment" (PvP) system was conceived, that is, both legs of a foreign exchange transaction are paid simultaneously.

1.2 CLS was conceptualised in 1995 when the a group of 20 major FX trading banks called the Group of 20 (G20) got together to consider how the private sector might develop a solution to the problem of settlement risk. In July 1997, the G20 banks formed a UK private company based in London, CLS Services Ltd to develop and build the CLS system. The initial shareholders of CLS Services Ltd were the G20 banks. Now, it has about 70 shareholders comprising the world's largest financial groups throughout the US, Europe and Asia Pacific.

1.3 CLS Bank International (CLS Bank) is a special-purpose bank formed to provide a continuous linked settlement service that simultaneously settles both payments relating to a foreign exchange transaction, thereby eliminating the risk that one payment could be made and the corresponding payment not received. CLS Bank is an Edge corporation organised under the laws of the United States. Edge corporations are banking institutions authorised to conduct international banking operations and regulated by the US Federal Reserve (that is, the Federal Reserve Bank of New York). CLS Bank, which is based in New York, is a wholly owned subsidiary of CLS Group Holdings, incorporated as CLS Services Ltd.

1.4 The CLS Group is currently undergoing a corporate restructuring exercise. In April 2002, its shareholders approved the adoption of a new Swiss holding company of the CLS Group, CLS Group Holdings AG. CLS Group Holdings AG will be the ultimate holding company of the CLS Group. CLS Services Ltd will become a subsidiary of CLS Group Holdings AG and will change its name to CLS UK Holdings Ltd.

2. The CLS process

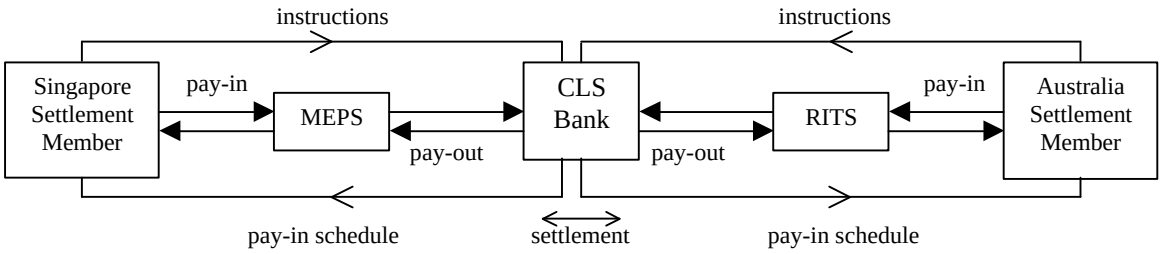

Figure 1

2.1 Figure 1 shows a simple CLS process whereby a Singapore Settlement Member enters into a foreign exchange transaction with an Australia Settlement Member. Settlement Members maintain accounts with CLS Bank in the eligible currencies and can submit trades directly to CLS Bank. Payments from and to Singapore Settlement Members are made via MEPS, the MAS Electronic Payments System, Singapore's national RTGS system. Payments from and to Australia Settlement Members are made via RITS, the Reserve Bank Information and Transfer System, Australia's national RTGS system. CLS Bank has accounts with both MEPS and RITS. Singapore and Australia Settlement Members also have accounts with MEPS and RITS respectively.

2.2 Trades to be settled by CLS can be submitted by the Settlement Members to CLS Bank up until 06:30 CET (Central European Time) for the given settlement day. Based on these instructions, CLS bank generates a pay-in schedule for each member. This schedule contains the net amounts owed, or to be received by, each Settlement Member in each currency, based on the gross positions of each member's instructions to be settled that day.

2.3 Starting at 07:00 CET, each settlement member will be required to fund its account at CLS Bank in stages to cover its currency short positions. Once funding starts, the CLS settlement process will begin and operate continuously. Subject to risk management constraints such as the availability of funds in the relevant accounts at CLS Bank, trades will settle one-by-one by simultaneously debiting the sub-account of the currency being sold and crediting the sub-account of the currency being bought.

2.4 CLS Bank will make pay-outs to members with expected net long positions in stages throughout the process, subject again to risk management constraints at all times (in particular, the requirement that a member's account always has an overall positive balance taking all currencies together). To facilitate settlement, the CLS process will move repeatedly during the settlement cycle between these three tasks: taking in funding, settling eligible transactions, and paying out available funds in accordance with the applicable rules.

2.5 In normal circumstances, settlement members will have zero balances in their CLSB accounts and CLSB will have no funds in its central bank accounts at the end of each day.

3. Other parties

3.1 Apart from Settlement Members, there are other parties which can be involved in the CLS process. They are:

(a) Nostro Agents

Figure 1 describes the CLS process where both CLS Bank and Settlement Members participate directly in the national RTGS systems. Where a Settlement Member is not a participant of its national RTGS system, it will have to effect payments through a nostro agent. A nostro agent is a financial institution that acts as agent for a Settlement Member to facilitate payments from or to such Settlement Member's account in an eligible currency. Nostro agents must have the capability to fund payment orders in favour of CLS Bank.

Figure 2 illustrates a scenario where the Singapore Settlement Member uses a nostro agent with an account in MEPS.

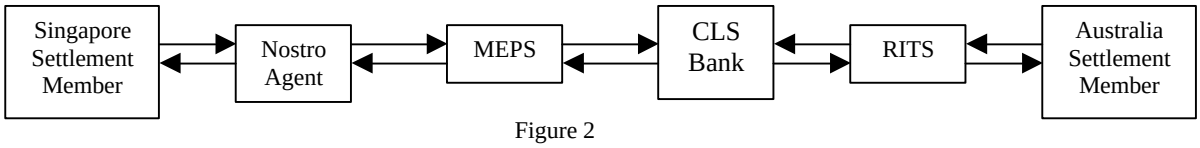

Figure 2

(b) User Members

User Members do not have accounts with CLS Bank. They are able to submit trades directly to CLS Bank, but must rely on a Settlement Member to settle their transactions through the CLS system. Settlement Members must be able to control the credit and liquidity exposures of their User Members.

(c) Third Parties

Third Parties refer to non-members wishing to settle their transactions via the CLS system. They do so through Settlement Members who can carry out settlements on their behalf. Settlement Members must be able to fund the transactions of their Third Party clients.

(d) Liquidity Providers

Liquidity Providers are financial institutions which will be called upon by CLS Bank to provide the necessary funds in emergency situations where a Settlement Member does not meet its settlement obligations. The role of a Liquidity Provider is to ensure a smooth settlement process during the settlement cycle.

(e) Central Banks providing nostro services to CLS Bank

Where CLS Bank is unable to participate directly in the national RTGS system, the Central Bank of the country concerned will step in to provide

nostro services to CLS Bank. The Central Bank participates in the national RTGS system on behalf of CLS Bank.

4. Impact of the CLS system

4.1 Settlement of transactions through the CLS system is expected to have the following consequences:

(a) Elimination of settlement risk

As both legs of a foreign exchange transaction are paid simultaneously, settlement risk will be substantially reduced, if not eliminated.

(b) Less operational risk

As more real time information is available and fewer payments are generated, fewer errors can occur while processing FX transactions. This could lower operational risk.

(c) Reduction of volume of transactions cleared through national RTGS systems

Over time, the CLS system is expected to reduce the volume of transactions cleared through the relevant national RTGS systems.

(d) Increase in intra-day liquidity requirements

The CLS system makes it mandatory for Settlement Members to pay at certain times of the day certain amounts of money in favour of the CLS Bank (pay-in). This will lead to higher demand for intra-day liquidity and better intra-day liquidity management by banks.

Annex C

INTERNATIONAL POSITION (COMPARATIVE TABLE)

	UK	Australia	US	Canada
Approach adopted to address payment system issues	Enacted separate legislation – for compliance with EU Directive 1998 on Settlement Finality in Payment and Securities Settlement Systems.	Enacted separate legislation.	Various legislation in place to address the issues. Proposed amendments to existing legislation to clarify the existing law.	Enacted separate legislation.
Legislation	The Financial Markets & Insolvency (Settlement Finality) Regulations 1999 ("SFR")	Payment Systems & Netting Act 1998 ("PSNA")	(1) Bankruptcy Code (2) Federal Deposit Insurance Act ("FDIA") (3) Federal Deposit Insurance Corporation Improvement Act 1991 ("FDICIA") Proposed amendments to (1), (2) and (3) in the Financial Contract Netting Improvement Act 2001 ("FCNIA").	Payment Clearing & Settlement Act 1996 ("PCSA")
Objectives of legislation	Addresses uncertainty as to the application of insolvency law to transactions effected through payment systems and securities settlement systems.	(1) Allows Reserve Bank to exempt transactions in RTGS systems from the potential application of the zero hour rule. (2) Gives legal certainty to existing multilateral net settlement arrangements approved by the Reserve Bank, such as those for direct-entry and card-based payments. (3) Gives legal certainty to netting	To minimise systemic risk to financial markets by exempting the exercise of self-help remedies under certain financial contracts from certain insolvency rules. In particular, the Bankruptcy Code and FDIA exempt contractual termination, netting and liquidation rights under certain financial contracts from the imposition of an automatic stay on creditor collection actions, the avoidance of contractual termination	General objective is to control risk in financial system and promote the system's efficiency and stability. Specific objectives are as follows: (1) Gives Bank of Canada formal and explicit responsibility for the regulatory oversight of major clearing and settlement systems with a view to controlling systemic risk. (2) Provides greater certainty to

	UK	Australia	US	Canada
		in financial markets so as to enable Australian banks to join multilateral netting schemes aimed at reducing foreign exchange settlement risk. (4) Gives legal certainty to close-out netting contracts.	clauses and the avoidance of transfers or set-offs effected shortly before the bankruptcy that are deemed preferential or constructively fraudulent. FDICIA contains provisions to further protect agreements to net payment obligations under financial contracts in certain circumstances.	the operation of netting arrangements and the settlement rules of clearing and settlement systems (i.e. recognises enforceability of netting arrangements). (3) Provides settlement rules with protection from legal stays or other legal challenges, even where a participant has failed. (4) Provides Bank of Canada with a number of powers that it can exercise in its dealings with clearing and settlement systems.
Scope of legislation **(applicability to all payment systems or specific ones)**	Covers any payment system or securities settlement system which has been designated by the Financial Services Authority or the Bank of England as a designated system.	Covers: (1) approved RTGS payment systems (2) approved multilateral netting arrangements (3) close-out netting contracts (4) market netting contracts	Does not provide for the designation of payment systems. Instead, covers swaps, options, repurchase agreements, futures and forward contracts, all commonly known as derivatives. FDICIA also covers netting agreements between financial institutions and netting agreements of clearing houses.	Covers any clearing and settlement system which has been designated by the Bank of Canada.
Finality of settlement and payments	Reg 13 to 17 modify the insolvency law in so far as it applies to transfer orders effected through a designated system .	S 16 provides that despite any other law, the following transactions in a market netting contract are not to be void or voidable in the external administration of a party to the	Bankruptcy Code exempts the following financial contracts from the trustee's general powers of avoidance: (a) pre-petition margin payments or	S 8(1) provides that notwithstanding any law, (a) the settlement rules of a designated clearing and

	UK	Australia	US	Canada
	As regards payment systems, "transfer order" is defined in Reg 2 as an instruction by a participant to place at the disposal of a recipient an amount of money by means of a book entry on the accounts of a credit institution, a central bank or a settlement agent, or an instruction which results in the assumption or discharge of a payment obligation as defined by the rules of a designated system. Reg 14(1) provides that the rules of a designated system are not invalid at law on the ground of inconsistency with the insolvency law. Reg 16(1) provides that the relevant provisions in the Insolvency Act 1986 relating to the power of the liquidator to disclaim onerous property and the court's power to order rescission of contracts do not apply to transfer orders. Reg 16(3) provides that the relevant provisions in the Insolvency Act 1986 relating to the avoidance of property dispositions effected after the commencement of winding up or	contract: (i) the netting or termination of obligations under the contract; (ii) a payment by the party to discharge a net obligation under the contract; (iii) a payment or transfer of property by the party to meet an obligation under the contract to pay a deposit of margin call. S 6 avoids the application of the zero hour rule to any payment or settlement transaction executed through an approved RTGS system in the event that a participant goes into external administration by providing that if a participant of an approved RTGS system goes into external administration, the transaction has the same effect as if the participant had gone into external administration the next day.	settlement payments made by or to a commodity broker, forward contract merchant, stockbroker, financial institution, or securities clearing agency (S. 546(e)); (b) pre-petition margin payments or settlement payments in connection with a repurchase agreement (S. 546(f)); (c) pre-petition margin payments or settlement payments in connection with a swap agreement (S. 546(g)). S. 546(e) to (g) also protect from avoidance "constructively" fraudulent transfers where the debtor did not receive reasonably equivalent value in S. 548(a)(1)(B), but do not protect transfers made with actual fraudulent intent. FCNIA proposes to amend the Bankruptcy Code by adding a new S. 546(j) to protect master netting agreements from the trustee's avoidance powers. A master netting agreement is an agreement providing for the exercise of rights, including rights of netting, set-off, liquidation, termination, acceleration,or close-out, under or in connection with one or more Protected Financial Contracts (defined as securities contracts, forward contracts, commodity contracts, repurchse contracts and swap	settlement system are valid and binding on the clearing house, participants, a central counter-party and the Bank of Canada (s 8(1)(a)); (b) where the settlement rules provide so, the settlement of a payment through an entry to or a payment out of an account of a participant, clearing house or central counter-party at the Bank of Canada is final and irrevocable and such entry or payment cannot be reversed, repaid or set aside (s 8(1)(c)). S 8(2) provides that an entry to or a payment out of the account of a participant, clearing house or central counter-party at the Bank of Canada cannot be subject to any provision or order that operates as a stay of that activity.

	UK	Australia	US	Canada
	presentation of bankruptcy petition do not apply to transfer orders or dispositions of property pursuant to such orders. Reg 17 provides that the relevant provisions in the Insolvency Act 1986 relating to the setting aside of transactions at an undervalue, preferences or transactions defrauding creditors do not apply to transfer orders or dispositions of property pursuant to such orders. Reg 20 makes it clear that the modifications to insolvency law do not apply to a transfer order which is entered into a designated system after insolvency, unless the transfer order is carried out on the same day as the insolvency and the relevant persons do not have notice of the insolvency at the time of the settlement.		agreements). FNCIA proposes to amend the FDIA by exempting Qualified Financial Contracts (QFCs) (defined as securities contracts, forward contracts, commodity contracts, repurchase agreements and swap agreements) from the power of the Federal Deposit Insurance Corporation (FDIC), in its capacity as receiver or conservator, to avoid fraudulent conveyances and preferences. The conservator or receiver's power to cherry-pick among the debtor depository institution's QFCs is also proposed to be eliminated.	
Enforceability of netting arrangements	Reg 14(1) provides that the rules of a designated system are not invalid at law on the ground of inconsistency with insolvency law.	S 10 provides that notwithstanding any law, the netting of obligations in approved multilateral netting arrangements is not to be voidable in the event that a party goes into external administration.	S. 401 to 407 of FDICIA accord special treatment to netting provisions contained in netting contracts between financial institutions and netting contracts of clearing organisations in the event that one of the parties becomes the subject of insolvency proceedings.	S 8(1)(b) provides that the obligations of the participant, clearing house and central counter-party are to be netted and a net settlement or close-out amount determined in accordance with the settlement rules.

	UK	Australia	US	Canada
			S. 403 provides that notwithstanding any other provision of law, payment obligations and payment entitlements between two financial institutions shall be netted in accordance with the conditions of the netting contract (bilateral netting). S. 404 provides that notwithstanding any other provision of law, the payment obligations and payment entitlements of a member of a clearing house shall be netted in accordance to the conditions of the netting contract (clearing organisation netting). SS. 403 and 404 provide that the only payment obligation is the net obligation and the only payment entitlement is the net entitlement. The net entitlement (if any) of the failed financial institution must be paid to it in accordance with the netting contract. Further, S. 405 provides that no stay, injunction, avoidance, moratorium or similar proceeding or order may limit or delay the application of such netting contracts. S. 402 as amended by FCNIA defines "netting contracts" as contracts between two or more financial institutions that provide for netting present or future payment obligations	

	UK	Australia	US	Canada
			or payment entitlements (including liquidation or close-out values relating to the obligations or entitlements) among the parties to the agreement. "Financial institutions" for purposes of FDICIA include depository institutions, broker-dealers, futures commission merchants (i.e. commodity brokers), and any institution determined by the Board of Governors of the Federal Reserve System (Federal Reserve) to be a financial system for this purpose. Note that the definition of "depository institution" in FDICIA includes Edge Act corporations. FCNIA extended the definition to also include certain uninsured national or state banks and certain foreign banks and their branches. "Clearing organisation" means a clearing organisation, clearing association, clearing corporation, or similar organisation that provides clearing, netting or settlement services for its members and in which all members other than the clearing organisation itself financial institutions or other clearing organisations, or which is registered as a clearing agency under the Securities Exchange Act of 1934.	

	UK	Australia	US	Canada
			"Failed financial institution" means a financial institution that – (a) fails to satisfy a covered contractual payment obligation when due; (b) has commenced or had commenced against it insolvency, liquidation, reorganisation, receivership including the appointment of a receiver, conservatorship, or similar proceedings; or (c) has generally ceased to meet its obligations when due.	
Enforceability of close-out netting	Reg 15 provides that the obligations arising from default arrangements in a designated system are provable as a debt in insolvency proceedings. "Default arrangements" are defined in Reg 2 to mean the arrangements put in place by a designated system to limit systemic and other types of risk which arise in the event of a participant appearing to be unable, or likely to become unable, to meet its obligations in respect of a transfer order, including, for example, any default rules under Part VII of the Companies Act or any other arrangements for netting, the	S 14 provides that despite any other law, the termination of obligations, netting of obligations and any payment made by the party under a close-out netting contract to discharge a net obligation are not to be void or voidable in the external administration of a party to the contract.	See above under "Enforceability of netting arrangements".	S 13(1) provides that notwithstanding any law or court order relating to bankruptcy or insolvency, where a financial institution or the Bank of Canada is a party to a netting agreement, the financial institution or Bank of Canada may terminate the agreement and determine a net termination value or net settlement value payable to the party who is the creditor.

	UK	Australia	US	Canada
	closing out of open positions, or the application or transfer of collateral security.			
Others	Apart from transfer orders and any disposition of property pursuant to such orders, Reg 13 to 17 also protect the provision of collateral security, contracts for the purpose of realising collateral security, any disposition of property pursuant to such contracts and any disposition of property in accordance with the rules of a designated system as to the application of collateral security from the application of insolvency law. "Collateral security" is defined in Reg 2 as any realisable assets provided under a charge or a repurchase or similar agreement, or otherwise (including money provided under a charge) – (a) for the purpose of securing rights and obligations potentially arising in connection with a designated system; or (b) to a central bank for the purpose of securing rights and obligations in connection with its operations in carrying out its functions as a central bank.			S 4(1) provides that the Governor of the Bank of Canada may designate a clearing and settlement system as being subject to the Act if he thinks that the system may be operated in a manner as to pose a systemic risk, provided that the Minister of Finance is of the opinion that it is in the public interest to o designate. S 14(3) provides that in order for the Bank of Canada to determine whether a clearing and settlement system imposes a systemic risk, the Bank may require the clearing house to provide certain information. S 24 provides that a participant is not required to provide information to the Bank of Canada concerning another participant of a clearing and settlement system if that information is not available to all the participants (s 24).

	UK	Australia	US	Canada
	Reg 22 provides that where a court makes an insolvency order against a participant in a designated system, the court is required to notify both the relevant designated system and the relevant designating authority that such an order has been made. Similarly, where a resolution has been passed for a creditors' voluntary winding up of a participant or where a trust deed granted by a participant has become a protected trust deed, the designated system must require the participant to notify the system and the relevant designating authority of such fact (para 5(4) of the Schedule).			

Annex D

PAYMENT AND SETTLEMENT SYSTEMS (FINALITY AND NETTING) ACT 2002

(No. of 2002)

ARRANGEMENT OF SECTIONS

PART I
PRELIMINARY

Section
1. Short title and commencement
2. Interpretation
3. Designation

PART II
TRANSACTIONS EFFECTED THROUGH DESIGNATED SYSTEM

4. Application of this Part
5. Transactions effected through designated system are final and irrevocable
6. Proceedings of designated system shall take precedence over law of insolvency
7. Disclaimer of property
8. Adjustment of prior transactions
9. Netting
10. Insolvency not to affect transactions carried out on day of winding up, etc.
11. Law of insolvency in other jurisdictions

PART III
MISCELLANEOUS

12. Power to make regulations
13. Transitional provisions

A BILL

intituled

An Act to make provision for the legal protection of payment and settlement systems and for purposes connected therewith.

Be it enacted by the President with the advice and consent of the Parliament of Singapore, as follows:

PART I

PRELIMINARY

Short title and commencement

1. This Act may be cited as the Payment and Settlement Systems (Finality and Netting) Act 2002 and shall come into operation on such date as the Minister may, by notification in the *Gazette*, appoint.

Interpretation

2.—(1) In this Act, unless the context otherwise requires —

"Authority" means the Monetary Authority of Singapore established under section 3 of the Monetary Authority of Singapore Act (Cap. 186);

"default arrangements" means the arrangements put in place by a designated system to limit systemic and other types of risk which arise in the event of a participant appearing to be unable, or likely to become unable, to meet its obligations in respect of a transfer order, including any arrangements for —

(*a*) netting; or

(*b*) the closing out of open positions;

"designated system" means a system that is designated by the Authority under section 3 to be a designated system for the purposes of this Act ;

"government securities" means any securities issued by the Government under any written law;

"participant " means a party to an arrangement that establishes a system for —

(*a*) the clearing and settlement of payment obligations; or

(*b*) the clearing, settlement and transfer of government securities;

"relevant office holder" means —

(*a*) the Official Assignee exercising his powers under the Bankruptcy Act (Cap. 20);

(*b*) a person acting in relation to a company as its liquidator, provisional liquidator, receiver, receiver and manager, judicial manager or an equivalent officer; or

(*c*) a person acting in relation to an individual as his trustee in bankruptcy or interim receiver of his property or an equivalent officer;

"system" means a system established for —

(*a*) the clearing and settlement of payment obligations; or

(*b*) the clearing, settlement and transfer of government securities;

"transfer order" means —

(*a*) an instruction by a participant to place at the disposal of a recipient an amount of money by means of a book entry on the accounts of the operator of a designated system, or an instruction which results in the

assumption or discharge of a payment obligation as defined by the rules of a designated system; or

(*b*) an instruction by a participant to transfer government securities.

(2) Any reference in this Act to the law of insolvency shall be construed as a reference to —

(*a*) the Bankruptcy Act (Cap. 20);

(*b*) Parts VIIIA, IX and X of the Companies Act (Cap. 50); and

(*c*) any other written law or rule of law whether of Singapore or a place outside Singapore which is concerned with or in any way related to the bankruptcy, winding up or insolvency of a person.

Designation

3. The Authority may, in the prescribed manner, designate a system to be a designated system for the purposes of this Act, subject to such terms and conditions as it thinks fit.

PART II

TRANSACTIONS EFFECTED THROUGH DESIGNATED SYSTEM

Application of this Part

4. This Part shall apply to such transactions or class of transactions cleared or settled in the designated system, and to such extent, as may be prescribed by the Authority.

Transactions effected through designated system are final and irrevocable

5. Notwithstanding anything to the contrary in any written law or rule of law, where the rules of a designated system provide that the transfer of funds, settlement of any payment obligation or the settlement and transfer of government securities through an entry to or a payment out of an account of a participant kept with the operator of the designated system is final and irrevocable, the entry or payment made through the designated system shall not be reversed, repaid or set aside and no order shall be made by any court for the rectification or stay of such entry or payment.

Proceedings of designated system shall take precedence over law of insolvency

6.—(1) None of the following shall be regarded as to any extent invalid at law on the ground of inconsistency with the law relating to the distribution of the assets of a person on bankruptcy, winding up or in the administration of an insolvent estate:

(*a*) a transfer order;

(*b*) the default arrangements of a designated system; or

(*c*) the rules of a designated system as to the settlement of transfer orders not dealt with under its default arrangements.

(2) The powers of a relevant office holder and the powers of a court under the law of insolvency, shall not be exercised in such a way as to prevent or interfere with —

(*a*) the settlement in accordance with the rules of a designated system of a transfer order not dealt with under its default arrangements; or

(*b*) any action taken under its default arrangements.

Disclaimer of property

7. Section 110 of the Bankruptcy Act (Cap. 20) and section 332 of the Companies Act (Cap. 50) shall not apply to a transfer order, or any disposition of property in pursuance of a transfer order.

Adjustment of prior transactions

8. No order shall be made by a court under —

(*a*) section 98 or 99 of the Bankruptcy Act;

(*b*) section 227T, 329 or 331 of the Companies Act (Cap. 50; or

(*c*) section 73B of the Conveyancing and Law of Property Act (Cap. 61),

in relation to any matter to a transfer order, or any disposition of property in pursuance of a transfer order.

Netting

9. Notwithstanding the provisions of the law of insolvency, if the proceedings for the bankruptcy or winding up of a participant of a designated system have commenced —

(*a*) the operator may do anything permitted or required by the rules of the designated system in order to net obligations

incurred before or on the day on which the proceedings commenced;

(*b*) the obligations that are netted under the rules of the designated system shall be disregarded in the proceedings;

(*c*) any net obligation owed to the participant under the rules of the designated system that has not been discharged is provable in the proceedings and may be recovered for the benefit of the creditors; and

(*d*) the netting made by the operator and any payment made by the participant under the rules of the designated system shall not be voidable in the proceedings.

Insolvency not to affect transactions carried out on day of winding up, etc.

10. Notwithstanding the provisions of the law of insolvency, where —

(*a*) proceedings are commenced for the bankruptcy or winding up of a participant;

(*b*) a transfer order is executed through the designated system at any time of the day on which the proceedings commenced; and

(*c*) the transfer order involves the payment of money or transfer of an asset by the participant,

the payment or transfer has the same effect as it would have had if the proceedings had commenced on the next day.

Law of insolvency in other jurisdictions

11. Notwithstanding any written law or rule of law, a court shall not recognise or give effect to —

(*a*) an order of a court exercising jurisdiction under the law of insolvency in a place outside Singapore; or

(*b*) an act of a person appointed in a place outside Singapore to perform a function under the law of insolvency there,

in so far as the making of the order or doing of the act would be prohibited under this Act for a court in Singapore or a relevant office holder.

PART III

MISCELLANEOUS

Power to make regulations

12.—(1) The Authority may make regulations for carrying out the purposes and provisions of this Act and for the due administration thereof.

(2) Without prejudice to the generality of subsection (1), the Authority may make regulations for and with respect to —

(a) the criteria for the designation of a system;

(b) the manner in which the designation is to be made; and

(c) all matters and things which by this Act are required or permitted to be prescribed or which are necessary or expedient to be prescribed to give effect to this Act.

Transitional provisions

13. The Authority may, by regulations, prescribe such transitional, savings and other consequential provisions as it may consider necessary or expedient.

EXPLANATORY STATEMENT

This Bill seeks to make provision for the legal protection of payment and settlement systems. Proper regulation of such systems is critical to the effective functioning of the whole financial system. The Bill provides a conducive environment for the operation of stable and secure payment and settlement systems by empowering the Monetary Authority of Singapore (the Authority) to designate systemically important payment and settlement systems. These designated systems will be exempted from the application of the various rules under the law of insolvency.

PART I

PRELIMINARY

Clause 1 relates to the short title and commencement.

Clause 2 defines certain terms used in the Bill.

Clause 3 empowers the Authority to designate a system as a designated system in the prescribed manner, subject to such terms and conditions as it thinks fit.

PART II

TRANSACTIONS EFFECTED THROUGH DESIGNATED SYSTEM

Clause 4 relates to the extent of application of Part II. Part II deals with transactions effected through a designated system and will apply only to transactions or class of transactions cleared or settled in the designated system and to such extent as may be prescribed by the Authority.

Clause 5 provides that, in accordance with the rules of a designated system, transactions effected through the designated system are final and irrevocable. Such transactions shall not be reversed, repaid or set aside, and no order shall be made by any court for the rectification or stay of such transactions.

Clause 6 relates to the proceedings of a designated system namely, transfer orders, default arrangements of a designated system and rules of a designated system as to the settlement of transfer orders not dealt with under its default arrangements.

The clause provides that such proceedings shall not be invalid at law on the ground of inconsistency with the law of insolvency. The clause further forbids a relevant office holder or a court applying the law of insolvency in Singapore from exercising its power to prevent or interfere with the proceedings of the designated system.

Clause 7 provides that the law of insolvency enabling the disclaimer of onerous property in insolvency proceedings shall not apply to the specified matters or proceedings involving a designated system.

Clause 8 provides that the law of insolvency enabling the adjustment of prior transactions in insolvency proceedings shall not apply to the specified matters or proceedings involving a designated system.

Clause 9 allows the operator of a designated system to net obligations incurred before or on the day a participant undergoes insolvency proceedings such that a net amount becomes payable.

Clause 10 exempts the payment of money or transfer of asset by a participant from the application of the zero hour rule in the event that the participant is subject to insolvency proceedings. It provides that the payment or transfer has the same effect it would have had if the insolvency proceedings had commenced on the next day.

Clause 11 provides that a court in Singapore shall not recognise or give effect to an order of a foreign court made under foreign laws of insolvency or an act of a person appointed outside Singapore to perform a function under foreign laws of insolvency insofar as such order or act would be prohibited under this Bill for a court in Singapore or a relevant office holder.

PART III

MISCELLANEOUS

Clause 12 empowers the Authority to make regulations for carrying out the purpose and provisions of the Bill and for the due administration thereof.

Clause 13 empowers the Authority to prescribe transitional, savings or other consequential provisions by way of regulations.

EXPENDITURE OF PUBLIC MONEY

This Bill will not involve the Government in any extra financial expenditure.
