

Chapter 9.

Financial Aspects

This chapter examines three ways in which natural disasters impact on the financial system and the ways in which private and public financial institutions cope with these pressures. It begins with the issue of vulnerability of credit and banking institutions to disaster shocks. It then looks at evidence of disasters resulting in inflationary pressures. Finally, it considers the effectiveness of formal risk spreading through insurance and other risk mechanisms.

9.1 Banking and Credit

Natural disasters can place considerable pressure on financial systems as deposits are drawn down and increased credit sought, both from the public and private sectors, to finance uninsured rehabilitation costs and compensate for disruptions in the flow of income. Repayment of existing loans can also be deferred and some loans even defaulted upon. In more extreme cases, such pressures can result in the collapse of part of the banking sector.⁵³ However, increased pressure on credit markets may be partly offset by reduced demand from other quarters, reflecting the generally recessionary nature of severe natural disasters. Both the banking system and capital markets more generally can also play a potentially important role in spreading risk.

There are four foreign-registered commercial, one locally-registered commercial and one locally-registered development banks currently in operation in Dominica.⁵⁴ In terms of both loans and advances and deposits and assets, the local National Commercial Bank (NCB), is the largest commercial bank. Dominica also has an extensive network of credit unions, the first of which was founded in 1951, and several other non-profit making organizations that are involved in microcredit and revolving loan activities (see Box 9.1)⁵⁵. Credit unions have experienced particularly rapid growth in the past few years. Membership has risen from 21,211 in 1978 to 61,709 by 1993, equivalent to 81% of the population. The smallest union has only 255 members whilst six have fewer than 1,000 members. However, the Roseau Credit Union now has 27,000 members and is one of the island's principal mortgage providers.

⁵³ For example, the on-going volcanic eruption in Montserrat, which began in mid-1995, resulted in the effective collapse of the country's only building society – the Montserrat Building Society (MBS). The MBS estimated that prior to 1995 it accounted for approximately 90% of housing mortgages on the island as well as a high proportion of personal savings. However, following an escalation of the crisis and the subsequent sudden cancellation of most insurance policies on the island in August 1997, mortgaged assets held by the MBS immediately assumed a zero value, putting the Society into substantial deficit. Although the MBS has remained open, following a temporary 3-week closure, until early 1998 depositors were only able to withdraw up to 35% of their savings, whilst the Society remained in deficit. Then the MBS announced that savers could withdraw a further 35% of their savings (Clay and others, 1999).

⁵⁴ Until 1981, the NCB was known as the National Commercial and Development Bank (NCDB), which in turn was founded in 1977. The NCDB was the parent bank of the AID Bank, which became autonomous in 1981.

⁵⁵ For example, the Hucksters Association was established in 1983, with a grant from the Inter-American Foundation to create a revolving loan program and assist hucksters in finding markets for their produce. Loans are guaranteed using a peer system, in which another huckster must co-sign and be responsible for repayment if the borrower does not honor the loan agreement.

Box 9.1: The National Development Foundation of Dominica

The NDFD, now Dominica's largest NGO, was founded in 1981 to assist the recovery of poorer segments of society following Hurricane David. The Foundation has focused primarily on support to micro-enterprises, initially providing loan guarantees to commercial banks against lending to businesses that would otherwise have been unable to secure loans. More recently, it has extended its operations to access funds directly for on-lending as well, and later again to provide technical support (principally in the form of business advisory services) and training. In the aftermath of hurricanes, external resources have also sometimes been channeled through the NDFD. For example, following the 1995 hurricanes the NDFD was contracted to manage an Inter-American Institute for Cooperation on Agriculture (IICA) revolving fund providing support to livestock farmers. In 1998, the most recent year for which data is available, the NDFD granted 273 new loans to the total value of EC\$1.8m. The average loan term is now 4 years.

As regards the composition of its lending portfolio, in 1998 services accounted for 26% of total new loans and retail and distributive trade for 18%. Home improvement loans accounted for 18% and retrofit loans for a further 2%. NDFD made its first housing loans under its retrofit program in 1994 (see above). The NDFD also provides some loans to the agricultural sector, totaling 8% of new lending in 1998. Such loans are focused on non-banana farmers as the Agricultural, Industrial and Development Bank (AIDB) and DBMC have historically met the loan requirements of banana growers and include some on-lending of STABEX funds. A very small proportion of NDFD's total lending portfolio is extended to the fishing industry, accounting for 3% of new lending in 1998.

Over time, the NDFD has become increasingly risk averse. Until 1994, its overall operations relied almost entirely on grant funds but since then, as grant funds have dried up, it has been forced to secure loan funding instead and has also accelerated its efforts to become financially self-sufficient. It was hoping to achieve 100% self-sufficiency by 1999 (NDFD, 1999). The shift in funding base has had implications for the NDFD's activities. In the past, it was able to undertake high risk lending. However, with the shift in funding base it has been forced to observe increasingly prudent lending practices and to reduce its level of unsecured risk.

In terms of the vulnerability of the NDFD's operations to natural hazards, loans are secured against collateral where possible, either in the form of property, equipment or a share in sale proceeds. The signature of a guarantor is accepted against loans to the very poor. The NDFD encourages the uptake of insurance on properties financed through NDFD loans but it is not a mandatory requirement. Lending to the fishing industry carries a particularly high risk of default and the NDFD will no longer make new loans during the hurricane season, despite the fact that fisheries loans are typically of 30 years duration. Instead, the Foundation prefers some lead time between the commencement of a new fisheries loan and the onset of the hurricane season, during which it can encourage the borrower to undertake appropriate preparedness measures (See also Box 13.1).

In the aftermath of disasters, some loans are rescheduled and there is typically an increase in both arrears and demand for new loans. For example, overall arrears increased to around 19-20% in 1995, compared to a normal rate of around 15%. In the event of another hurricane on the scale of David, the NDFD considers that it would have to renegotiate the terms and conditions of agreements with NDFD's own creditors and seek grant assistance for on-lending.

There is no national central bank. Instead, the ECCB acts as a currency board, conducts monetary policy for Dominica and all other members of the OECS and is the sole supervisor and regulator of commercial banks in the member territories (see Box 9.2).⁵⁶ By statute, the ECCB is also a lender of last resort although it has never been approached to perform this role

Box 9.2: Disasters and the Eastern Caribbean Central Bank

The ECCB identifies natural disasters as one of a number of factors contributing to considerable volatility in its foreign reserve earnings. In the aftermath of major regional disasters there can be a substantial inflow of foreign exchange in the form of external post-disaster assistance and reinsurance payouts. However, over the succeeding year most of this inflow is spent on imported rehabilitation materials whilst export earnings are also reduced by the disaster, leading to a fall again in the ratio of external assets to demand liabilities. Data extending back to 1987 suggests that this pattern of upward and then downward movement in the ratio of external assets to demand liabilities has, indeed, been observed, although on a relatively modest scale (Figure 9.1).

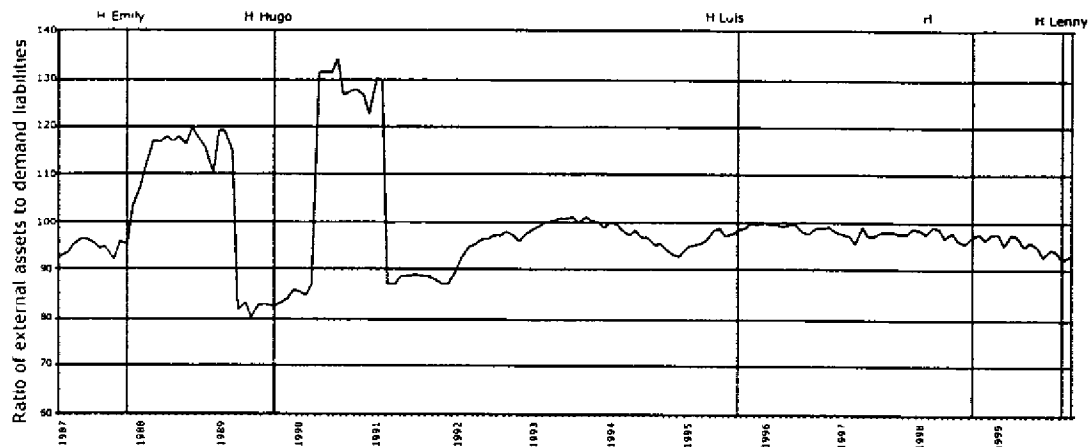
In part in order to take into account this potential volatility, whilst also ensuring that it meets its mandatory requirement to back at least 60% of its monetary liabilities with foreign currency assets, the ECCB has maintained a backing ratio of 90-100% since the early 1990s. Another factor – indeed, the major one – contributing to such a high ratio has been the limited draw down of credit lines available to member governments. The ECCB recognizes the considerable opportunity cost in holding such high levels of reserves abroad rather than investing them in income-generating activities within the ECCB. However, it considers that this practice provides an effective form of self insurance in view of the high cost of alternative commercial insurance.

On at least one occasion, the ECCB has explicitly taken more direct action to offset the impact of a disaster. Following the 1995 hurricanes and uncertainty about banana export prospects, the ECCB reduced its discount rates from 9% to 8% in August 1996 in order to help stimulate the regional economy, the first cut in interest rates since 1995⁵⁷ (EIU, 1999). This reduction in part underlines difference in the potential impact of a disaster depending on the form of monetary regulation in place. In a national economy where a government has direct control over monetary instruments, a disaster can potentially contribute to an initial increase in the money supply as the government seeks to finance a possibly larger fiscal deficit and then to a subsequent tightening of monetary instruments to dampen further monetary growth. In contrast, a regional central bank or currency board is less likely to allow monetary policy to be influenced in this way by the circumstances of individual member states. There are possible parallels that might be explored between the behavior of the ECCB and the other major developing country regional currency arrangement, the West African CFA Franc zone.

The ECCB also operates a fiscal reserve account for or lending to member countries facing economic difficulties, including those caused by natural disasters. Contributions to the account are in part mandatory, with an amount automatically deducted from the profits owed to each member country. However, although the account has been in place for about six years it has never been drawn upon and the fund now totals around EC\$20m. This probably reflects the fact that any draw down would have to be re-paid, with terms and conditions to be determined on a case-by-case basis but probably including some interest payment

⁵⁶ Other member countries are Anguilla, Antigua and Barbuda, Grenada, Montserrat, Saint Kitts and Nevis, Saint Lucia and Saint Vincent and the Grenadines.

⁵⁷ The minimum interest rate on savings deposits and the interbank rate were left unchanged

Figure 9.1: ECCB - Ratio of external assets to demand liabilities, 1987-1999

Note. the sharp change in the ratio in April 1989 is due to a reclassification of demand liabilities

Source: ECCB, various.

Broadly, available commercial banking data suggest that natural disasters have had relatively little overall impact on the banking and credit sector in Dominica, but that the sector's ability to spread and transfer risk is also limited. However, there are obvious difficulties in analyzing the impacts of natural hazards in isolation. Other factors have also contributed to sometime considerable inter-annual or even inter-quarterly fluctuations in money and credit markets. Analysis is also limited by data availability, with readily available public statistics only since 1980, while data on rates of default and deferred payment are not available at all. This section therefore provides only a brief account of historical evidence on the impact of natural disasters, suggesting that there are other confounding factors either obscuring or overwhelming any effects that disasters may have had on financial aggregates – credit assets and broad money supply. This analysis is complemented by a review of the vulnerability of individual banking and credit institutions on which there is more evidence.

Disasters and Financial Aggregates

The available data on commercial bank overdrafts by maturity indicate an increase in total short-term loans (up to one year) in both the hurricane years 1989 and 1995, although it should be noted that there have also been considerable fluctuations in levels of short-term lending between other years.⁵⁸ There is also some secondary evidence in official reports of increased GoCD borrowing from the domestic banking sector following various disasters including Hurricanes Allen (ECCB, *Quarterly Bulletins*, 1980) and Hugo (World Bank, 1992). The latter disaster in turn contributing to a tightening of credit markets as lending rates to the private sector increased by 1%. Domestic dis-saving more generally is also reported to have occurred as a direct consequence of the hurricanes in 1979 and 1980, with some dis-saving continuing into 1981 and 1982, although at much lower rates (ECCB, *Quarterly Bulletin*, 1984 (2(1))).

However, there is little more general discernible association between disasters and the composition of commercial bank lending by category of borrower, sectoral use or the total volume of lending. Similarly, there has been little apparent overall impact on the total level or pattern of distribution of commercial bank assets, or on interest rates.

An examination of net foreign assets suggests some possible disaster-related impacts. In both 1990 and 1996 – that is, in years following hurricanes – commercial bank foreign currency deposits fell, by 39.2% and 45.7% respectively.

⁵⁸ For example total loans rose annually by over 20% in real terms in each of 1988, 1989 and 1990 whilst there was a parallel slow down in deposit growth, causing a marked fall in liquidity

These movements could partly reflect deterioration in the external trade balance (see Chapter 7) and/or commercial bank draw down of foreign assets to meet refinancing needs.

Broader monetary impacts of disasters are not apparent from the data. There was a 36.6% real annual increase in money supply in 1978 with a further 43.1% rise in 1979, followed by a decline again by 22.8% in 1980. Quasi money fell by 2.4% in 1978, rose by 8.4% in 1979 and then declined by 5.6% in 1980. Some part of this increase may have reflected an increase in private sector demand deposits following receipt of insurance claim payments and also perhaps some disaster-related inflow of remittances. However, the fact that there were high levels of monetary growth in 1978 as well as in 1979 suggests that non-disaster related factors were also important. In 1989, money and quasi-money (M2) only increased by 4.2% in real terms year-on-year. In 1995, further substantial increases in money and quasi money occurred, but again possibly largely unrelated to the hurricanes that occurred in the same year, as a substantial part of the growth occurred in the first half of the year, prior to the occurrence of the hurricanes.

Disasters and Risks for Individual Banking Institutions

All those interviewed in banking institutions acknowledged the potential risk posed to their operations by natural hazards. However, each felt that their own institution was relatively well protected - and in the case of foreign commercial banks very well protected - despite the fact that commercial banks in the ECCB area do not carry any deposit insurance

The two managers of commercial banks interviewed reported an increase in their institution's non-performing debt in the aftermath of hurricanes.⁵⁹ One also reported an increase in demand for loans from the tourism sector following the most recent hurricane, Lenny, in 1999. However, debt arrears are apparently often repaid at a later date whilst collateral is anyway secured against all types of loan. Default on loans on properties destroyed by a disaster is unlikely as commercial banks require insurance, including catastrophe cover, on all property and capital loans. Credit unions also require insurance coverage on property loans, including against catastrophes.

The foreign-owned commercial banks are in addition effectively protected by the fact that they have a wider geographical spread of risk, with individual branch banks part of a larger institution operating across a number of countries. The foreign-owned commercial banks manage their liquidity on a sub-regional basis, with one branch covering the reserve requirements of another (World Bank, 1998a). Moreover, they are typically more risk averse in their lending activities. For example, as a rule, foreign commercial banks will not extend loans to the agricultural sector because of the high risks associated with such lending.

However, a closer examination suggests that local bank and credit institutions may be potentially more vulnerable to severe natural disasters than they indicated, both by the nature of their lending portfolio and because their assets are less geographically diverse. They suffer from two major constraints which contribute to poor risk spreading practices and which the World Bank (1998a) suggests are faced by the financial system in the ECCB area more generally: inter-territory fragmentation and intra-territory fractionalization. This fragmentation reflects a combination of legal and regulatory obstacles and infrastructural and logistical factors, which result in domestic institutions that lack well developed portfolios. These institutions then have high operating costs and the risks associated with lack of diversification, and are unable to engage effectively in geographical risk spreading. Fractionalization has been caused by the proliferation of numerous operations and intermediaries within each island, particularly in the general insurance and credit union sector, and, again, has contributed to less diversified portfolio hedging against risks. Local banking institutions are also potentially more hazard vulnerable by the very nature of their lending operations, in part because they may feel obliged to take on higher risks.

Agricultural, Industrial and Development Bank

Dominica's development bank, the AIDB, has relatively few foreign assets, implying that its geographical dispersion of risk is certainly limited. The GoCD has a majority share in it, implying that the Bank feels that its overall position is

⁵⁹ ECLAC/ECCB (1998) also note that in Saint Kitts and Nevis ability to service loans was adversely affected by Hurricane Georges, although liquidity in the banking sector remained relatively buoyant.

nevertheless secure, but this arrangement ultimately has government budgetary implications in the event of a financial crisis.

In terms of the composition of its loan portfolio, in its capacity as the island's only development bank the AIDB is the principal source of agricultural loans, lending both to individuals and via cooperatives. It also targets small businesses and offers mortgages for lower-income families. Its loan portfolio therefore entails relatively high levels of risk. Its more favorable lending terms may also increase its risk exposure by involving longer repayment periods - as the World Bank (1998a) notes, increasing the probability that a disaster will occur within the period of loan repayment and thus adversely affecting ability to repay.

As with the commercial banks, the AIDB reports that in practice its operations have been affected by disasters principally in terms of increased re-scheduling of loans and higher rates of delinquency, particularly with regard to agricultural loans.⁶⁰ The Bank also reported a temporary decline in new agricultural lending after Hurricane Hugo, pending the recovery of the agricultural sector, suggesting that some farmers were largely able to rehabilitate their farms without incurring increased indebtedness, whilst others chose to reduce their activity. There was a similar pattern in 1995 (see Section 5.1.1).

Despite the fact that defaulted loans are often recovered a year or so later, the AIDB has become increasingly concerned about the risk of widespread default in the aftermath of a major disaster. It has therefore decided to aim to increase its non-agricultural operations, a decision which it has been able to implement relatively easily because it has coincided with reduced medium-term demand from the agricultural sector. In the aftermath of the 1995 hurricanes and windstorm, the AIDB also reduced new loan approvals in the tourism sector because of poor performance of the existing portfolio.

National Commercial Bank

Dominica's only local commercial bank, the NCB, also has a very limited geographical dispersion of risk. It is not involved in cross-border branch operations or inter-bank lending. Indeed, the NCB recognizes the importance of broader geographical coverage and has indicated its intention to strengthen internal networks and support mechanisms, such as syndicate lending, between indigenous banks in the region. The NCB's June 1999 Annual Report stated that the Bank's foreign reserve position was the highest in the OECS sub-region, implying some form of self insurance or risk minimizing strategy against domestic economic difficulties. In the aftermath of disasters, the Bank has also received inflows of external assistance for on lending to affected borrowers, again helping to maintain its level of capitalization.

In lending operations the NCB, like the AIDB, has effectively sought ways of protecting itself against increased risk exposure. It only makes very limited agricultural loans, equivalent to 3.8% of its total lending portfolio in 1998, and these have primarily been made through the DBMC, which effectively bears much of the risk in place of the NCB. Some of the NCB's other (non-agricultural) loans to small enterprises are also made through credit unions that on-lend the funds, again providing a layer of insulation against potential default.

Credit Unions

Credit unions are particularly vulnerable to potential problems arising from the high geographical concentration of their activities. Each credit union is an autonomous, financially separate community-based organization, operating on a non-profit basis within a very small area of the island. The credit unions offer various savings accounts, including cheque accounts, as well as loan facilities. Home loans, including mortgages which are offered by six of the credit unions, account for an average 95% of their total loan portfolio on average, with the remaining 5% extended to small businesses. Again, there is no hard evidence on the impact of natural disasters on credit union operations, in part

⁶⁰ The AIDB only began offering its first deposit accounts in 1997/98

reflecting the more general weakness of data on their activities.⁶¹ Possible impacts are also obscured by their longer-term expansion, although the particularly high 39% real increase in new loans granted between 1979 and 1980 is noteworthy. However, although the Dominica Cooperative Credit Union League identified the WINCROP scheme (Box 5.1) as playing an important role in helping to sustain rural incomes in the aftermath of disasters, credit unions do face increased deferment of payment at such times. Meanwhile, their capacity to deal with any increase in demand for loans is limited, in part precisely because of higher deferment. To date, no credit unions have actually collapsed as a consequence of a disaster, but the possibility certainly exists. For example, it is not inconceivable that volcanic activity in the south of the island (see Box 13.2) could result in the withdrawal of insurance cover in the affected area and possibly also Roseau, as occurred in Montserrat in 1997 (see footnote 53). None of the six credit unions in the far south of Dominica offer mortgages. But the Roseau Credit Union does and so such a loss of insurance cover could therefore pose a threat to its financial viability.

Regional Risk Spreading

In recognition of the problems of inter-territory fragmentation and intra-territory fractionalization, there are some efforts underway to increase the overall level of integration of the banking system in the Caribbean, effectively enhancing its hazard risk-spreading role, although progress to date has been slow. At the OECS level, some investment has been begun in certain services such as common credit cards. Such efforts will facilitate risk sharing as banks in the region shift increasingly into syndicate lending. This risk sharing will also apply to natural hazards, as resources placed in potentially hazard-vulnerable investments could be provided by a number of lenders from a range of islands and banks. There has also been some discussion about the establishment of a jointly-owned lending subsidiary that could diversify across territories and fund loans that are too large for individual banks (World Bank, 1998a). The World Bank has also suggested that domestic financial institutions should be encouraged to acquire foreign financial assets 'in the event of a natural catastrophe or severe economic downturn, the sale of foreign assets would balance an increase in imports, serving to stabilize the balance of payments... outweigh(ing) the risks of restricting investment to home markets'.

As indicated above, the banks and credit institutions are also taking certain steps to reduce levels of risk exposure as determined by the composition of their loan portfolios, particularly with regard to levels of agricultural lending (see Box 9.1). This does, however, raise an important question: could it become increasingly difficult to obtain agricultural loans in the future? If so, this could also have implications for post-disaster recovery, especially as banana production falls and thus the importance of the WINCROP scheme in supporting post-disaster recovery declines.

9.2 Inflation

Natural disasters might be expected to have a net temporary inflationary impact, potentially introducing a further element of economic uncertainty and compounding problems in re-establishing stability. Prices may rise as a consequence of supply shortages, reflecting damage to both goods and means of production and to transport and marketing infrastructure. Demand may also increase for certain items, such as building materials, depending on the nature of the disaster. Additional inflationary pressure could occur as governments resort to seignorage to help finance potential disaster-related budgetary difficulties. However, governments can also take certain measures to protect consumers against post-disaster, or more general, price hikes, at least partially offsetting inflationary pressures.

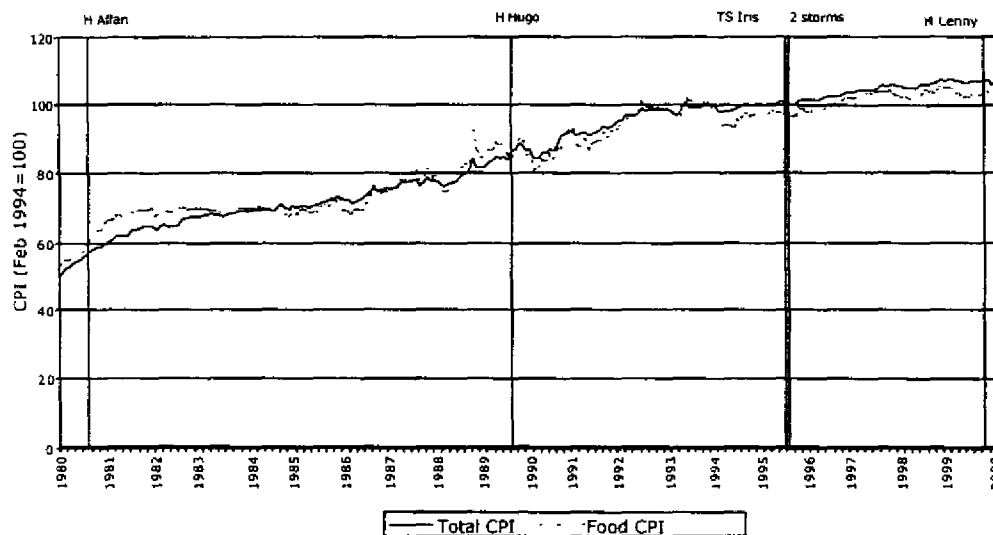
The rate of inflation has remained relatively low in Dominica over the past 20 years. Inflation, as measured in terms of the consumer price index (CPI), averaged 3.1% per annum between 1980 and 1999. Low average rates partly reflect the fact that the EC dollar has been tied at a constant rate of exchange to the US dollar since 1976. Limitations on the monetization of budgetary deficits by the ECCB have also effectively contained potential inflationary pressures. In addition, the price of certain items, including basic food items, has been administered, based on a pre-determined mark-up on landed price, although the items controlled have been gradually reduced over

⁶¹ Credit unions provide monthly and annual reports on their operations to the Dominica Cooperative Credit Union League. However, there is no legal requirement to do so, as credit union activities are not regulated. In consequence, there are a number of gaps in the data on credit union lending activities.

time. Instead, reflecting the openness of Dominica's economy, the rate of inflation has been primarily determined by movements in world market prices and rates of inflation in the USA, the country's main trading partner

Natural disasters have also played some role in influencing price movements. However, in part as a consequence of deliberate government efforts, post-disaster price increases only seem to have occurred on a limited scale. The exception was in the aftermath of Hurricane David when temporary shortages of a wide range of commodities combined with other factors, including the 1979 oil price shock, contributed to more substantial price increases. The CPI increased 34.1% between December 1978 and December 1979 (Figure 9.1 and Table A.9.1). The food index alone, which has a weighting of 56.9% in the overall CPI, was reported to have increased by 45.4%, an indication that part of the rise in overall prices was probably due to Hurricane David rather than simply the oil price shock alone (ECCB, *Quarterly Bulletin*, 1980 (11(1)).⁶² There was a further increase of 21.3% in 1980. There has been nothing comparable before or since in the rate of consumer price inflation.

Figure 9.2: Dominica - Consumer price index: monthly index of all items and food, 1980-2000 (Feb 1994=100)



High inflation rates were again experienced in 1989, in part reflecting the impact of Hurricane Hugo on food production, as well as the removal of various taxes on wholesale trade and consumption (World Bank, 1992).⁶³ The overall CPI increased 8.2% between December 1988 and December 1989, with a 3.9% increase in food prices alone over the same period.

The GoCD (1995) also anticipated significant increases in the price of food for domestic consumption in the aftermath of the 1995 hurricanes, with forecast rises in the latter of 50 to 100%. It therefore took various steps to counter such increases, waiving import duty on chicken and mark-ups on flour and rice, encouraging farmers to plant short-term food crops and appealing for food aid. In consequence, the overall CPI actually rose by only 1.4% between

⁶² There may have been even higher temporary increases in the price of goods in the immediate aftermath of the hurricane. Unfortunately, however, monthly consumer price data is not available for the two months of September and October 1979.

⁶³ Consumption tax was removed from milk, cheese, dried and salted fish, smoked herring, flour, rice, sugar, natural yeast, baking powder, salt and medicines under the 1989/90 budget.

December 1994 and December 1995, with a 2.4% increase in food prices alone over the same period.

More generally, post-disaster inflation may also be partly constrained by the fact that Dominica imports much of its construction materials. In addition, Clause 5(2)(b) of Dominica's 1991 *Emergency Powers (Disaster) Act* also states that during a state of emergency maximum wholesale and retail prices can be fixed for items of food, clothing, water, fuel light and other 'necessities of life', although it is not clear whether this law has ever been applied.

9.3 Insurance and Other Financial Risk Transfer Mechanisms

The most commonplace form of financial risk transfer mechanism is that of a standard insurance policy. The cash payouts received in the aftermath of a disaster can play an important role in helping to facilitate the recovery process, both in terms of its pace and scope. If sufficiently competitive, the insurance sector can also act as an efficient mechanism for pricing risk, thus acting as a signaling device for the economy as a whole (Gilbert and Kreimer, 1999). Furthermore, insurance can be used as a mechanism for the enforcement of building and land use zoning codes by making the issue of policies conditional upon certain actions. Extensive use of the reinsurance market additionally offers a potentially important means of reducing the cost of reconstruction activities borne by the domestic economy and can help offset post-disaster current account deficits by generating a cash inflow.

Dominica has one locally registered insurance company, First Domestic Insurance, and, as of December 1998, 17 foreign registered companies. Basic property insurance policies cover all natural hazards, including windstorms and volcanic risk. However, there is a 2% deductible on claims relating specifically to natural disasters. Catastrophe insurance is mandatory for taking out a mortgage. Business interruption policies are also available, including against natural disasters. Catastrophe cover is not available on standard motor insurance policies, but can be purchased for an additional 1% of the value covered. Marine insurance is available but insurers reserve the right not to provide cover during the hurricane season, between 1st June and 31st October each year. A separate insurance scheme, WINCROP, exists for banana producers (see Box 5.1) but no other form of agricultural insurance is available. Foreign businesses are expected to secure insurance locally except under exceptional circumstances.

In comparison with many other developing countries, the insurance industry is relatively well developed, probably partly reflecting the level of risk posed by natural hazards, but not particularly high. Gross premium income totaled EC\$36.1m, equivalent to 6% of GDP in 1998, whilst gross premium on property insurance alone totaled EC\$11.13m or 1.9% of GDP.

However, the catastrophe insurance industry has played a relatively limited role in transferring or spreading natural hazard risk in Dominica. The GoCD (1995) notes that in the aftermath of the 1995 hurricanes and storms hotels were able to embark on rehabilitation fairly quickly because they were generally insured and were therefore expected to be open for business by the beginning of the tourist season in November. Yet although a high proportion of risk is reinsured overseas, over the period 1987-97 – that is, including the hurricane years of 1989 and 1995 – there was a net debit of EC\$25.0m on insurance services reported under the balance of payments. Gross reinsurance inflows after the 1989 and 1995 hurricanes specifically were relatively modest, with gross insurance credit of EC\$5.8m in 1989, EC\$10.1m in 1990, EC\$4.4m in 1995 and EC\$5.3m in 1996, compared to an annual average for the period 1987-97 overall of EC\$5.7m. Thus, post-disaster insurance payments would appear to be relatively modest. Limited claims in the aftermath of the 1995 hurricane were confirmed during an interview with one of the larger insurance companies operating in Dominica, which reported storm-related claims on less than 75 of its total of about 2,000 property insurance policies.

The problem of under-insurance in part reflects the high and volatile cost of insurance in the Caribbean region. The high volatility reflects the fact that some 80-85% of gross property insurance premiums in the region overall are transferred to reinsurers, with any fluctuations in reinsurance costs – be they caused by local, regional or global

factors - passed directly on to insurees.⁶⁴ Thus, there have been considerable inter-annual fluctuations in insurance premiums in the region, in some cases reflecting heavy losses in other parts of the world. An insurance industry informant provided the following history of premiums in the case of Dominica. Premiums had risen from around \$2-3 per \$1,000 cover in the 1970s to \$3-4 in the early 1980s (reflecting flood losses in the US rather than the impact of Hurricane David), about \$5 by 1988 and then \$8 by 1990 (again reflecting global factors, plus Hurricane Gilbert in 1988), declining to around \$6 by 1993 and then slowly edging up (following Hurricanes Marilyn and Luis in 1995) to around \$8 per \$1,000 covered in about 1997 or 1998, with a further \$2 rise to \$10 coming into effect as property policies were renewed in 2000. The latest rise reflects a tightening in world catastrophe reinsurance markets following a relatively active hurricane season in the Caribbean in 1999, as well as a number of disasters elsewhere. Others interviewed also reported a significant increase in premiums following Hurricane Andrew in 1992, which precipitated a change in reinsurer perceptions of the potential cost of hurricanes.⁶⁵ Rates only fell again from about 1995, following the creation of additional reinsurance capacity and the global development of capital market instruments, such as catastrophe bonds. A further major disaster in the Caribbean or a succession of global disasters could once again force a substantial increase in premiums.

Although no data are available on the scale of under-insurance in Dominica specifically, the World Bank (2000b) estimates that some 25-40% of dwelling stock in the Caribbean overall is uninsured, with the small and indigenous dwellings least insured. In contrast, almost all medium and large dwelling owners carry catastrophe insurance, but they may not be fully covered. In Dominica, for example, although mortgagees must carry insurance, as already noted, the level of insurance cover often remains based on the loan rather than the current market value of the property. Thus, as property prices have increased, only those householders with recent mortgages may be adequately insured. In the event of a disaster, insurance payments are further reduced by the application of an 'average clause', which assumes that policyholders carry self-insurance on the difference between the real estate and insured value of a property.⁶⁶

Take-up rates on business interruption policies are also very low - standing at perhaps only 5% in Dominica according to one insurance industry informant - with only the largest enterprises carrying this form of insurance. Meanwhile, certain hotels in Dominica are reportedly no longer insured after severe damage from successive hurricanes had resulted in a substantial increase in premiums.⁶⁷ The GoCD itself has some limited insurance on government buildings. Properties, including the government headquarters in Roseau, are insured by the Establishment Department to the total value of over EC\$20m. However, it is not clear whether any other public property is insured. Each government ministry is responsible for making its own decision with regard to insurance of buildings, other infrastructure and capital equipment falling under its jurisdiction but the extent of cover is almost certainly limited by budgetary constraints.⁶⁸

There are also concerns about the efficiency and underlying strength of the insurance industry in both Dominica and the Caribbean region more widely, relating to the proliferation of property and casualty insurance players in the

⁶⁴ Island-specific risk factors only seem to come into play where risks are perceived to be particularly high. For example, in Antigua, which has experienced four hurricanes during 1995-1999, rates as high as \$18 to \$20 per \$1,000 cover were being charged as of mid-2000.

⁶⁵ For the Eastern Caribbean generally, the World Bank (2000b) reports that average property rates increased from 40 per 1,000 cover in 1990 to 130 by 1994 (as a consequence of Hurricane Andrew in 1992) and then down to 70 by 1998.

⁶⁶ For example, if a house is valued at \$100,000 but insured for \$60,000, then in the event of a claim the insurer is only liable for 60% of the sum claimed.

⁶⁷ The World Bank (2000b) also reports that in recent years some larger and special risk categories in the Caribbean region more generally, such as power utilities, have not been able to obtain full, affordable insurance. In consequence some have voluntarily devised heavy high self-insurance deductibles, only seeking insurance for higher, less exposed levels of risk. Others have sought alternative solutions. For example, members of the Caribbean Hotel Association have created a risk management firm for their own exclusive use based on a PML profile of members' properties that indicated sufficient diversification of risks to allow a regional insurance company to survive a 1.3% probability of a major storm.

⁶⁸ The Dominican Port Authority (DPA) does not insure some of its assets because of difficulties in financing premium costs. Instead, it looks to government to make good part of storm damage costs (see Section 7.3).

Caribbean This proliferation, in turn, has impeded effective capital market development and risk spreading functions, including the development of other financial risk transfer mechanisms (World Bank, 1998a). There is apparently strong competition for property insurance in the region, motivated by the desire to capture reinsurance commission revenues. However, the widespread competition for direct fees discourages primary domestic insurers from accumulating reserves, together with tax disincentives on the sector resulting in a high dividend paying industry, high dependence on foreign reinsurance and continued fractionalization.

The sharp rise in reinsurance premiums in recent years has led to higher commissions, attracting even more insurers and agents into the market. The World Bank (1998a: 20) states that 'the proliferation of small insurers is cause for concern regarding efficiency... but even more regarding safety. Are these small companies sufficiently capitalized for the 15% of the risk they retain? Are they sufficiently careful in choosing reinsurers that can be relied upon to pay up their 85% share? Regulation in this sector needs to be substantially strengthened..'. In order to help overcome these problems, the World Bank recommends that companies and household should be encouraged to establish financial reserves to supplement insurance and cover uninsurable losses; and governments to consider the establishment of reserve funds that could be drawn upon for infrastructure repairs. The OAS has similarly recommended both incentives and requirements for the creation of financial reserves. In reality, in the absence of any incentives, profits have traditionally been paid out instead in dividends (OAS, 1996a). The potential scope for building up reserves or surpluses has also been undermined by relatively high expense ratios of insurance companies, in turn again reflecting the relatively small size of companies and thus diseconomies of scale. The World Bank (1998a) suggests that an increase in competition that would lower the cost of insurance and a drastic reduction in the number of small companies operating would be desirable; and that tougher standards, including an ability to cover maximum probable losses consistent with international industry practice, are required for domestic companies to improve their safety, particularly given the stochastic nature of catastrophic events.

In Dominica, the government currently does not offer any tax incentives for the creation of catastrophe reserve funds. However, the Dominica insurance industry stands to gain from a 1998 Act of Parliament allowing Barbadian insurance companies to set aside up to 20% of their property portfolio profits against tax in a self-insurance fund. Barbadian companies hold a significant share of the Dominica market and profits eligible to be offset against tax include those made outside Barbados, as long as they form part of reported profits of the Barbadian company.⁶⁹ A proportion of these funds can also be invested overseas, ensuring some geographical spread of risk. Several major insurance companies have taken up this option, although smaller ones typically have not done so.

The ECCB has reviewed the regulatory framework of the insurance industry in the OECS and has drafted new insurance legislation aimed at providing disincentives to small players (by stipulating minimum levels of capitalization, reserves and so forth) and also encouraging amalgamation across countries (for example, by no longer requiring registration in every country an insurer operates just in one country in the region, so reducing licensing costs). The proposed legislation includes regulations on minimum levels of share capital required for registration. The legislation is now awaiting approval by each country in the region and, in Dominica, it was due to go before Parliament in 2000. Several regional and international organizations have also been exploring ways of reducing the volatility of premiums (Box 9.3)

⁶⁹ On average 75% of the OECS market overall is held by Trinidadian and Barbadian companies (World Bank, 2000b).

Box 9.3: Potential Regional Risk Management Arrangements

Various regional and international organizations have been exploring ways of reducing the volatility of insurance premiums in the Caribbean for a number of years. In particular, there has been some debate about the creation of some form of regional risk management tool. In the latest initiative, the World Bank is developing a proposal for the East Caribbean that favors some form of inter-country insurance pooling arrangement. The arrangement would aim to utilize reinsurance and risk financing resources more effectively by reaping economies of scale and improving capacity to accumulate and retain capital reserves. Thus, it would reduce the level and volatility of catastrophe insurance premiums, increase coverage and, it is intended, ultimately contribute to improved long-term development prospects. Another objective of the scheme would be to reduce physical hazard vulnerability through the improvement and enforcement of building code standards and land use/construction planning. In the earlier years of the pool, it is recognized that its full capitalization would require guarantee financing, a contingent line of credit for quick disbursement from a multilateral institution or, alternatively, a long-term bond issue in the capital markets. The World Bank has indicated that mechanisms could also be built into the scheme to facilitate the extension of some form of cover to poorer segments of the population and possibly to government-owned as well as private property.

There is strong governmental support in principle for the World Bank proposal in the region although the details, including its precise structure and how it would be financed, have yet to be determined. Governments in the region may be asked to provide a capital injection. Private sector contributions may also be sought. Individual insurance companies are more reserved in their enthusiasm to date. They feel it is not clear how the scheme would take into account the fact that different companies operate to different standards regarding the selection of reinsurers, inspection, underwriting of risk, etc. There is also some concern about the viability of the scheme given the high ratio of claims to premiums in the Caribbean region in recent years. The CDB/IADB (1996: 12), for example, notes that 'the pooling of risks for a group of disaster-prone mini-states is not likely to achieve much improvement in terms of damage and claim probabilities'.

Finally, there has been limited use of insurance as a mechanism for the enforcement of building and land use codes, despite calls for its use to this effect.⁷⁰ Within Dominica, a differential premium structure exists to some extent, with at least some companies offering a discount on policies for properties that have been strengthened against natural hazards. For example, since 1998-99 a \$2 per \$1,000 discount has been available at least from some companies on retrofitted concrete-roofed properties while excess premiums are charged on beachfront properties.⁷¹ One insurance industry informant reported, however, that the availability of a lower premium does not, of itself, apparently encourage retrofitting.

More widespread discriminatory pricing practices, both in Dominica and the Caribbean more generally, are discouraged by low retention of risk combined with the reinsurance industry's blanket pricing policy. Wide geographic areas are placed in the same Probable Maximum Loss category, as the World Bank (2000b: 57-58) comments 'without regard for the topographical features and structure resistance distinctions propounded by regional and international experts'.⁷² Meanwhile, OAS (1996a) reports that individual insurance companies fear that significant premium discounts for their better-protected risks cannot be balanced by surcharging poorer risks. As such, insurance companies – with one notable exception (see Box 9.4) – typically follow the reinsurance lead, in effect doing little to promote hazard mitigation in the region. More widespread discriminatory premium pricing would require comprehensive hazard mapping as well as inspection to determine the vulnerability of individual properties.

⁷⁰ For example, the OAS (1996a) recommended that compliance with building codes should be required before insurance coverage can be provided. The World Bank (2000b) has also recommended the linkage of insurance regulation to building code compliance prior to the provision of insurance coverage or discounts based on vulnerability reduction measures.

⁷¹ In the past, levels of premium were also determined by proximity to fire hydrants but this practice was discontinued after fire-fighters responding to fire emergencies found that some fire hydrants contained no water.

⁷² Broadly, the northern zone (Antigua and Barbuda and Saint Kitts and Nevis) is considered the higher risk zone, the middle zone (Dominica, Saint Lucia and Barbados) medium risk and the southern zone (Saint Vincent and the Grenadines, Grenada and Trinidad and Tobago) the lowest risk, particularly with regard to hurricane activity (World Bank, 2000b). Some reinsurers also lump the south-eastern part of the United States together with the north Caribbean.

Box 9.4: United Insurance's Mitigation Program

One Caribbean based insurance company, United Insurance, has been actively promoting structural mitigation measures. The company first recognized the need for such measures in the early 1990s, as reinsurance costs began to escalate. The company introduced a formal mitigation program in 1997.

Under the program, premium discounts of up to 40% are available for retrofitted commercial properties, and 17-25% for retrofitted domestic properties. In order to qualify, commercial properties must be inspected by a structural engineer. An insurance company representative inspects domestic homes. In support of the program, United has also produced two sets of guidelines on upgrading existing and designing new buildings to achieve hurricane resistant construction. These guidelines, which conform with CUBiC standards and those specified in the draft OAS codes, have been made available not only to United's clients but to the insurance market more generally.

The program is offered in all islands in which United operates, including Dominica, but has been taken up particularly in Antigua, where a high frequency of hurricanes has been experienced in recent years. The program has already achieved impressive results. The average cost of claims on affected risks following Hurricane Jose in Antigua in 1999 was equivalent to 10% of the total sum insured, but to only 4.75% of the sum insured in the case of retrofitted projects. Some 7-8% of properties insured by United Insurance in Antigua are now covered under the mitigation program. Although the program was not intended as a marketing tool, in Antigua it has also generated new clients for the company.

United has considered making its mitigation program mandatory for all its insurees but, as the sole company offering such a scheme, concluded that, on balance, it would probably lose clients if it did so. Meanwhile, it feels that there is neither the political nor economic will to make the program mandatory for the insurance industry as a whole, although the OAS has tried to encourage United to spearhead a move to achieve a regional consensus in the industry.
