PRUDENTIAL POLICY IN A DEREGERULATED ENVIRONMENT

This article provides an introduction to some of the issues involved in the choice of the particular approach to prudential policy embodied in the Reserve Bank of New Zealand Amendment Act (1986).

Prudential policy deals with issues relating to the collapse of financial institutions; or, more positively, the prudent management of the business of financial institutions. Such issues are not widely discussed, but they seem to generate considerable interest and concern on those rare occasions when the collapse of a significant financial institution occurs or threatens.

This article looks at what exactly it is about the collapse of financial institutions that might suggest the need for government intervention. The timing of this discussion is opportune for two reasons. First, on 1 April 1987 the Reserve Bank of New Zealand Amendment Act (1986) comes into force, bringing with it a formalised approach to prudential issues for the first time in this country. While the mechanics of the impending prudential policy have been in the public arena for some time, the key ideas underlying the chosen approach have not been widely discussed outside the range of directly interested parties.

Secondly, and more generally, because prudential matters tend to come into the public consciousness with a degree of surprise and alarm, more light is likely to be thrown onto the issues if they are examined in an atmosphere of relative stability. Indeed, one of the major motivations for putting in place in legislation particular processes for dealing with the collapse of financial institutions is the desire to avoid inappropriate ad hoc responses decided on in the heat of the moment.

Because much of the analysis of the issues contained in this article is based on an economics perspective of what constitutes appropriate grounds for government intervention, the next section describes that perspective. It is an important part of the article, because in many instances the mere identification of 'problems' which seem to demand a specific government-provided solution forms a poor economic basis for intervention. The key feature of the economic perspective on prudential issues which will be noted in this article illustrates the above point — the economic justification for government intervention in respect of prudential matters derives not from a concern about the losses faced by the particular depositors involved, but rather from a concern about whether the financial system as a whole is able to carry on providing efficient financial services.

Later sections of the article examine the various possible arguments for and against a system of government-provided prudential management, and outline alternative prudential approaches in the light of the earlier discussion. Finally, the article summarises the prudential policy soon to be put in place in New Zealand.

The Basis for Government Intervention

The fundamental criterion for a particular government intervention in the workings of the economy is that the benefits to be derived from that form of intervention outweigh the costs involved. Although somewhat self-evident, this criterion is not empty. Government economic intervention very often has side effects which are not desired and which cannot themselves be satisfactorily offset by further interventions, while it is also possible that for one reason or another the main intervention does not work.

Accordingly, in practice the benefits actually derived may be little, while the costs may be high. In such cases, it might be appropriate to not intervene in that manner or in that area even though a clear problem might still be seen to exist.

Amongst the more serious types of side effect which need to be considered when assessing the merits of an intervention are 'moral hazard' problems, 'implicit taxes' on sectors apart from that which is the object of intervention, and 'targeting'. Each of these is relevant to a consideration of prudential policy.

First, moral hazard refers to the negative effects of some types of intervention on the motivation of those who are the targets of interven-
previously unconsidered actions which the Government could take in selected areas to help resolve the problem in question.

The Rationale for Prudential Policy

The Small Saver and Safe Haven Arguments

The need to protect the smaller, unsophisticated saver is often advanced as a reason for government prudential policy intervention in the financial sector. Underlying this argument is an assumption that small savers have neither the resources nor the necessary expertise to obtain and interpret information on financial institutions, therefore making it difficult for them to assess the prudential soundness of an institution. Adherents to this argument variously suggest that central government has a responsibility to protect small savers by carrying out prudential supervision of financial institutions, or that economic efficiencies result from a single agency performing the information gathering task, even if no responsibility for the task is assigned.

Having monitored financial institutions, governments could either disseminate the information or use it to prevent losses. Either way, small savers would be relieved of the burden of collecting information on the soundness of financial institutions. Alternatively, to the same effect, the government could provide a safe haven for the savings of small savers, either directly or via guarantees for private financial institutions.

There are, however, a number of reasons to be sceptical about the extent of the problem facing small savers. Various avenues exist for obtaining information on the soundness of financial institutions without incurring great costs, while there are a range of alternative ways of holding liquid savings balances, suggesting that the holding of deposits reflects a voluntary assumption of a certain amount of risk in return for the rewards provided.

Information of varying degrees of quality on the soundness of institutions is contained in such things as reputations, the longevity of the relevant organisation, relative market shares of business (reflecting in part the judgment of large customers who have the incentives and resources to monitor institutions), sharemarket valuations of the institution's stock, and published credit ratings from independent ratings agencies. These forms of information do not cost much to obtain. The advice of accountants and financial analysts is a readily available but more costly alternative.

Even with imperfect information, as mentioned there are ways available to small savers to avoid taking on more risk than desired. The use of liquid deposit types in preference to locking money away for unbreakable terms, the holding of currency notes or small denomination government securities, the spreading of risk through avoiding putting all eggs in one basket, etc. are all means available to small savers. Moreover, if there were a big demand for additional safe avenues for holding various types of balances, there is nothing to prevent financial institutions offering, for instance, insured deposits or deposits fully backed by default free government securities. Such possibilities would provide a marketing device for institutions keen to differentiate themselves from riskier alternatives; the same motivation exists for institutions to publish information about their prudential soundness or submit themselves to publicly available credit ratings by reputable agencies.

Overall, it appears unlikely that there is a significant untapped demand for government-provided prudential information disclosure, or government-provided instruments available to the small saver involving zero or negligible default risk.

The Costs of Financial Institution Failure, and the Proneness to Failure

Further arguments often put forward in justification of prudential intervention relate to the unusual exposure of the financial intermediation process to losses of confidence, and to the nature of the costs to society from the failure of a financial institution. The proneness of financial institutions to failure is illustrated by the phenomenon of a 'run'. A 'run' on a financial institution is characterised by depositors, who, acting on certain information (whether correct or incorrect), change their assessments of that institution's prudential soundness and consequently rapidly withdraw call deposits. As a result, the financial institution may need to sell assets quickly, which, if it is unable to do, or can only achieve at significantly discounted prices, may result in it facing severe liquidity difficulties or even insolvency. At the extreme, this may well result in losses being incurred by depositors, shareholders, and possibly other parties.

It is indeed likely that the nature of a financial institution's business makes it more vulnerable to failure. The purpose of financial intermediation includes the provision of an avenue for liquid savings and of associated services while simultaneously providing term loans. Consequently financial institutions have a natural exposure to potential liquidity difficulties through an inability to match perfectly the maturity structure of their assets and liabilities. As a consequence, they may be more vulnerable to failure in the event of a sharp and sudden decline in customer support than non-financial institutions.

The fact that financial institutions are different in this respect from other commercial entities does not however in itself justify government intervention. The nature of their potential vulnerability creates market incentives for financial institutions to minimise the potential risk of failure and there are clearly risk minimisation strategies available. The existence of these incentives leads financial institutions to place prime importance on developing and maintaining adequate prudential standards, internal management systems and information disclosure and utilising risk hedging and balance sheet restructuring mechanisms. These mechanisms include the negotiation of standby facilities, guarantees, futures, swaps and options.
Moreover, the costs of an isolated failure of a financial institution are not necessarily of a sufficient magnitude to justify government intervention. In the first place, the failure of a single financial institution within the context of a healthy financial system is little different from that of any other commercial entity. Any losses incurred by depositors, shareholders and secured creditors are essentially the same as those incurred by affected parties of a non-financial entity failure. In both situations costs reflect a risk/return trade-off made by each party when considering their investment decisions. Moreover, information on the prudential status of a financial institution is at least as readily available, as timely and at no greater cost than that available for non-financial entities. In this light, it is interesting to note that there is no widespread support for standing arrangements for government intervention to prevent business failure in a comprehensive manner.

Indeed, in some respects, the failure of a single financial institution may be inherently less costly than the failure of a non-financial entity, making even less justifiable an argument for prudential intervention with respect to financial institutions but not non-financial businesses. For instances there is the ready availability of alternative banking services, while the assets of a financial institution can usually be transferred relatively quickly to other financial institutions, often with minimal dislocation to affected parties. In contrast, the costs of a non-financial entity failure may be considerably greater, particularly where the concern is a supplier of specialist goods or services.

As a reason for prudential intervention, therefore the failure of one financial institution per se (without system-wide effects) should not be considered sufficiently different from any other commercial failure as to justify special government attention. Indeed, as will be discussed later, a prudential policy geared toward the prevention of any single institution’s failure could be counterproductive to maintaining the health of individual institutions and the financial system as a whole.

System-wide Effects
Although the failure of an isolated financial institution might not in itself provide a reason for intervention, the case becomes stronger when the difficulties faced by one or more institutions impact on others, causing a multiple run on deposits.

Two reasons are relevant. First, whereas the concern about a single institution within the context of a system perceived to be sound involves a simple transfer of business to new institutions, when a large proportion of institutions are suspect the alternatives available are in general less efficient. In particular the main immediate alternative available is currency. Should a concerted switch from deposits to currency notes occur, the financial system may actually lose reserves (as opposed to rearranging the ownership of reserves). Because of the nature of financial intermediation, a significant loss of reserves can result in a multiplied contraction of business by the financial sector, with loans called in and new loans severely curtailed. In such circumstances, significant disruptions to the real economy might occur.

Secondly, aside from the costs to the real economy, additional costs of system-wide collapse are represented by the failure of otherwise sound institutions which are absorbed into the multiple run, causing depositors to lose part of their wealth holdings.

There are several features of the financial system which suggest a greater degree of interconnection, and therefore risk of ‘contagion’ of the sort described above, than is the case for non-financial businesses. Financial institutions are often significantly exposed to each other, and jointly exposed to third parties by cross-guarantees, syndicated business etc. That being the case, in addition to direct problems being caused, indirect problems can result from depositors’ perceptions (rightly or wrongly) that several institutions are likely to be prone to the same weakness as the first institution subject to a loss of confidence. Indeed, there may not even be specific reasons to doubt the soundness of other institutions - a simple collapse of confidence might occur if the original surprise was big enough.

Moreover, there are special features of a contagion to be considered. Even if an individual has no reason to doubt the soundness of an institution to which they are exposed, the fact that others less well informed might cause a run on that institution raises the risks of default. It may accordingly be in the interests of the well informed depositor to withdraw call funds. Additionally, the ability to distinguish between sound and unsound institutions is likely to diminish in a rapidly changing environment. The information cost arguments discussed earlier may therefore be more applicable in crisis situations than in normal times.

The foregoing analysis suggests, therefore, that a significant rationale for some form of government intervention might derive from the desire to avoid multiple institution failure where that threatens the system as a whole. In order to avert or minimise the extent of system failure, a number of policy responses can be adopted. The next section of the article briefly examines some of the main forms of intervention used in various economies. It then describes, in greater depth, the form of prudential policy adopted, and now being formally implemented, in New Zealand.

Alternative Policy Responses

Deposit Insurance
Potential policy response is the provision of a system of deposit insurance administered by a central government institution (such as the Reserve Bank). Under this system, deposit-taking institutions would be able (or possibly required) to insure the deposits of their customers (up to a specified amount) with a fee being charged for the service. This system could provide a
‘back stop’ to a run on deposits, making such an event less likely and therefore reducing the probability and extent of multiple institutional failure. This would certainly be the case at the retail deposit level (i.e. for smaller deposits subject to insurance), but it might not have the same effect on the inter-bank market if larger deposits were not covered by the scheme.

Aside from whether or not this policy meets the objective of averting system-wide failure however, mandatory deposit insurance raises a number of difficulties. One of these lies in the mechanism used to set premiums for deposit insurance schemes and the consequences of its adoption. If a flat-rate standard premium is applied to all institutions, this has the effect of penalising sounder institutions and subsidising the riskier strategies of potentially less sound institutions. As a consequence, the risk-adjusted rates of return on different investment outlets may become distorted, leading to a sub-optimal allocation of financial resources (and ultimately real economic behaviour). In addition the potential for institutional instability is increased as a result of a standard rate deposit insurance scheme, due to the effective encouragement of riskier investment/borrowing strategies.

In order to avoid these problems, the premium charged for deposit insurance could be adjusted to reflect the relative riskiness of each institution’s balance sheet (and off-balance sheet) activities. While this is certainly more appealing, both from resource allocational and stability-inducing perspectives, it is not without its own difficulties. Such a policy would require a quantification of institutional risk and would necessitate the setting of an appropriate premium. Although this approach may well represent an improvement on a flat-rate system, the difficulties in calculating risk and setting premiums are such that risk-adjusted relative price signals are still likely to be distorted.

A further difficulty associated with deposit insurance (particularly one provided by a central authority) is that it is often complemented by operational restrictions and other prudential controls. Such controls would be seen as means of reducing the Government’s exposure to a payout under the scheme in the event of the failure of a financial institution, particularly if the prema set are unlikely to offset the probability of such a payout. Rather than reducing the risk of institutional failure, however, these controls would severely constrain the operational flexibility of financial institutions, and may well actually increase the potential for failure.

Whatever form deposit insurance takes, however, there is a danger that it may create incentives for inappropriate (and potentially destabilising) economic behaviour. That deposit insurance tends to subsidise and therefore induce riskier borrowing and lending behaviour has already been mentioned. Additionally, however, it removes important incentives for depositors to become more informed about the prudential soundness of each financial institution. In both cases, it passes the responsibility of setting and maintaining prudential standards to the insurer (i.e. generally the Government). Therefore, if the premia are not set to at least a cost recovery level (to offset the probability of a payout under the scheme), the scheme will represent a subsidy from government to the users of financial services.

For these reasons, deposit insurance as a form of intervention is unlikely to be sufficient to avert system-wide failure, and may well cause more problems than it solves. Moreover, as noted in relation to other arguments, the fact that private insurance has not developed in New Zealand in the absence of clear impediments to its development is suggestive that the net benefits of the approach are not highly valued.

Enforced Information Disclosure
As noted above, information problems might be a factor contributing to the generation of system-wide runs when concerns about the safety of an individual financial institution surface. The magnitude of such information problems is not, however, clear. In the earlier discussion some readily available sources of relevant information were identified, and it was suggested that the market could generate a solution to any significant information difficulties.

Nevertheless, in many areas the judgement has been made that some minimum information disclosure standards should be established. One of the more obvious examples relates to the publication of company balance sheets which conform to certain requirements. In many countries, disclosure requirements are a feature of the rules for access to capital markets. The prospectus requirements and advertising rules applied in New Zealand by the Securities Commission are similar in nature.

While the arguments about information problems as a basis for government intervention are not conclusive, three factors stand out. First, policymakers in requiring disclosure have to have full cognisance of the costs of the requirements being imposed compared to the benefits to be derived. The possibility also exists that mandatory disclosure may actually be counterproductive to improved information, by reducing the incentives for additional private disclosure (therefore resulting in a bare minimum of information being released).

Secondly, as with all government interventions, the treatment of different economic agents should be even-handed. The Reserve Bank of New Zealand Amendment Act (1986) included a provision which removed exemptions from the requirements of the Securities Act (in respect of prospectuses issued by borrowers) previously granted trading banks, trustee savings banks and building societies. The motivation for this provision was the desire to move towards institutional neutrality.

Thirdly, it is unlikely that information disclosure on its own would be successful in preventing system-wide failure. The nature of the uncertainties inherent in multiple institution failure; and the suddenness with which such events typically occur, makes mandatory information dis-
closure at best only a partial policy response.

Preventative Regulation
A third policy response to minimise the potential for system-wide failure is the implementation of extensive preventative regulation. The objective of such a policy would be to set and maintain prudential standards for all financial institutions, therefore minimizing the risk of failure and multiple institution collapse. Such an approach would involve the imposition of a wide range of prudential controls, including minimum capital ratios, liquidity requirements, mismatch limits, borrowing and lending exposure constraints and other balance sheet controls.

Although, as noted later, such controls are widely used internationally, several arguments can be advanced against this policy approach. Firstly, it removes incentives from individual institutions to maintain their own prudential standards both by imposing minimum standards and by appearing to have a failure prevention objective. By removing the incentives for financial institutions to set their own standards, preventative regulation could well undermine the prudential soundness of institutions, and certainly places the responsibility for ensuring prudential soundness on central government.

The potential for undermining prudential soundness is reinforced by the inherent inflexibility of heavily prescriptive balance sheet controls. The application of a rigid set of controls takes no account of the variations between individual institutions, and may well impose sub-optimal balance sheet structure on an institution. Moreover, it involves setting arbitrary guidelines that may induce circumvention by financial institutions, leading to further sub-optimal behaviour.

In addition to these shortcomings, overseas experience and empirical research suggest that rigid prudential controls have limited success in preventing the failure of financial institutions. There is no clear evidence that certain variables (such as gearing ratios or exposure limits) have a stable causal linkage to institutional failure, although there are certain instances overseas where individual exposures have been an instrumental cause of institutional failures. Failure prediction research suggests that a range of variables in varying combinations is relevant for institutional failure. Many of these are difficult to quantify and control (such as the market's perception of creditworthiness, managerial effectiveness and the ability to sell assets quickly). A supervision framework that focuses on rigidly controlling key variable and imposing arbitrary standards, is unlikely to be successful in avoiding institutional failure.

Finally, there is the question of whether or not prudential supervisors are as well positioned as private management to keep pace with developments in financial markets (such as the advent of new financial instruments). If not, as seems likely given their less immediate involvement with such developments, there is a danger that passing too much control to supervisors will inhibit the efficient functioning of financial markets and may further undermine prudential soundness. This is particularly the case in today's highly competitive and increasingly internationalised financial markets, where financial instruments and balance sheet structures are evolving rapidly.

Even with these qualifications in relation to the likely costs and benefits of preventative regulation, a great number of overseas countries have opted for a range of such measures. Judgements as to the overall worth of one approach to government intervention in this area compared to alternative approaches are clearly not straightforward.

It is worth noting at this point that in New Zealand the coincidental introduction of the registration of new banks with the commencement of prudential supervision does mean that the Reserve Bank will be involved in making qualitative assessments of new bank applicants, particularly in the areas of capital adequacy, expertise and market reputation. In applying these quality standards, the Bank recognises the information content of the title 'bank' - this being one of the potential devices available for small savers to acquire information on the quality of respective financial institutions. Although Parliament recognised that the public perception of a 'bank' would alter as a result of the more open policy towards new bank entry, it was considered important that the public have time to adjust their investing behaviour to the change which will take place. In administering the new banks and prudential policy the Bank is emphasising that primary responsibility for sound management will continue to rest with the institutions themselves.

Failure Management
While clearly the formulation of prudential policy in New Zealand has had regard to mandatory information disclosure, deposit insurance and balance sheet controls, the overriding objective has been to develop a prudential policy that is consistent with the broad thrust of government initiatives already taken in the financial sector. A more appropriate policy response is one which does not impose severe constraints on the operational flexibility of financial institutions. Moreover, it is important that the policy framework put in place does not remove the existing incentives for management, depositors and shareholders to satisfy themselves as to the prudential soundness of an institution.

It is also important that prudential policy should not prevent an individual institution from failing. As indicated earlier, the failure of an individual institution is not the central issue. Indeed, the possibility of an institution's failure will be seen as a necessary and appropriate exercise of market discipline upon participants in the financial sector, just as in any other. In addition, the failure of businesses represents one of the ways in which shifts in resources occur within the economy - absence of failure
implies the potential for valuable resources being locked into inefficient activities.

Although failure prevention is not and should not be the objective of prudential policy, failure management can be an aspect in limiting the risk of system-wide failure. The prolonged and uncertain failure of a financial institution could, if it increases the danger of a loss of confidence in other institutions or reduces unnecessarily the value of the assets of institutions exposed to the failing institution, turn a single institution failure into one of multiple failure. It is therefore desirable that mechanisms are in place which can facilitate the speedy isolation and exit of an institution experiencing severe difficulties. For such mechanisms to be effective, it is of course necessary to have in place an information gathering system that enables the authorities to identify an institution in difficulty at an early stage.

A specific system to facilitate the exit of a financial institution in difficulty is necessary given that the existing commercial mechanisms (such as those provided for in existing legislation) are neither quick nor suitably authoritative. A failure management system offers a number of advantages over standard exit procedures. By being substantially quicker than other mechanisms, it should lessen public uncertainty associated with an institution in difficulty. It may also be seen to confer an 'authority' on the process that a private exit procedure may not. If public uncertainty is thereby reduced, the potential for a demise in public confidence in the payments system as a whole may be lessened.

A quicker and more orderly exit facility may also reduce the potential dislocation to other financial institutions. The sooner an institution in difficulty is identified and isolated, the less opportunity there is for institutions that are less well informed than the central authorities to become exposed to it (through inter-connected lending, for example). In the process, this would reduce the risk that the liquidity position of other institutions is undermined. Secondly, the earlier the intervention occurs, the less likely it will be that the failing institution would need to dispose of assets at a severe discount, therefore minimising the flow-on effects to third parties.

While the provision of quick and orderly failure management mechanisms might be an important element in preventing system wide failure, it may also be necessary for this to be supported by the provision of liquidity facilities for the financial system as a whole. The provision of such facilities would not prevent the failure of an individual institution, but would be an effective means of limiting the spread to other institutions (and therefore precluding a sharp contraction in liquidity). Such facilities could take two forms. Firstly, the Reserve Bank could provide funds to institutions adversely affected by an institution's failure. Secondly, the Reserve Bank could offer discounting facilities to affected parties. In both cases, the liquidity facilities would be provided at market rates, and would not therefore represent a subsidy to the financial sector.

Prudential Policy in New Zealand
The prudential policy adopted in New Zealand is consistent with the rationale outlined above. The objectives of prudential policy are specified in Part VC of the Amendment Act. This limits the Reserve Bank to exercise its prudential supervision powers to

(a) maintain public confidence in the operation and stability of the financial system; or
(b) avoid significant damage to the financial system likely to result from the failure of a specified institution.

Accordingly, the focus of prudential policy will be to maintain the stability and integrity of the financial system as a whole, not the protection of any one financial institution. It emphasises failure management rather than failure prevention and seeks to reinforce existing incentives and market disciplines for sound prudential management. It does not therefore represent a guarantee to individual institutions or depositors.

All registered banks will be subject to prudential supervision, as will authorised foreign exchange dealers and some other large financial institutions. For the most part, prudential supervision will involve the monitoring of regular statistical returns. This will be supplemented by regular consultations between the Bank and the supervised institutions. Aspects of institutions' activities to be monitored will include such matters as capital adequacy, solvency, liquidity, managerial effectiveness and profitability. Specifically, information will be collected on such matters as loan exposures, maturity matchings of assets and liabilities, asset quality and off-balance sheet items. The Act also enables the Bank to require that information supplied to it be audited.

The Amendment Act also contains provisions that facilitate the exit of an institution in severe financial difficulty. Under the Act, the Reserve Bank is empowered to declare (with consent of the Minister of Finance) an institution subject to supervision to be an institution 'at risk'. These powers can be exercised only in the event that the institution is insolvent or is likely to become insolvent, is unable to meet its obligations or is being managed in a manner prejudicial to the stability of the financial system. Under these provisions, the Bank can, with the consent of the Minister, impose directives on the institution in question or require that the institution cease to carry on aspects of its business.

The Act also enables the Reserve Bank to recommend to the Minister of Finance that, for similar reasons to those identified above, an institution be subject to statutory management. This is effected through Order in Council on advice of the Minister. The statutory management powers of the Amendment Act include provisions for the imposition of a moratorium, precluding independent actions being taken against the insti-
ution. These provisions enable the statutory manager to take full control of the institution (subject to directives by the Reserve Bank) in order to facilitate an orderly exit or reconstruction.

To this end, the statutory manager is accorded a wide range of powers, including: the full powers of the members in general meeting and the board of directors (in the case of a body corporate); the power to carry on the institution’s business; to pay creditors and compromise claims; and to sell all or part of the institution. In exercising these powers, however, the statutory manager must have regard to the need to maintain public confidence in the operation and stability of the financial system and the need to avoid significant damage to the financial system. In exercising these powers, he must also have regard to preserving the rights of creditors and maintaining, where possible, the ranking of those claims. In this context, the Act provides for the appointment (by the Minister of Finance) of an advisory committee to advise the statutory manager on the exercise of his powers.

Conclusion
The prudential supervision policy adopted in New Zealand is designed to complement the far-reaching changes that have been occurring in the financial sector over recent years. It reflects the fact that the New Zealand financial sector is now a highly contestable and competitive market, and accordingly recognises that this environment should create adequate incentives for financial institutions to develop their own prudential standards. It also recognises that to make the market for financial services contestable, it is necessary for financial institutions to face a minimum of artificial barriers to exit as well as entry.

Reflecting these precepts, prudential policy has the objective of safeguarding the financial system as a whole, and not any one financial institution within it. Consistent with this objective, prudential supervision in New Zealand places emphasis on failure management rather than failure prevention. In so doing, it reinforces existing incentives for financial institutions to set their own standards and, collectively, maintain the vitality and stability of the financial system as a whole.